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ABSTRACT

This report, which grew out of the second Illinois Vocational Teachers Competencies Conference, presents the findings of the first two conferences for teacher educators and administrators in vocational education and is intended to serve as a means of motivating continued development of a philosophy toward (1) competency-based teacher education programs, (2) curriculum development based on the current needs of vocational teachers, and (3) policy and legislation regarding teacher education and credentialing. Despite problems in defining teaching competencies and agreeing on appropriate levels of competency for different teaching roles, teacher education curriculums must provide the teacher with basic competencies both for current and future educational needs. Vocational educators also have difficulty in determining the relative importance of the potential competencies. Performance criteria in teacher certification and teacher education stress accountability, yet do not constitute a sufficient basis for achieving role expectations and teaching skills. Sixty usable survey instruments returned by conference participants ranked competencies and where to obtain them. Results of the questionnaire are given in the extensive appendixes, which include eight speeches and summary reports from the conference. (AG)

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COMPETENCIES FOR TEACHERS

Vocational Education Shows the Way

David R. Terry

Randall L. Thompson

Rupert N. Evans

June 1972

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COMPETENCIES FOR TEACHERS

Vocational Education Shows the Way

David R. Terry

Research Assistant, Vocational and Technical Education
Bureau of Educational Research
College of Education
University of Illinois at Urbana-Champaign

Randall L. Thompson

EPDA Fellow, Vocational and Technical Education
Bureau of Educational Research
College of Education
University of Illinois at Urbana-Champaign

Rupert N. Evans

Professor of Vocational and Technical Education
Bureau of Educational Research
College of Education
University of Illinois at Urbana-Champaign

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SUMMARY AND RECOMMENDATIONS

The performance-based approach to preparing competent teachers has generated considerable dialogue among teacher educators and administrators and has begun to motivate several teacher-related professional associations as well as many states to take various overt steps to implement, through policy and through legislation, the philosophy of such an approach. Indeed, forty (40) states (including Illinois) have reported varying degrees of progress toward a (1) partial, (2) parallel, or (3) completely performance-based teacher certification system.

Several state boards of education have already enacted policies based totally or in part on the performance-based philosophy which affect not only the preparation of prospective teachers but also the re-credentialing of current teachers. At least two state legislatures have enacted education-related statutes based on the competency-based philosophy and several others are in the process.

This report, which grew out of the second Illinois Vocational Teachers Competencies Conference, has been prepared to present the findings of the first two Conferences and to serve, it is hoped, as a means of motivating continued development of a philosophy toward (1) competency-based teacher education programs, (2) curriculum development based on the needs of vocational teachers in the 70's, and (3) policy and legislation regarding teacher education and credentialing.

It is evident that as a group Illinois vocational educators have only begun to apply themselves to the task of coming to grips with a philosophy of competency-based teacher education. As observed from conference participants, a few vocational educators are committed to the new concept but

without a substantive model for proceeding. At the other extreme are those vocational educators who feel that specified courses and/or years of occupational experience are satisfactory determinants of competence. It became obvious during the second competencies conference that two major requirements for developing an acceptable philosophy will be the defining of what is meant by competencies in the teachers' domain, and securing agreement on appropriate levels of competency for different teaching roles.

Once these definitions have been made explicit, the process of identifying specific competencies can continue. It may well turn out, however, that a definition of competencies will be developed by first identifying a goodly number of tentative statements of competencies and then delimiting them to some smaller number from which a definition will emerge. It would appear, based on the experience of Competencies Conference II, that this may be an expensive approach both in time and available resources. Indeed, the data presented in this study indicate that vocational educators are having considerable difficulty in determining which of the potential competencies already identified are essential and which are nice-to-know or not even required. It would seem plausible that such a task would be made easier if acceptable definitions of teacher competencies were available.

Curricula designed to meet the needs of vocational educators in the 70's will of necessity have to provide the teacher with a cadre of competencies which are useful at least for present and preferably for the future. In his section entitled Preparing for Employment, Mangum reminds us that "The first grader of the seventies is likely to retire from the labor force in the year 2029...and the preschool youngster will be a potential worker until

2035."¹ To prepare competent teachers to meet the challenges of tomorrow's youth must certainly be today's teacher educators goal.

The vocational teacher education programs of today and tomorrow which succeed only in integrating teaching and work skills with limited general education and cultural orientation will no longer suffice. This much only is merely to plan for the future. The vocational teacher and his students - the workers of tomorrow - must be prepared to help plan their future realities with the realization that none are guaranteed, nor are any inevitable. This social skill will require not only vocational flexibility but a scientific alertness to evolving problems and the ability to control social change.²

What then should be the approach to preparing competent vocational educators? Do we consider the programs of the recent past as "used" and find ourselves "throwing the baby out with the water" as we consider change? Consider "the Blow of the Hammer. Put a hammer in a child's hand and everything needs hammering. Put a few teacher competence scores in the hands of board members, and everything may seem to need hammering."³

Certainly performance-based teacher education curriculums offer a new and "exciting" approach toward meeting the needs of tomorrow's teachers, but it is only *an* approach, not *the* approach. Defining teacher competencies offers a method for making explicit many of the capabilities a teacher must have. But as Moss points out, making explicit the assumptions underlying

¹Garth L. Mangum, "Workpower For The Seventies," in The Courage To Change - New Directions For Career Education, R.C. Pucinski and S. P. Hirsch (Editors). Englewood Cliffs, New Jersey: Prentice-Hall, 1971. p. 94.

²Jack C. Willers, "The Quality of Life in the Seventies and Implications for Vocational Teacher Education," in Changing The Role of Vocational Teacher Education, R. N. Evans and D. R. Terry (Editors). Bloomington, Illinois: McKnight and McKnight Publishers, 1971. p. 8.

³Robert E. Stake, See Appendix I.

teacher education programs may offer another valid approach.⁴ Indeed, to make explicit the assumptions about teacher roles may in itself change the nature of the teacher education curriculum. To identify teacher competencies and to develop a competency-based curriculum without considering the above, and other, criteria for a teacher education program may be only a hard "blow of the hammer."

Illinois currently offers two processes by which a person may become fully certified as a secondary or elementary school teacher: by direct evaluation of personal transcripts (and/or work experience in the case of vocational teachers), or by the entitlement process through one of the 64 institutions which have approved teacher education programs. Recently (August, 1971) the requirements for obtaining a provisional vocational certificate under the first process were expanded to include at least 60 semester hours of credit from a recognized institution of higher learning after July 1, 1974. But it is noted in the "Report of the Task Force on Certification" issued from the Illinois Superintendent of Public Instruction, that while the old methods have been useful for improving educational standards, "more attention needs to be given to performance criteria in teacher education and certification."⁵

But while there is teacher certification and a call for accountability at the secondary and elementary school levels, what of the teacher in the

⁴Jerome Moss, Jr., "Assumptions Underlying Preservice Programs for Beginning-Level Vocational Teachers," in Changing The Role of Vocational Teacher Education, R. N. Evans and D. R. Terry (Editors). Bloomington, Illinois: McKnight and McKnight Publishers, 1971.

⁵Illinois Office of Public Instruction, "Report of the Task Force on Certification." Springfield, Illinois: Superintendent of Public Instruction, May, 1972. p. 2.

community college? The Illinois Junior College Act severed the thirteenth and fourteenth grades from the public secondary schools and effectively removed the requirements for the faculty of the new community colleges to be certified. Since the Junior College Board did not and has not establish a requirement for teacher certification, the responsibility for maintaining a competent faculty has been placed directly on the administration and faculty of each community college. Similarly, the competency of the teachers of teachers in the State's four-year colleges and universities has been left to the professional judgement of each institution's administration and faculty. As a result, standards of teacher competency among the State's post-secondary institutions are nearly as numerous as the number of post-secondary institutions.

In the Criteria For Program Approval and Financial Support the "professional competencies" of a vocational instructor in an approved local education agency (LEA) are as follows: "Preparation shall include course organization, preparation of instructional materials, methods and techniques of instruction in speciality areas."⁶ Such a statement of "criteria" offers little or no guidance or direction for setting appropriate teacher competencies by LEA's. Nor does the Three Phase System for Statewide Evaluation of Occupational Education Programs⁷ in the secondary schools and community colleges provide a standard for LEA self-evaluation or for visiting teams to use when making on-site evaluations. Such guides offer, in their present

⁶State of Illinois, Criteria For Program Approval and Financial Support. Springfield, Illinois: Division of Vocational and Technical Education. 1971. p. 8.

⁷State of Illinois, Three Phase System for Statewide Evaluation of Occupational Education Programs. Springfield, Illinois: Division of Vocational and Technical Education. 1971.

form, little more than a simple statement to the effect that teachers ought to be competent.

As the voices for accountability continue to be heard, new policies and legislation regarding teacher preparedness and certification will be formulated, and as noted elsewhere in this report, several professional forces are currently active in both areas. Admittedly, present certification requirements do not provide a realistic guide to the categories and kinds of competencies teachers should possess, nor are they keyed to predict role expectations. Shall performance criteria, as expressed and measured by a list of teacher competencies, then be the answer? The ideas suggested above and those contained in the following recommendations would suggest the answer be "no", at least not as the only criteria.

RECOMMENDATIONS

1. Illinois needs to get off the fence--in teacher certification one method is followed while in vocational funding a different method is used. The latter looks better for both purposes. At the present time competencies are not fully enough developed to be used for certification.
2. Competency Conferences I and II were valuable, but primarily for purpose of re-educating teacher educators to make pre-service programs more relevant. In-service education however, has not been touched.
3. Follow-up to Competency Conferences I and II should be a small group to spend full time for a year in cutting down the list of competencies to managable size (eliminate duplication, combine competencies) and propose the ones which can and should be used for undergraduate and for graduate level teacher education on campus, plus another list for personal development and a list which should be the responsibility of the employing school.
4. Each teacher should be encouraged to develop a personal one year and five year plan for professional development. A contract should be let for development of guidelines for such plans and suggested means for implementation.

5. Each Local Education Agency should include in its one and five year plan a definite statement of what it intends to do in personnel development.
6. State-wide coordination of teacher education should work toward providing means for providing experiences which meet the needs identified for one and five year personnel and institutional development balance.

INTRODUCTION

Competency-Based Teacher Education: What and Why?

In the Manchester Interview George Collins is asked to define competency-based teacher education concisely. Collins begins by stating that educators have argued over the question for some time and that they have not been known for their brevity in answering. But at the risk of offending his colleagues, Collins attempts an answer: "Competency-based teacher education is an approach to preparing teachers that places great stress on the demonstration of explicit performance criteria as evidence of what the prospective teacher knows and is able to do."¹

In such performance-based programs, performance goals are specified in rigorous detail and agreed to, in advance of instruction, and the training institution is itself held accountable for producing able teachers. These characteristics are in sharp contrast to those of the traditional teacher preparation programs with their characteristic course-credit-degree orientation. These latter programs assume that if a student experiences a specified pattern of courses, accumulates a pre-determined number of credits in specified areas of study and undergoes some kind of student teaching experience, he or she is ready to begin teaching.

The performance-based approach to teacher preparation has generated considerable dialogue and has caused many to ask: What led to the development of such a departure from the traditional programs for preparing teachers and why all the current interest?

¹Theodore Andrews, Manchester Interview: Competency-Based Teacher Education/Certification. Washington, D.C.: American Association of Colleges for Teacher Education, April 1972. p. 2.

Elam feels that "The roots of performance-based teacher education lie in general societal conditions and the institutional responses to them characteristic of the sixties."² While it is certainly true that much of the strength for a new program for teacher preparation came with the fairly recent cries for accountability, it is also true that the movement antedates those cries. But in addition, the education profession itself has matured and is recognizing that teaching, which was once thought to be purely an art, is indeed, in part at least, a science or technology.

Professional bodies are moving to have professional "standards boards" and/or "practices commissions" established in each of the states and are encouraging legislative enactment of new teacher standards and licensure statutes based on teacher competencies.³ Indeed, the National Education Association has moved to push for adoption of its model legislation in eight pilot states. Minnesota and New York are perhaps further along in the actual utilization of competencies for teacher certification than are the other forty states (including Illinois) which have reported varying degrees of progress toward a (1) partial, (2) parallel, or (3) completely performance-based teacher certification system.⁴

²Stanley Elam, Performance-Based Teacher Education: What is the State of the Art. Washington, D.C.: American Association of Colleges for Teacher Education, December 1971. p. 2.

³National Education Association, A Model Standards and Licensure Act. Washington, D.C.: National Education Association, February 1971. Also see American Association of Colleges For Teacher Education, "Statement On Professional Practices Legislation." Washington, D.C.: American Association of Colleges For Teacher Education, December 1971. Mimeograph.

⁴American Association of Colleges For Teacher Education, "Performance-Based Teacher Education and Certification in the United States." Washington, D.C.: American Association of Colleges For Teacher Education, March 1972. Mimeograph.

As noted above, these and other pressures for change in teacher preparation and certification would imply that the practice of teaching has become or is being established as a science or at least a technology. But as is the case with many new kinds of programs, there may be some justification for taking a second look at all this interest in performance-based teacher preparation. Very few educators would question that competency-based teacher education has its merits, but on the other hand, as Stake points out, to use only competencies as the construct for curriculum development "may eat the hell out of the pipes."⁵

Competencies Conferences For Illinois' Vocational Educators

The Illinois State Division of Vocational and Technical Education (DVTE) realized the significance of the performance-based teacher education movement in the fall of 1970. In October of that year the DVTE's Professional and Curriculum Development Unit sponsored the first competencies conference for vocational educators. The 107 vocational educators invited from the state's eight universities preparing occupational education teachers and administrators were asked in the one-day conference to identify the competencies needed by occupational educators in the field. Meeting in eight work groups the educators identified a number of competencies in each of the following areas of teacher concern:

1. Philosophy
2. Organization and Administration
3. Educational Programs and Long-Range Planning
4. Financial Resources

⁵See Appendix I.

5. Staffing
6. Physical Facilities -- Equipment
7. Student Personnel Services -- Placement and Follow-Up
8. Community Relations and Learning Resources.

The competencies identified were not analyzed for their validity or relative importance nor was the question raised as to where the competencies should be obtained. The identified competencies are noted as those competencies numbered 257 and beyond in Appendix L.

In April of 1971, the Professional and Curriculum Development Unit of the DVTE conducted a two-day competencies conference to which ten local agency occupational education administrators were invited. These administrators identified additional competencies (principally administrative) in each of the previously identified eight areas of concern, but as before, they did not validate or otherwise evaluate them. Because the DVTE recently (early 1972) awarded a contract to Edward T. Anderson, Illinois State University at Normal, and Wayne Ramp, Southern Illinois University at Carbondale, to study and evaluate competencies for vocational administrators, the competencies which came out of this latter conference were not included among those noted in Appendix L.

To follow-up on the identification and evaluation of the teacher competencies identified in the first competencies conference for vocational educators the DVTE, through a grant from the U. S. Office of Education, provided a grant to the Bureau of Educational Research, College of Education, University of Illinois, Urbana. A second, three-day, competencies conference for vocational educators was planned with representatives to be invited from each vocational teacher preparation program in each of the original eight universities, plus teachers and administrators from vocational programs in several Illinois community colleges and secondary schools.

It was the intention of the Bureau staff and the DVTE to limit the number of invited participants in order to make the conference a "working conference" rather than a "listening conference." To derive the first 50 invited participants for which grant monies were available for travel expenses, 96 letters of inquiry were mailed to outstanding teachers and leaders from among the indicated institutions. Care was taken to insure a representative sample from each of the vocational areas. Invitations to attend were extended to all those persons whose calendars were free on the conference dates. Appendix E reveals that 49 invited participants whose expenses were paid by the project actually attended the conference: 35 vocational educators from among the eight universities, 9 from secondary schools, and 5 from community colleges. In addition, 28 participants whose expenses were paid from other sources attended the conference: 7 university level vocational education liaison officers, 7 EPDA Fellow understudies, and 14 DVTE staff personnel representing all Units of the Division. A total of 78 individuals plus the four-person project staff participated.

ANALYSIS OF DATA AND FINDINGS

A total of 60 usable survey instruments were returned at the conclusion of the conference. No follow-up study was conducted to ascertain possible significant differences between respondents and nonrespondents. It appeared, however, that no area or level was significantly less likely to return usable questionnaires. The distribution of respondents is noted in Table 1.

TABLE 1
 Distribution of Respondents By Vocational Area
 And Level Represented

Area and (Level)	Area		Level	
	Number	Percent	Number	Percent
Agriculture	6	10.0		
University			6	10.0
Business	10	16.7		
Secondary			1	1.7
University			9	15.0
Trade and Industrial	12	20.0		
Secondary			2	3.3
University			10	16.7
Home Economics	9	15.0		
Secondary			2	3.3
University			7	11.7
Administrators	16	26.7		
Local			10	16.7
State			6	10.0
Others*	7	11.7		
Secondary			2	3.3
University			5	8.3
TOTAL	60	100	60	100

* Health Occupations (University), EPDA Interns (University), and others not identified.

The conference participants, and therefore the respondents, were not selected on a random basis; consequently, it is prudent to evaluate the following findings as only indicative of those responding to the survey instrument. As noted earlier, however, every effort was made to invite to the conference those educators and administrators who had been identified as vocational leaders within the State.

"Necessary" Teacher Competencies

To determine from among the 477 competencies⁶ identified in the survey instrument those which were considered as "necessary" by 50 percent or more of the respondents, the "essential" and the "need-to-know" response choices were combined. Appendix M identifies, by competency number, those competencies which were considered in further analyses of the data. An examination of the Appendix reveals that only 28 of the competencies were considered as "nonessential" competencies for vocational teachers. This finding is particularly interesting in light of the considerable attention drawn by the conference participants to the fact that the survey instrument was too long. It may be that the respondents did not examine the competencies in detail due to the length of the list. On the other hand, one would expect to find very few "nonessential" competencies from among Cotrell's list since those considered "nonessential" by his validation groups had been eliminated. In fact 232 or 91 percent of Cotrell's list of competencies⁷ was evaluated by the Competencies Conference II respondents as being "essential." Ninety-nine (98.6) percent or 218 of the 221 competencies identified in the first Illinois competencies conference were retained as "essential." The latter group was in the second half of the instrument (and presumably respondents were more fatigued when they considered these competencies), which may account for the lower rate of rejection of these heretofore unreviewed competencies.

Appendix M presents those "essential" competencies in rank order by highest frequency (percent) of response. It would be interesting to analyze

⁶See footnotes on page L-2 of Appendix L.

⁷The Cotrell group has now (June, 1972) reduced their list of competencies to 126. Personal Communication.

these competencies by groups to get a feeling for which type of competencies are considered "most essential" among the essential. Such an analysis might reveal some pattern in sentence structure, affective presentation, level of competence, or other characteristic unique to those competencies in the top quartile. Due to pressures of time and budget, this type of analysis has not been performed.

Common "Necessary" Competencies

Since only 6 competencies were not considered as "necessary" by at least one of the vocational groups represented among the respondents, it was obvious that an analysis should be made to determine which of the "necessary" competencies were common to each group. Appendix O reveals that 369 competencies (78 percent) were commonly selected as "necessary" by all six of the vocational groups. An additional 38 competencies (8 percent) were selected by five of the six vocational groups.

These data would support the view that it was equally difficult for each group to eliminate competencies from the total list. This is not too surprising in view of the fact that each competency included in the list had been identified as being important by at least one other group of experts, and 256 had survived screenings by several other groups. No analysis was made of the general or specific nature of the 14 percent of the competencies not selected as "necessary" by at least five of the six vocational groups.

Where To Obtain Teacher Competencies

As a group, the survey respondents indicated (by a simple plurality or greater level of agreement) where 440 of 449 "necessary" teacher competencies might best be obtained (Table 2). As one looks for a greater consensus as to where the "necessary" competencies might best be acquired, the number of agreements falls to 15 percent of the total at or above the simple majority level and drops further to 4 percent (16 of 449) at the 60 percent or greater level of agreement.

A similar finding is noted for the administrators, trade and industrial related, home economics related, and the "other" groups as they are broken out of the all-inclusive group noted above. There is better agreement among the agricultural related and business related groups, but this may be more circumstantial than real.

A cursory examination of Table 2 reveals that there was not agreement among the vocational groups as to the number of competencies considered "necessary" nor was there agreement among the groups as to which specific competencies were necessary. It would be inappropriate, therefore, to attempt an analysis of between group differences. On the other hand, however, it is appropriate to note that there is a significant difference of response by group as to where competencies should be obtained. Given a number of competencies and a fixed budget, it would appear that the (1) vocational administrators, (2) trade and industrial related educators, (3) home economics related educators and, (4) the "other" group would most likely earmark dollars for core type teacher education curriculum courses as opposed to a vocationally specific teacher education curriculum. The agricultural and business related educators, on the other hand, each appear to

TABLE 2
WHERE TO ACQUIRE "NECESSARY" TEACHER COMPETENCIES --
BY VOCATIONAL GROUP AND LEVEL OF AGREEMENT

Group and Level of Agreement ²	Where To Acquire Competency ¹												Number of "Necessary" Competencies by Level
	X21		X22		X23		X24		X25		X26		
	No. ³	%	No.	%									
All Respondents as a Group⁴													
Plurality	43	9.3	203	46.1	20	4.5	22	5.0	148	33.6	4	0.9	440 [*]
Majority	13	19.7	32	48.5	0	0.0	0	0.0	21	31.8	0	0.0	66 ^{**}
60 Percent	5	31.2	7	43.8	0	0.0	0	0.0	4	25.0	0	0.0	16 ^{**}
Administrators													
Plurality	22	6.0	198	54.1	46	12.6	14	3.8	83	22.7	3	0.8	366 [*]
Majority	5	7.0	49	69.0	1	1.4	0	0.0	16	22.5	0	0.0	71 ^{**}
60 Percent	3	9.1	26	78.8	0	0.0	0	0.0	4	12.1	0	0.0	33 ^{**}
Agriculture													
Plurality	96	31.3	63	20.5	11	3.6	52	16.9	83	27.0	2	0.6	307 [*]
Majority	28	35.4	18	22.8	3	3.8	11	13.9	19	24.0	0	0.0	79 ^{**}
60 Percent	28	35.4	18	22.8	3	3.8	11	13.9	19	24.0	0	0.0	79 ^{**}
Business													
Plurality	131	32.8	101	25.5	9	2.2	42	10.5	116	29.0	0	0.0	400 [*]
Majority	68	54.0	15	11.9	0	0.0	9	7.1	34	27.0	0	0.0	126 ^{**}
60 Percent	68	54.0	15	11.9	0	0.0	9	7.1	34	27.0	0	0.0	126 ^{**}
Home Economics													
Plurality	56	16.0	92	26.2	20	5.7	12	3.4	168	47.9	3	0.8	351 [*]
Majority	19	14.0	35	26.0	5	3.7	2	1.5	74	54.8	0	0.0	135 ^{**}
60 Percent	12	18.2	19	28.8	1	1.5	0	0.0	34	51.5	0	0.0	66 ^{**}
Trade & Industrial													
Plurality	29	7.6	164	42.8	36	9.4	40	10.4	113	29.5	1	0.3	383 [*]
Majority	7	5.7	83	67.5	4	3.2	3	2.4	26	21.1	0	0.0	123 ^{**}
60 Percent	4	6.2	53	82.8	0	0.0	0	0.0	7	10.9	0	0.0	64 ^{**}
Others													
Plurality	9	2.7	195	58.4	9	2.7	19	5.7	101	30.2	1	0.3	334 [*]
Majority	5	3.6	101	72.1	1	0.7	4	2.8	29	20.7	0	0.0	140 ^{**}
60 Percent	1	1.9	44	84.6	0	0.0	0	0.0	7	13.5	0	0.0	52 ^{**}

¹X21 - Preservice course in specific occupational area, X22 - Preservice "core" (across occupational areas), X23 - Preservice internship, X24 - Formal inservice courses, X25 - Informally on-the-job, X26 - Other.

²Agreement is simple plurality, simple majority, and 60 percent or greater agreement in each level.

³Number of competencies by agreement level.

⁴Number of respondents in each group: Total respondents = 60, Administrators = 16, Agriculture = 6, Business = 10, Home Economics = 9, Trade & Industrial = 12, Others = 7.

*.2 significant at >.005 level with 5 degrees of freedom.

**2 significant at >.005 level with 4 degrees of freedom.

be more divided between the vocationally specific versus the core teacher preparation curriculums.

It is significant to note that apparently none of the groups feel too confident about having the prospective teacher obtain many of the competencies in either the "internship" phase or the "formal inservice" phase of personal educational development, although the agriculture, business, and trade and industrial related educators do have some appreciation for the use of "formal inservice" education.

Perhaps the most startling finding from the data noted in Table 2 is the difference in frequency, by group, of making a choice between the "formal inservice" and the "informal inservice" educational means of acquiring teacher competencies. For each group there is a decided tendency toward using informal on-the-job inservice experience. This finding tends to substantiate a feeling of the Conference staff that the conference participants were not really aware of what inservice education is or how best to use it, but were reacting to the formal inservice programs with which they had had contact, especially teacher institutes. These data and the staff's judgements would indicate that this is an area of needed research and development.

APPENDIX A

COMPETENCIES CONFERENCE II
PROGRAM

VOCATIONAL TEACHER EDUCATION
COMPETENCIES CONFERENCE II

Sheraton Inn
3090 Adlai Stevenson Drive
and Interstate I-55
Springfield, Illinois

May 1 - 2 - 3, 1972

Conducted by the Bureau of Educational Research
University of Illinois, Urbana

Sponsored by the
Professional and Curriculum Development Unit
Division of Vocational and Technical Education
State of Illinois

and

The National Center for Improvement
of Educational Systems
U. S. Office of Education
Washington, D. C.

Monday, May 1

8:30-9:00 a.m. Registration - Room 3

9:00-11:45 a.m. First Session - Room 3
Welcome - William E. ReynoldsConference Overview and Introduction of speaker -
Rupert N. EvansCareer Education: State-wide Responsibilities
For Personnel Development - James L. Holderman
Executive Director
Board of Higher Education
State of IllinoisOccupational Competencies--Not Enough -
Melvin L. Barlow
Professor of Education
Division of Vocational Education
University of CaliforniaPanel Discussion - Ed Brown, Dwight Davis and
Vaughnie Lindsay

12:00-12:45 p.m. Lunch - Dining Room of Restaurant

12:55-1:45 p.m. Luncheon Speaker - Room 3

Introduction of Speaker - Randall L. Thompson

Role of Business and Industry in Providing and
Validating Vocational Teacher Competencies -
James F. Connors
Corporate Director for
Manpower Development
Martin Marietta Corporation
and President-Elect
American Society for Training
and Development

1:45-2:45 p.m. Second Session - Room 3

Introduction of Speaker - Lloyd J. Phipps

Identifying and Validating Competencies -
Daniel E. Vogler
Assistant Professor of Education
School of Education
University of Michigan

- 2:45-4:15 p.m. Small Group Work Sessions*
 Consideration of identified competencies to determine:
1. those which are "essential", "desirable", and "nice to know",
 2. those which should be added.
- *Group 1 - Room 101 Chairman Mildred Griggs Recorder Ray Cornwell
 Group 2 - Room 102 Chairman Richard Nelson Recorder Louise Taylor
 Group 3 - Room 201 Chairman Joe Talkington Recorder Joseph Daly
 Group 4 - Room 202 Chairman George Cooper Recorder Beverly Fowler
 Group 5 - Room 3 Chairman Mary Ruth Swope Recorder Richard K. Hofstrand
- 4:15-5:15 p.m. Summary of Work Sessions
- 6:30 p.m. Dinner - Room 3

Introduction of speaker - David R. Terry

Dinner Speaker - Melvin L. Barlow
Changing Roles in Vocational Education 1917-1975

Tuesday, May 2

- 9:00-9:45 a.m. Third Session - Room 3
 Chairman - Lonnie M. Hart
Illinois State Master Plan - William E. Reynolds and William K. Appelgate
- 9:45-11:15 a.m. Acquiring and Maintaining Competencies Through Teacher Education Curricula - Daniel E. Vogler
Acquiring and Maintaining Competencies Through Other Sources - Ronald W. Stadt
- 11:15-11:50 a.m. Panel Discussion - Joseph A. Borgan and Jean K. Kintgen
- 12:00-1:00 p.m. Lunch - Room 1 and 2
- 1:15-3:45 p.m. Small Group Work Sessions*
 Development of More Efficient Methods of Achieving and Maintaining Vocational Teacher Education Competencies in Illinois

4:00-5:00 p.m. Summary of Work Sessions

6:30 p.m. Dinner - Room 3

Introduction of Speaker - Rupert N. Evans

Evaluating Teacher Competencies -

Robert E. Stake
Center for Instructional
Research & Curriculum
Evaluation
University of Illinois, Urbana

Wednesday, May 3

9:00-11:45 a.m. Fourth Session - Room 3

Chairman - William E. Reynolds

Acquiring, Maintaining, Improving and Evaluating
Vocational Teacher Competencies. Responsibilities of:

Local Agencies - James H. Cadagin

State Agencies - John A. Klit

Professional Associations - Edward T. Anderson

Teacher Education Institutions - Wayne S. Ramp

Industry and Business - Richard C. Erickson

12:00-1:45 p.m. Lunch - Room 1 and 2

Summary of Conference - Rupert N. Evans

APPENDIX B

**COMPETENCIES CONFERENCE II
PARTICIPANTS**

Edward T. Anderson
 Vocational Liaison Officer
 Department of Industrial Technology
 Illinois State University
 Normal, Illinois 61761

William K. Appelgate
 Vocational Liaison Officer
 Box 78, Technology Building
 Southern Illinois University
 Carbondale, Illinois 62901

Melvin L. Barlow
 Professor of Education
 Division of Vocational Education
 3264 Mountain View
 Los Angeles, California 90066

Walter J. Bartz, Coordinator
 Post Secondary Coordination
 1035 Outer Park Drive
 Springfield, Illinois 62706

Robert Berpmann, Director
 Elgin Public Schools - Dist. 46
 4 South Gifford Street
 Elgin, Illinois 60120

Mary Bixley
 EPDA Understudy
 Department of Education
 Chicago State University
 6800 South Stewart Street
 Chicago, Illinois 60621

Joseph Borgan, Dean
 Joliet Junior College - Dist. 525
 Rte. 3, Houbolt Avenue
 Joliet, Illinois 60436

Ed Brown, Director
 Carpentersville-Dundee Community
 Unit School District 300
 300 Cleveland Avenue
 Carpentersville, Illinois 60110

Jim Cadagin
 Director of Vocational Education
 Pekin Area Vocational Center
 Capitol Street
 Pekin, Illinois 61554

John Clow
 Department of Business Education
 Illinois State University
 Normal, Illinois 61761

John F. Connors
 Corporate Director
 Manpower Development
 Martin Marietta Corporation
 277 Park Avenue
 New York, New York 10017

Raymond Cornwell
 Department of Industrial Education
 Northern Illinois University
 DeKalb, Illinois 60115

Brandt Crocker
 Assistant Superintendent
 Quincy High School Dist. 172
 30 and Maine Streets
 Quincy, Illinois 623011

Katharine Curry
 EPDA Understudy
 Department of Occupational Education
 School of Technology
 Southern Illinois University
 Carbondale, Illinois 62901

J. Joseph Daly
 Professional & Curriculum Development
 Unit
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

Dwight Davis
 Director of Curriculum
 Joliet Junior College - Dist. 525
 Rte. 3, Houbolt Avenue
 Joliet, Illinois 60436

Sherwood Dees
 Division of Vocational &
 Technical Education
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

Roger Deill
 EPDA Understudy
 College of Applied Science
 Morrill Hall
 Western Illinois University
 Macomb, Illinois 61455

Janet Dixon
 EPDA Understudy
 Business Education Department
 Southern Illinois University
 Edwardsville, Illinois 62025

Edna Eddleman
 Department of Home Economics Education
 Southern Illinois University
 Carbondale, Illinois 62901

Richard C. Erickson
 Vocational Liaison Officer
 210 Williston Hall
 Northern Illinois University
 DeKalb, Illinois 60115

Rupert N. Evans
 Professor of Vocational &
 Technical Education
 Bureau of Educational Research
 University of Illinois
 Urbana, Illinois 61801

Robert Ferguson
 Business Education
 Western Illinois University
 Macomb, Illinois 61455

Helen Foster
 Department of Home Economics Education
 Illinois Wesleyan
 1308 North Park
 Bloomington, Illinois 61701

Beverly Fowler
 Department of Home Economics Education
 Western Illinois University
 Macomb, Illinois 61455

James R. Galloway, Coordinator
 Program Approval and Evaluation
 1035 Outer Park Drive
 Springfield, Illinois 62706

Herm Greisenbach
 Department of Industrial Education
 Western Illinois University
 Macomb, Illinois 61455

Mildred Griegs
 Department of Vocational-Technical
 Education
 University of Illinois
 Urbana, Illinois 61801

Harry E. Hagerman, Coordinator
 Fiscal and Statistical
 1035 Outer Park Drive
 Springfield, Illinois 62706

Charles Harrington, Instructor
 Prospect High School District No. 214
 801 Kensington Road
 Mt. Prospect, Illinois 60056

Susan Harvey
 Professional & Curriculum
 Development Unit
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

Lonnie Hart, Assistant Coordinator
 Professional & Curriculum
 Development Unit
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

Richard K. Hofstrand, Head Consultant
 Professional & Curriculum
 Development Unit
 1035 Outer Park Drive
 Springfield, Illinois 62706

James B. Holderman
 Executive Director
 State of Illinois
 Board of Higher Education
 119 S. Fifth Street
 Springfield, Illinois 62701

Gene Houser
 Department of Business Education
 Southern Illinois University
 Edwardsville, Illinois 62025

Kenneth James
 Department of Agricultural Education
 Illinois State University
 Normal, Illinois 61761

Richard Johnston
 Department of Industrial Education
 Chicago State University
 6800 South Stewart Avenue
 Chicago, Illinois 60621

Charles Joley
 Vocational Liaison Officer
 Room 224 Applied Arts and
 Education Center
 Eastern Illinois University
 Charleston, Illinois 61920

Jean Kintgen
 Department of Vocational-Technical
 Education
 University of Illinois
 Urbana, Illinois 61801

John Klitt
 Program Planning & Evaluation Unit
 1035 Outer Park Drive
 Springfield, Illinois 62706

Vaughnie Lindsay
 Department of Business Education
 Southern Illinois University
 Edwardsville, Illinois 62025

Ronald McCape
 Research & Development Unit
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

Vern Magnusan, Dean
 Triton College - Dist. 504
 2000 Fifth Avenue
 River Grove, Illinois 60171

Jim Maguire
 Director of Guidance
 Mid-Valley Area Vocational Center
 R. R. 2
 Maple Park, Illinois 61051

Thomas Martin
 Department of Business Education
 Illinois State University
 Normal, Illinois 61761

Cliff Matz, Dean
 Parkland Junior College - Dist. 505
 2 Main Street
 Champaign, Illinois 61820

Lyle Maxwell
 Department of Business Education
 Northern Illinois University
 DeKalb, Illinois 60115

Virginia Moore
 Professor of Counseling & Guidance
 Southern Illinois University
 Edwardsville, Illinois 62025

Lynn Morrison, Coordinator
 Southeast High School
 2350 East Ash Street
 Springfield, Illinois 62703

James H. Naylor
 EPDA Understudy
 211 Williston Hall
 Northern Illinois University
 DeKalb, Illinois 60115

Richard L. Nelson, Assistant Professor
 Vocational Liaison Officer
 College of Applied Science
 Western Illinois University
 Macomb, Illinois 61455

D. Patton, Instructor
 Champaign Central High School Dist. 4
 610 West University Avenue
 Champaign, Illinois 61820

Lloyd J. Phipps
 Vocational Liaison Officer
 347 Education Building
 University of Illinois
 Urbana, Illinois 61801

Fred Pumper
 Department of Agricultural Education
 Western Illinois University
 Macomb, Illinois 61455

Wayne Ramp
 Department of Industrial Education
 Southern Illinois University
 Carbondale, Illinois 62901

Dempsey Reid
 Department of Industrial Education
 Western Illinois University
 Macomb, Illinois 61455

William E. Reynolds, Coordinator
 Professional & Curriculum
 Development Unit
 Town and Country Towers
 1035 Outer Park Drive
 Springfield, Illinois 62706

George A. Richter, Coordinator
 Occupational Consultant
 1035 Outer Park Drive
 Springfield, Illinois 62706

Salvatore Rottela
 Dean, Public Service Institute
 City Colleges of Chicago
 The Loop College
 64 East Lake Street
 Chicago, Illinois 60601

Robert Sharp
 Director of Adult Education
 Bloomington School Dist. 87
 504 East Jefferson Street
 Bloomington, Illinois 61701

Delmar E. Slagell, Coordinator
 Manpower Development and Training
 1035 Outer Park Drive
 Springfield, Illinois 62706

James W. Smith, Coordinator
 Special Programs
 1035 Outer Park Drive
 Springfield, Illinois 62706

Ronald W. Stadt
 Vocational Liaison Officer
 School of Engineering and
 Technology
 Southern Illinois University
 Carbondale, Illinois 62901

Robert E. Stake
 Center for Instructional Research
 & Curriculum Evaluation
 270b Education Building
 University of Illinois
 Urbana, Illinois 61801

Thomas Stitt
 Department of Agricultural Education
 Southern Illinois University
 Carbondale, Illinois 62901

Jim Sullivan
 Department of Industrial Education
 Southern Illinois University
 Carbondale, Illinois 62901

Janet Sutherland
 EPDA Understudy
 Office of Coordinator of
 Occupational Education
 Eastern Illinois University
 Charleston, Illinois 61920

Mary Ruth Swope
 Department of Home Economics
 Education
 Eastern Illinois University
 Charleston, Illinois 61920

Joe Talkington
 Department of Industrial Education
 Illinois State University
 Normal, Illinois 61761

Joyce Tarter
 EPDA Understudy
 Department of Industrial Education
 Illinois State University
 Normal, Illinois 61761

Louise Taylor
 Department of Business Education
 Chicago State University
 6800 South Stewart Avenue
 Chicago, Illinois 60621

David R. Terry
 Bureau of Educational Research
 College of Education
 University of Illinois
 Urbana, Illinois 61801

Randall L. Thompson
 EPDA Fellow
 Bureau of Educational Research
 College of Education
 University of Illinois
 Urbana, Illinois 61801

Robert Tinkham
 Department of Vocational-Technical
 Education
 University of Illinois
 Urbana, Illinois 61801

Ronald Vaughn
 Department of Business Education
 Western Illinois University
 Macomb, Illinois 61455

Daniel E. Vopler
 Assistant Professor of Education
 School of Education
 University of Michigan
 Ann Arbor, Michigan 48104

Marge Walker
 Home Economics Instructor
 Centralia High School Dist. 200
 1000 East Third Street
 Centralia, Illinois 62801

Conard White
 Department of Industrial Education
 Northern Illinois University
 DeKalb, Illinois 60115

David Williams
 Department of Vocational-Technical
 Education
 University of Illinois
 Urbana, Illinois 61801

Herma Williams
 Department of Home Economics Education
 Chicago State University
 6800 South Stewart Avenue
 Chicago, Illinois 60621

Ralph Wray
 Department of Business Education
 Illinois State University
 Normal, Illinois 61761

Eugene Wood
 Department of Agricultural Education
 Southern Illinois University
 Carbondale, Illinois 62901

APPENDIX C

CAREER EDUCATION IN THE SEVENTIES

**James B. Holderman
Executive Director
State of Illinois
Board of Higher Education**

CAREER EDUCATION IN THE SEVENTIES

James L. Kolderman
Springfield, Illinois

This morning I would like to talk briefly with you about some of the very critical issues in higher education in Illinois and offer some specific comments about personnel development in career education.

I confess this is a departure from my current practice of speaking more generally about public higher education in Illinois. It is a particularly risky venture in this setting as I note your distinguished and impressive credentials.

Yet, if we are to make a large state system of higher education work in an integrated fashion, make it accountable, and enable it to provide service consistent with needs, a good deal more understanding between components of the system must exist. We must not only work toward a better understanding of each other's respective roles, but we must also apply concerted effort in overcoming inherent complexities and inertia.

But there are a number of realities with which we must all come to grips.

Among these:

1. The demands of new levels of accountability, by public bodies, by students, by the citizens at large.

We are involved in a billion dollar enterprise and we are called to identify new fiscal and program specifics. Teaching loads, number of contact hours, revised reward system, tenure and the move toward more student oriented curricula are all new problems for us to handle.

At the same time we are called to institutional accountability, charged to turn more of attention and resources to the solution of society's problems.

2. The growing realization that financial resources, state and federal, will be increasingly limited in the 70's.

This reality ties in with the first and requires us to establish priorities, high and low, allowing the reallocation of dollars among programs. In doing so we need to ask ourselves such questions as, "What have we been doing that

we no longer need to do? What is absolutely essential? What, if necessary, must give to support it?"

3. The fact that 1960 - or before - marks an enrollment peak in a curve, which at least by 1986 will have dipped to 1976 levels. That phenomenon may already be upon us as we encounter enrollment drops early in the seventies with the shifting demands of the new student of the 70's.

4. The market imbalance between graduate degree production and over-supply in numerous areas and critical shortages in others. This is coupled with the realization that we may have overrated the baccalaureate degree now that it does not necessarily guarantee employment.

5. The almost universal financial and enrollment shortages of the private colleges and universities, such a reality underlines the need for each to zero in on those things they do best. In doing this, the privates are changing more rapidly and have leveled out from the enrollment curve downward in the 60's.

6. The duplication of effort and programs among all institutions.

For instance, the public senior institutions not including the U of I at Urbana, estimated in their own projections in 1970 that by 1980 they intended to add 825 new degree programs, 557 at the graduate level.

Transfer barriers must disappear as we move toward a statewide cooperative network.

7. The growing demands for new kinds of educational experiences for new types of students -- those for whom ready access to education has been generally unavailable -- by virtue of age - geographic area - disadvantaged economics - or educational status -

Now that access has been achieved -- We must see that programs are provided which suit particular needs of new students -

- A. Non-degree
- B. Credit equivalency experiences
- C. Intern - work experience
- D. Year round programs
- E. Widened evening operations
- F. Short courses.

8. The increased need for higher education to move sensitively and directly -- through applied research and public service activities -- toward the solutions to significant problems that face society. In the vernacular of the student, there is the need for relevance.

There is no doubt about it - we are now in an almost entirely new ball game - with some rather simple new rules - one of which seems to emerge above all others. We had better - indeed, we must - listen to the consumer - the new student - or surrender and allow the increased irrelevance of our institutions to the needs and problems of society further diminish our usefulness and already flagging public confidence and support!

We need to ask ourselves some critical questions. What are the needs in career education? What are the implications for personnel development? What resources does our institution possess to meet these needs? How can we organize to most effectively and accountably service these needs?

To those of you who would ask what can be done to assure your present roles, I have few answers, and even less hope. Improved emphasis on career education is critically needed in our public secondary schools and community colleges. Only massive adjustments in current programs of developing personnel can make it a reality.

Two years ago, at a conference similar to this one, I spoke very specifically about what I believed to be priority concerns for occupational and career education. I commented on both existing problems and the associated opportunities for those having responsibility for developing teachers, administrators, and guidance personnel. My enthusiasm and that of the Board for improving this component of education has not diminished.

Master Plan Phase III includes specific recommendations for improving occupational teacher development. It also charges that a special task force be established to review current efforts in teacher education and make recommendations to the Board of Higher Education. This body is currently being formed and will make a report within the year outlining teacher personnel needs in a variety of areas including career education.

The Board has placed high priority on the development of occupational programs in community colleges, and has supported this intent by a series of actions: increasing the flat grant credit hour support, providing dividends to community colleges to conduct exemplary programs of service to their constituent communities, and establishing an additional \$2 per credit hour support in occupational programs.

Internal board budget priorities for fiscal year 1973 in teacher education identified five high need areas. One of these areas focused on the need for more and better teachers in career, occupational and vocational education.

Our staff has been intimately involved in the work of the task force on teacher certification. Additionally, we have held a series of meetings with Superintendent Bakalis and his staff in which we have looked at education in the public schools and explored appropriate avenues of assistance and cooperation through which universities can offer more help and better services.

These efforts certainly provide a beginning, yet we are dealing with a very complex problem. The larger part of the task remains, and most of the real work in personnel development in career education necessarily comes from efforts at the institutional level. What direction might this effort take? Let me offer some observations.

First, priority must be placed on producing new types of personnel. Elementary teachers with an orientation toward career development, guidance personnel interested in, and capable of, providing vocational guidance, and new occupational instructional personnel are most notably needed. New occupational teachers are particularly needed in public and human services -- yet few preparational programs exist.

Second, teacher education programs must be made more accountable. While a competency orientation of personnel development may not be foolproof, it certainly is a step in the right direction. It provides a focus on performance and gives promise of being more efficient in terms of both time and dollars.

Third, the primary focus must be shifted from teacher training toward teacher development. Despite the limited employment opportunities for new teachers, most universities are pre-occupied with pre-service training. We currently have more students enrolled in teacher education programs in Illinois than ever before, yet the opportunities have seldom been more limited. One major need in the public schools is for in-service development, and universities for the most part have ignored this service role.

With the exception of graduate programs in education, and workshops supported by outside agencies, universities have made only limited commitments to an almost unlimited need.

Fourth, planning and coordination need to be improved. This comment could well be made to many special efforts in higher education, but has particular merit for efforts in teacher development which are spread between 6 or 9 campuses. Thought must be given to what constitutes healthy competition and what can be classed as unnecessary duplication. While it is most important to encourage universities to build upon identified strengths, it is questionable, for example, whether or not 7 strong programs for preparing teachers of industrial arts are advisable in light of emerging needs.

Voluntary planning and coordination is by far the most desirable and the Board is in support of such efforts. The Master Plan for personnel development currently being developed by the Illinois Division of Vocational and Technical Education is an encouraging effort -- one which has been followed with interest by our staff.

Fifth, the process of preparing personnel requires review. We must critically review the practice of preparing occupational teachers from the ground up in separate areas of agriculture, home economics, and industrial

arts. This common practice frequently promotes an unnecessary and costly duplication of efforts; and has questionable impact on the quality of personnel.

Additionally, capstone programs for community college occupational graduates and individuals with specialized work experience are desperately needed if we are to meet occupational teacher needs in such areas as health and other human service occupations.

What I have proposed to you here today is no magic formula for improving all of personnel development in career education. This is not my intent. Rather, I have suggested that selected practices such as priority setting, improved need analysis, emphasis on performance, reduction of unnecessary duplication, and alternative forms of program delivery be applied in a system of personnel development much as they are in the state system of higher education. Hope not only for its continued and expanded service but also hope for continued public support based upon improved accountability and performance.

We look forward to working together with you.

Thank you.

APPENDIX D

OCCUPATIONAL COMPETENCIES – NOT ENOUGH

Melvin L. Barlow
Professor of Education
Division of Vocational Education
University of California at Los Angeles

Occupational Competencies -- Not Enough!

MELVIN L. BARLOW
PROFESSOR OF EDUCATION, UCLA
DIRECTOR DIVISION OF VOCATIONAL EDUCATION
UNIVERSITY OF CALIFORNIA

Things were easy in the early days. We told a teacher that he was a teacher of welding, or that she was a teacher of home economics, or business education, and that was that. No problems and no strain; the teacher was identified by the subject matter speciality, and everyone liked it that way. We talked about teacher of dressmaking, or agriculture, or practical nursing and there was no breakdown in communication.

How competent was the teacher of carpentry? Easy, we gave him a written and performance test and we asked competent carpenters to watch him at work. In the end we could distinguish without error the carpenter from the wood butcher. We took pride in the high degree of skill and general occupational competency of teachers. We could prove without question that we had the most competent dental assisting instructors, automechanics instructors, law enforcement instructors, and we had the test results to prove it--chi square, T test, significance, standard deviation, means, medians, modes--you name it, we had it. Everything was nice and comfortable.

But then someone upset the applecart. "You are not an electronics instructor," they said, "you are a vocational education instructor." We preached a togetherness with deep commitment because separateness was not in good form. Reluctantly teachers began to accept the idea--after all,

it was somewhat difficult for children of the same parents to deny they were brothers and sisters. A wave of new professionalism was stimulated in vocational education, and we tried to hide some of our deep-seated occupational prejudices. In time we spoke of a vocational education teacher who happened to specialize in dressmaking.

Togetherness had another aspect also because we began to play footsie with the general educator. For many people this was new and somewhat unusual, despite the fact that from "time-out-of-mind" vocational educators had recognized the necessity of making education complete by integrating with it the content and process of becoming occupationally competent. This point of view was not antithetical to the purposes of vocational education--our great, great, great grandparents had already taught us what education should be. Rousseau wrote about the education of Emile. He wanted Emile to become a carpenter--not just an ordinary garden variety carpenter--but to be raised the the state of being a carpenter, which was precisely the point of view intended in the Smith-Hughes Act a hundred and fifty years later.

In 1764 a young man by the name of Pestalozzi read Rousseau's book, and decided to put the theoretical views into practice, and it worked. Pestalozzi explained how Leonard and Gertrude taught their children along the best of educational designs. There was communication, understanding, respect, citizenship, community relationships, the 3-R's, and vocational education--in short, the whole bit. The idea tried to bloom in America, but the Horn Book, the New England Primer, and general laissez faire practices

had arrived first and became strong roadblocks to overcome in the process of change.

Our early heritage had already provided us with the foundations of vocational education, but when change in practice and process of vocational education occurred in the late mid-twentieth century some people were not prepared to make the adjustments because they had become too comfortable with 50 years of successful experience in vocational education. Later, when Career Education was invented (actually rediscovered), all hell broke loose.

Apparently career education places a new dimension upon our concept of a teacher of vocational education. A drafting instructor became a member of a larger family called Vocational Instructor, and this in turn became a part of a still larger family of Career Instructors. How does our drafting instructor perceive his role in this new world of career education? Equally important, what does career education think is the role of the drafting instructor?

Our number one problem in vocational education today is the attention which must be given to over 250,000 vocational education teachers. No longer is it possible to provide a high-quality preservice teacher education program which will last the teacher throughout his professional life. The old process of thinking about a teacher's competency only at the time he begins his service must give way, at least in the contemporary scene, to concern about a teacher's competency throughout his professional life.

Early expectations that proven occupational competency, and excellent preservice training were adequate qualifications are no longer acceptable in our complex educational program. Upon the basis of an assumption that a vocational education teacher may also be known as an occupational education instructor, or a career preparation instruction, and upon the basis of an assumption that maintaining teacher competency is a life-time professional responsibility, I would like to examine teacher competency from the standpoint of seven different elements.

1. Philosophical Orientation

I have made the point that the teacher operates in a much more complicated set of circumstances than has previously been the case. At least it appears that this is so--definitely some kind of change has entered the picture and the interpretation I have made is that the complexities of the contemporary scene in some ways relate to teacher competency.

Although I am now developing this point of view I am well aware that in some respects what is required of a teacher as far as competency is concerned remains continually the same. At this point I am thinking in terms of principle--to reach the level of practice I must move directly to some practical "How-to-do-it items." Many of the principles of good teaching have been under observation for a long time. History abounds with good teachers--Socrates, Jesus, Vittorino da Feltra, and on, and on, and on. The secret, of course, is not merely knowing and understanding the principle, but being able to relate (interpret) in any given set of circumstances (which change

rapidly) the accepted practical response.

It seems reasonable that the teacher must hold a clear-cut, comfortable, and knowledgeable understanding of the basic philosophy of education and of how vocational education fits into that philosophy. I have spent a professional lifetime in the study of the history of vocational education, and I am strongly biased about the value of knowing about our vocational education heritage. Perhaps I have been greatly motivated by the philosopher Santayana who observed that "Those who do not understand history are doomed to repeat it." Philosophy and history help us to understand the conceptual basis of vocational education and to become enamored of its principles.

The competent vocational education teacher today, and in the future, is one who does in fact have a strong background in the history and philosophy of education--particularly vocational education. Such a person is not "taken in" by minor changes.

2. How the Vocational Education System Operates

This section is directed primarily toward competencies in the organization and administration of vocational education. In short, what makes the system work, and how well does it work? Inherent in this phase is knowledge of existing legislation and the interpretation of that legislation? A whole host of competencies present themselves for attention. Admittedly, many of such competencies dealing with the organization and administration of vocational education fall to the administrator, coordinator, and supervisor to understand and implement, but, every vocational education teacher, even

though he does not administer a program, must be knowledgeable about the administration of vocational education.

The federal laws, the organization for vocational education at the federal level, the state plan for vocational education, the state organization for vocational education, the local processes of administration of vocational education, the roles of professional associations in achieving good administration of vocational education, all fall into the general area of operating the system of vocational education. Vocational education teachers must be able to communicate intelligently about the system of vocational education. They must be able to perceive that their practices point directly toward the goals of education, and they must know how and when to change practices and content within the intent of the vocational education program. Administration, no matter how high its quality, cannot exclude the teacher from the process, but unless the teacher is competent to discuss such matters his contribution to the improvement of the operating system of vocational education will indeed be minimal.

3. The Program and Planning

I am astounded sometimes when I find out how little some teachers really know about the total educational program in general, and about the vocational education program in particular, and about the imperative necessity for planning and evaluation. In a way a new look entered the picture with the Vocational Education Act of 1963 and the Vocational Education Amendments of 1968, and yet I frequently meet vocational education teachers

who have not read the '68 Amendments, who do not belong to the American Vocational Association, and who do not attend professional meetings of any kind.

The current look in vocational education is based upon a new kind of alertness which places new responsibilities upon vocational education teachers. The qualities of flexibility and evaluation can only be reached at the teacher level. No progress is possible unless teachers will that the progressive step be taken. Although many people are involved in program planning it is the teacher group that must carry it out--in short make it work. It is imperative that teachers develop a high degree of competency in planning.

In the '63 Act we find an emphasis upon flexibility and upon the concept of vocational education for "all persons of all ages in all communities." In the '68 Amendments we find a new emphasis upon planning, both short and long range--planning that can be expressed in measureable performance goals. Despite the imperative necessity for large numbers of people to be involved, it is still true that the most effective results of planning are those generated by the teacher in his relationship with the students. Such planning has at best been minimal, and in some cases almost non-existent. Planning at this point is where we build quality in vocational education.

How does one achieve goals of planning for teachers? Certainly preservice programs can begin the process for new teachers, but the need for inservice training to bring all vocational education teachers up to an acceptable competency to deal with planning is a national problem crying for attention.

4. Financial Resources

How education and vocational education operate financially is more important today to every vocational education teacher than it has ever been in the past. It takes money to get people prepared for the labor force, or retrained for it, and it takes money to manage the system of vocational education. Few teachers of any kind are knowledgeable about the financial system of education and vocational education.

Funds available to vocational education come from three sources: (1) Federal government, (2) State government, and (3) local government. Most of the money comes from the local government. The specific financial relationship affecting a particular vocational education teacher, in a particular school, and in a particular state, should become a part of the vocational education teacher's operating knowledge. Every vocational education instructor should become a student of educational finance to the extent that he possesses an up-to-date operating knowledge of finance as he is affected by it in vocational education.

The background of educational finance, the principles underlying educational finance, and trends in educational finance can and should be included in the preservice teacher education program of every vocational education teacher. But, even more important in the long run, the teacher must keep up year to year, and day to day, with the financial picture. Except for the principles involved, the teacher whose knowledge of educational financing is a decade old is completely out of date. Current complexities of

vocational education demand that the vocational education teacher of today be well versed in educational finance. It is a teacher education competency of high priority.

5. The Teaching Environment

I have chosen to lump a wide variety of specific competencies under this title and to draw attention to two: (1) the management of human resources, and (2) the management of physical resources.

Vastly improved teacher competencies are needed in the area of the management of human resources. Long ago someone said that "The greatest asset of America is not its tremendous wealth, but its ability to utilize its human resources effectively." This point of view applies directly to vocational teacher education. We must have teachers who have technical competency, instructional competency, empathy for students, and an interdisciplinary bearing. Furthermore these competencies are never achieved once and for all. How long does it take to become a good teacher--I can only answer, "I don't know, I have only been a vocational education teacher for 34 years, and I am still learning." All vocational education personnel--teachers, coordinators, supervisors, administrators, teachers educators--must conduct continuously a program of self development and professional upgrading. [The Barlow formula. SD (self development) = SA (self analysis) + PA (positive action)] Although this places the monkey on the teacher's back (and I am convinced it belongs there) I am as strongly convinced that the vocational education system must make extensive arrangements to provide many inservice activities for

teachers in order that they may in fact achieve a modicum of self development.

Ability to manage physical facilities is extremely important. This competency involves such a host of items that it would be inappropriate for me to attempt to delineate all of them. But the list includes such items as color dynamics, equipment management, and equipment replacement schedules. The ideal is to have the school facility somewhat reminiscent of industry or business, or the real life vocational situations. Replacement schedules, for example, is an element in the management of the physical side which is frequently overlooked. It took a lot of discussion with one school district to get them to replace the overhead belting in the machine shop. One person quipped about the replacement schedules--"our replacement system allows us to replace our typewriters every 200 years."

Every vocational education teacher must develop competencies to manage effectively the human and physical resources related to his vocational education program.

6. Student Personnel

Now and then around our campus, in moments of extreme stress, we say, "if it weren't for the students we could get our work done." Of course it is the students who make it possible for us to have any work to do at all.

There are three basic challenges, or concerns, about student personnel. First, the student as an individual. No longer can I say, "this is our program." until I see the student. Reaching conclusions in advance of seeing the student about what he needs is not defensible. In our EPDA 552 program at UCLA

for leadership development (doctoral fellows) we have 18 doctoral programs because we have 18 doctoral candidates under this program. Since the 16th century there has been no doubt about individualizing instruction--now, it must become an accomplished fact.

Second, placement of student dropouts and graduates. When I was a teacher of petroleum technology I never felt I could leave school in June until all of my students were placed--either for the summer or in their first position. In no way does this preempt the placement service available by the school, or the state. I as a vocational instructor could not enjoy my summer of teaching, research, or study until all of my vocational education students were accounted for in the world of work. For some reason it seems that we have retrenched from this concern for placement and I object.

Third, follow-up. This is the hard part of student personnel concerns. Certainly teachers must be sensitized to the importance of follow-up, using the results of follow-up to change instructional processes and content, and must participate in school, school district, and state efforts to obtain relevant follow-up data.

Teacher competencies then, must be developed in at least three areas of student personnel work. Individualized instruction, occupational placement, and follow-up should be the basic concerns of all vocational education teachers.

7. Community Relationships and Learning Resources

Advisory committees were the invention of vocational education and throughout its 55 year history the relationship between the community and its learning resources has been one of our hallmarks. I am extremely pleased with the emphasis in Career Education of community relationships and proud that vocational education has already mastered the technique.

However, even a good idea can be misused and we do find instances in vocational education where we have not made the best use of our community relationships and the learning resources available. The current direction of vocational education renews our previous faith in the use of community resources. The principle that the community is the laboratory of the school has been well established for many years, our task is to make full use of this principle as we expand vocational education programs to meet the needs of all persons of all ages in all communities.

The use of community relationships and learning resources is not a debatable item in vocational education--it is our way of life. The challenge is to exert anew efforts to make teachers and other ancillary personnel highly competent in dealing with community relationships and in the full use of the learning resources.

Summary

The significant issue developed in this paper is that concern solely about the occupational competency of teachers is inconsistent with current demands made upon vocational education teachers. This is not to say that

occupational competency is not important--it is important! In fact I feel ~~that I would want the teacher of the future to have an even higher degree of~~ competency than he has had in the past.

The Vocational Education Amendments of 1968, and the current tenor of the times, including increased emphasis upon career education, points up the fact that other teacher competencies are clamoring for attention. In no way would I sell out against occupational competency, but by the same rationale any program that sets its quality base entirely upon occupational competencies is doomed to failure in the vocational education program of the present and for the immediate future.

This thesis implies at least two basic changes. First, all training programs for vocational education teachers and other ancillary personnel must take a good hard look at their content and methodology. It may be necessary to sacrifice some of the sacred content and it may be necessary to completely reorganize the process. Second, we have a tremendous problem of updating the teachers in the field so that they are capable of meeting contemporary demands of vocational, occupational, or career preparation. Let me refer to California to indicate some of the dimensions of the problem. Our preservice group of vocational education teachers is about 2,000 teachers per year, but we have more than 20,000 vocational education teachers who are only now beginning to receive some of the inservice training they need to put into practice the theory behind the new look in vocational education and to improve

their ability to participate effectively in career education. Yes, occupational competency is as important as it ever was, maybe even more so, but it is definitely not enough as a means of defining teacher competency for the future.

APPENDIX E

INDUSTRY AND VOCATIONAL EDUCATION – PARTNERS?

John F. Connors
Corporate Director
Manpower Development
Martin Marietta Corporation

INDUSTRY AND VOCATIONAL EDUCATION— PARTNERS?

*the needs and opportunities
for cooperative efforts
in a mutual interest*

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ment.

JOHN F. CONNORS
*President-Elect
ASTD*

*and
Corporate Director
Manpower Development
Martin Marietta Corporation
New York, New York*

It was J.M. Rice, usually credited as the first person to note and write about what eventually became known as the progressive movement in American schools, who asked something like 80 years ago whether more talent or more training was needed to improve the illogically pursued and even harsh teaching that was being done in schools throughout the United States. After some study of the matter he decided that more training, broader training of teachers was needed and that school development and the development of schools' personnel needed some assistance from the concepts of scientific management. To quote Mr. Rice, "...the school is as the teacher, and consequently the advancement of the schools of any particular locality means practically the elevation of the standards of its teachers."

The above statement, circa 1893, would, Dr. Albert Yee of the University of Wisconsin says, "be a truism but for a continuing lack of implementation." Dr. Yee, in a 1969 article written for the journal, *Educational Technology*, proposes that we all turn to in an attempt to eradicate Rube Goldbergian systems from the process of professional preparation of teachers. Just as did Mr. Rice in 1893, Dr. Yee asks today for the introduction of systems management into the business of educating teachers, of carrying them to the level of true professionals in their craft. He calls for (1) an effective screening function to determine who will be admitted and who will not be admitted into the teacher training system; (2) a diagnostic function to enable teacher trainers to discover what are the needs and interests of teachers-in-training (something the writer does not see being done today in the production line which turns out teachers); and (3) a predictive function which will allow for a reasonable estimate of a student's probable success as a teacher.

Those three functions, collectively, Dr. Yee calls his input component. In his article he goes on to describe further an

operations component that provides development of a product "by manipulation of the input according to a purposive design," an output component that would provide "release and distribution of the system's products for use by others," and a feedback component "to supply control and guidance to the other components." Yee then summarizes: his input component would deal with the screening, selection and orientation of students; his operations component would be concerned with the teaching-learning operations, mainly on campuses of teacher training institutions; the output component would provide extensive clinical experiences in schools and close relationship between student, school personnel and teacher educators; and, finally, the feedback component would presume a continuous evaluation of systems processes and student progress.

Dr. Yee's premise in all of this is that the systems approach for some years has been an effective one in analyzing, developing and bringing as close as possible to perfection the organization and machine systems in modern industry and business, in governmental operations, and in scientific and technological projects. He suggests that it should be applied also to educational operations. Having spent the past 15 years in industry where, indeed, the systems approach has been effective, and having spent at least that much time in education where I have observed evidence of the breakdown in value of time-worn teacher training methods, I can certainly agree in principle with Dr. Yee's proposal for the introduction of the systems approach to professionalism in teacher training. The position which I take in this article, however, veers less toward the matter of the basic problems of teacher development and more toward consideration of problems associated with the professional development and advancement of teaching personnel who have already successfully survived or successfully avoided the Yee systems plan.

At the outset, this article must emphasize the fact that after many years of lip service to the task of developing a close business-industry/industrial-vocational education alliance, neither side seems yet to have found a way to break the communication barriers which prevent effective mutual assistance. However, recognizing that there is concern within industry for the concepts that a comprehensive personnel development system seems to embrace, and that vocational education personnel seem to want and need the concern and support of industry, perhaps this article may in some small way pry open a few doors to the arena of mutual assistance.

CAN WE BE PARTNERS?

A past issue of *ASTME Vectors*, contains an advertisement showing a picture of a newly-constructed bridge. However, the two parts of the span extending from both shores of the river it crosses fail to meet at the center. The east-to-west portion of the span is shown about six feet below the west-to-east portion. Two groups of construction men are shown standing at the end of each portion with quizzical, concerned expressions on their faces, and one of them is puzzling over the blueprint that obviously led to the development of this unique, magnificent — nevertheless useless — structure.

This picture of failure — failure which was the result, obviously, of the well-intended efforts of the bridge workers going in both directions to implement the work of each other — came to mind as I began writing this article. With the picture of the step-up (or down) bridge and the subject of the article in mind, I began to see the desired vocational educational and business-industrial partnership as somewhat analogous to that of the two groups of bridge builders whose objectives were obviously just enough at odds with the requirements of the situation to have created failure. A bridge with a six-foot step in the middle has to be considered as something less than an effective

traffic artery. If you're driving an automobile or a truck or pushing a baby carriage — it doesn't make much difference whether the step is up or down — it's still an impediment to one's achieving his objective of getting from one side of the river to the other.

When we speak of the concern or the nature of the concern that industrial firms or groups of firms should have for the role they should play in a comprehensive vocational education personnel development and utilization system we are indicating, I believe, the presence of or the value of some kind of real partnership or real alliance between industry and vocational education. For years it seems that the existence of such an alliance has been taken for granted. I propose, however, that if it exists at all it's a rather tenuous existence. I propose neither group has ever done as much as it could either to show the importance of or necessity for the alliance nor to promote it with significant vigor. I propose that industry cannot or will not play the role expected of it in the vocational personnel development system until or unless a way is found for it to understand better what that role is or should be. I propose that what is called for is, indeed, the creation of a strong, mutually sought after partnership between business and industry on the one hand and vocational education on the other.

COMMON INTERESTS

It is not my intent to try to show that no evidence of partnership exists. But there certainly is evidence all around us to indicate that the partnership is not strong enough to establish industry as much more than a silent, almost non-participative partner. That being so, both sides must accept some of the censure for the condition. Throughout the country there are oases of common partnership effort — but much more is needed. Educators must look at the problem in its correct perspective. Businessmen and industrialists have myriad problems of their own in association

with the development of personnel and the effective utilization of manpower. It cannot be expected that they will automatically turn to the solution of similar problems elsewhere. But there are basic, existing, impelling reasons why business and industrial leaders should be interested in the creation of a strong partnership with vocational education in the area of teacher professional development.

To name a few of these reasons — industry uses the products of the vocational education system; industry, therefore, must have a continuing concern for the quality of instruction in the system; industrialists and their employees have sons and daughters enrolled in vocational programs, hence a personal concern for the overall quality of the teaching cadre must exist; and, finally, business and industry in today's world can seldom afford to assume a head-in-the-sand role on any issue relating to the common good.

Withal, then, the partnership is something that not only might be deemed important of accomplishment; it also appears to be warranted by virtue of common interests.

How then do we set about establishing a type of alliance which will lead to industry's demonstrating a willingness to assume its appropriate role in teacher development and other systems related to the implementation of quality with vocational/industrial education?

LEADERSHIP

For longer than I care to remember I have watched educators in the vocational system and industrialists trying — almost desperately at times — to organize and implement within their own ranks efforts to develop people, to utilize them effectively, to provide job satisfaction, and to insure goals achievement. Each group, it seems to me, has been resolutely unaware of the efforts of the other. Each has seen itself as a motivator within its own parameters.

Each has built half of the aforementioned useless bridge to take man into a heralded future on the opposite shore. And now in 1972 vocational educators and industrialists have apparently succeeded, albeit unintentionally, in completing a bridge to partnership only to discover that their common goals are really at the jointure of two spans that have missed the objective by about six feet. Why? — Let me propose that the missing ingredient that might have effected jointure of partnership effort by this point in time has been effective leadership — something which, indeed, must have been lacking, too, in the efforts of the two groups of bridge workers in the advertisement.

It may well be too late for people in industry today and for people in vocational education today to find leaders in their respective ranks who can raise or lower bridge spans by six feet. But they had better be willing, I believe, to turn to the task of combining their efforts to develop leaders who can and will effectively guide the efforts of those who will take on the task of building our bridges in the future.

MOST NEEDED QUALITY

I believe that the quality in man most needed to bring about effective partnership between education and industry today and the quality most significantly absent in our world today is leadership. In industry and in education today, leadership has become a concept identified all too often with a person's status — the position of the organization box in which his name appears. Leadership seems to have lost its identity with the requirement to influence people to accomplish results.

In the academic world I don't think that the concept of leadership has ever been sufficiently emphasized. As a member of the academic community for quite a few years, I often felt that the aspect of leadership was overtly sublimated to the routine of orderly procedure, especially in the area of vocational education

where too often in my day the instructor's background and lack of personal developmental drive left him easy prey for anyone whose objective was to stamp out leadership and creativity. I have been a vocational/industrial teacher — I have been a secondary school counselor and I have taught in a university. So I speak from the firing line when I say that I believe that educators have not been sufficiently concerned over the years with the importance of their responsibilities to develop leaders.

A partnership which today's climate demands and just isn't getting is a partnership of education and industry oriented to the task of developing and utilizing leaders. Wherever we look today there's a need for more effective leadership. In government, industry, education, in professional groups, in student groups — in society, in general — the paucity of individuals willing and able to assume a leadership posture is appalling. I suppose that I could list any number of examples of the existing need for leaders but I don't want to write a sermon here. Instead, let me ask my readers to consider, as educators or industrial friends of the educational systems of our nation, the importance of interlacing our efforts to form a strong education/industry alliance with a strong, continuing emphasis on the concept of leadership.

LEADER TRAINING

Across industry in general for some time now, there has been a driving effort to overcome earlier shortsightedness in the matter of developing leaders. Practically every business and industrial concern in the land has as part of its personnel program an emphasis on the growth and development of its employees. Not the least important phase, indeed, in all of these programs is concern for the development of individuals who can effectively take over at some point in time and at some particular level responsibility for leading people, influencing them to work toward established objectives, and developing within their organiza-

tions a motivating climate which might induce others to seek an opportunity later to develop as leaders.

Some years ago in industry we took a strong look at the concept of leadership. Unfortunately we found, as did Dr. Eugene E. Jennings of the University of Michigan, back in the 50's that the word "leadership" was too often applied only to describe a variety of activities such as the work of club chairmen, society presidents, scoutmasters, playground supervisors, politicians, etc. Jennings said in 1961 that if you'll consider the common understanding of the subject you'll find an enormous variety of traits presumed to describe leadership — "the list being so long that, for all practical purposes, it describes practically nothing." As a matter of fact, he says, "a half century of research on the subject has not produced a single personality trait or a set of characteristics that can be utilized to discriminate between leaders and non-leaders."

INVOLVEMENT -- WITH PURPOSE

If people in the field of vocational education today are going to be truly a part of a partnership with industry in the development of men and women who we may expect to take leadership responsibility within our own bailiwicks as well as in society, it's important that they emphasize to those in the development process the concept of involvement. Involvement, that is, with a purpose. Many people today, under the guise of leadership effort, get involved alright — but in a limitless number of projects and causes simultaneously. Thus, becoming only partially involved in any one project or organization, the person so involved never has a chance to exert his full potential. Our young people today, students, teachers and industrial employees — all of them, not just the radical sophists — need to be impressed with the importance of coming to grips with situations — not just criticizing their existence — and of playing active, aggressive roles in those situations. You may want to say that is

exactly what too many of them are doing now. But I'm saying, just as in our present adult society, *not enough* of them are putting on the mantle of leadership or even seem willing to do so. Too many are satisfied to stand by — just as we adults have often done — and hope that the "bad" leadership will wear itself out and that everything will soon be quiet again. As Jennings says, however:

It is only through active participation in molding events with a sense of direct responsibility for their consequences that one can achieve the personal strength necessary to live in harmony with the pressures of the organization without being absorbed by them.¹

REINVENT THE WHEEL?

In industry today it's the person who is willing to get involved actively that we need. I'm certain that is true in the field of vocational education — else why the deep concern generally at this time about something such as a comprehensive personnel development system for vocational/industrial teachers? For some years in the industrial world — and I'm sure there has been an analogous situation existing in vocational education — the words executive and leader have been too seldom synonymous — primarily because we had found it difficult to locate people who were dynamic. Efficient people? — Yes, we had them. But people with dynamism, people willing to meet head-on the harshness of the real world? No, they were too few in numbers. Why? — Most likely because we had made the comfortable existence away from the real world of conflict too enticing. For some years now we have been attempting within industry by means of some effective personnel development programs to turn this situation around. And we're achieving some results; therefore, it might seem that vocational education could benefit from some of our experiences. Why reinvent the wheel?

COMPLACENCY PROBLEMS

There exists universally today — yes, even in some of our industrial training systems — too much evidence of emphasis on the comfortable aspects of a middle-of-the-road existence. Part of the reason, for example, that the efforts of minority groups to find a place in the sun upset so many of us terribly is that those efforts disturb our complacency. I find less bias and prejudice in this world than I do evidence of downright laziness — a ho-hum attitude about anything that is disturbing or anything that requires a leadership attitude.

The jolt of the emerging space age in industry forced us to revamp significantly our reliance on the old tried and true systems of training, production, quality control and profit seeking. We had to in a very few short years not only come up with new methods, more efficiency, better quality and more effective training systems but also with a positive approach to development of leaders who could assume responsibility for the new approach.

I ask educators to think for a moment, if they will, about how difficult it has been in their business, education, to effect much needed changes in recent years. Think for how many years all of us have been perfectly satisfied to pull ancient, outdated lessons, projects and ideas off-the-shelf rather than fight for the right to experiment, to change, to rid ourselves of the obsolete.

The problem of leadership in the academic world never struck me so directly as it did about a year ago when I sat as an industrial advisor to the vocational industrial "leaders" of a large eastern city. The same old concepts were being mulled over at that meeting that I had heard discussed 32 years earlier when I was a new teacher in a vocational system, and the concepts were 50 years old then. Over and over I have heard vocational education people ask industry to help them in any possible way. Time and again I have seen industry

offer help to the vocational education people — the kind of help they were able to give — only to see the assistance politely but firmly refused, usually on the basis of program irrelevancy.

So the two groups have sulked — have failed to use their leadership propensities to seek ways of mutual assistance. As a matter of fact, industry has fared the better because at least it gets a useable product from vocational education regularly. What, essentially, does vocational education get with similar regularity from industry?

NEW MUTUAL RESPONSIBILITY

I'm always a little concerned when I promote the importance of leadership. There's always the thought in my mind that I, at some point in the persuasion process, may begin to sound much as a crusader. In industry — and, I'm willing to wager, in education also — there are many would-be leaders, executives who crusade for a reincarnation of the "independent spirit." They give speeches at sales meetings, at seminars, appear appropriately at public meetings, identify with the best of everything. Oh, yes! they even write books. But the very noise they make belies their sincerity. I hope sincerely that the noise I'm making here about the need for people in vocational education and industrial people to extend themselves to the utmost to grow leaders for tomorrow doesn't have a hollow ring. I hope that I can help to convince my readers that educators have the task before them — that industry has the responsibility to develop leaders for this age and for the future who will recognize their responsibilities to overcome the self-inadequacies and alienations that we and our predecessors have allowed to develop as affluence and its partner, ennui, have become prevalent in the land.

Listen to a man who some 10 years ago tried to answer the question "Who will be our leaders in the future ages?":

... (scientific) attempts to determine mine exactly the traits of a leader have resulted in complete failure. In

spite of this we all have a crude but amazingly efficient sensitivity to the essence of leadership and to the existence of great leaders. We can recognize (these rare men) even though their characteristics cannot be scientifically measured. The tendency today is to deny (them) any psychological room, let alone social status and organizational prestige...

... it's not that we cannot recognize our leaders today, but rather that we no longer value them as highly as we once did.²

UNIQUE OPPORTUNITY

It seems to me that we are existing today in a society wherein the all-important individual sense of direction is lacking or missing. The tendency seems to be to avoid leadership responsibility. My generation in business, industry and education has certainly contributed heavily to this tendency. The challenge of leaders in vocational education and the challenge of industrial leaders is to zero in on an effort, as Jennings says, "to revive the individual's unique powers of purposive striving and his courage to assume and sustain great risks." As members of a society that cries out for effective leadership we all need to become part of a movement dedicated to a regeneration of the concept of leadership.

Present vocational industrial education leaders, I believe, have a unique opportunity to join in this movement with industry and to be successful in developing other leaders within their ranks. May I propose that a significant role for industry to play in the vocational teacher professional development movement could well be the identification and the promotion of the principles of leadership within the ranks of vocational education personnel. Industry has been studying the subject of leadership intensively for some years and has been associated in this research with many institutions of higher learning. Managers and training officers throughout business and industry could be excellent resource people to vocational technical school personnel to conduct workshops and seminars on leadership.

Over the past nine or 10 years, I've had occasion regularly to work with vocational teachers both in and out of the classroom. My impression is that a significant number of these teachers need some help in the development of leadership qualities which certainly must be requisite for the professional status which they occupy.

If there is any area of endeavor which might involve a commonality of purpose between vocational educators and industrial people, it is the promotion and development of strong, effective leadership within those related communities, the academic world and the world of business and industry. I submit that vocational educators should call upon industry for help in this area. Such help is of a type that industry can provide and would be interested in providing. But educators are going to have to ask for it very likely, inasmuch as industry generally is probably not aware of education's need in regard to leadership.

VOCATIONAL PROFESSIONAL DEVELOPMENT AND INDUSTRIAL SUCCESS

As I indicated earlier, industry uses the product of the vocational educational system. That fact alone represents a substantial reason why industry should be involved in and concerned with the personnel development system employed within the ranks of vocational teachers. Industry is fully aware that there is a significantly high correlation between the quality of its own products and the capability of the producers. To find a similarly high correlation existing between the broad ability of graduates of the vocational system and the professional ability of the educators in the system would certainly not be surprising in any sense.

To the degree that it *can* contribute to the development of academic people you may generally be assured that industry *will* contribute. For example, industry can react more positively to a request for help in training teachers in leadership concepts or in technical areas

than it can to questions such as: "How many machine shop graduates can you hire over the next four years?" Industry has generally hedged on an answer to such a question because the vagaries of employment needs in most modern industries almost defy a reasonable answer. However, come to industry and ask for assistance in training vocational teachers in almost any area and industry will respond quite positively. That is something it's capable of doing and doing well.

CONTINUING FAILURE

I mentioned earlier the meeting, in a large city, of vocational teachers and industrialists where the problems discussed were the same as those I had heard 30 years earlier. In the course of that meeting no less than 12 proposals were made to the schoolmen — proposals that indicated specific areas wherein industry could assist in the development of vocational personnel working in the system. It has been over a year since that meeting took place and not one call for assistance has gone out to the industries represented at the meeting. In short, at the meeting educators said: "Help us here." Industry replied: "We can't do quite that, but here's what we can do —." And with that the dialogue came to an end. And, unfortunately, that's the way it has been — except for rare occasions of cooperation — for as long as I can recall.

Despite the failure to date to effect jointure, industry is, indeed, interested in vocational education and is concerned with the problems associated with the growth and development of vocational personnel. It has to be, as I say, if for no other reason than that it uses regularly the vocational school product — young men and women who must make up to a significant degree the cadre of effective technical specialists within industry.

Industry can do many things to assist in developing vocational school personnel. But these things cannot be accomplished through haphazard contacts between

schools and industry. Several years ago, a certain county in an eastern state attempted to establish a summer internship program for vocational school teachers in industry. A fine paper program was drawn up involving what was identified as a joint effort by a school system coordinator and an individual industry's training officer. Many companies in the area enrolled in the plan and took on anywhere from one to 10 vocational instructors for summer training. Industry paid the instructors for hours worked. However, once the instructors were on the job that was the last anyone saw of the school system's coordinator and the full responsibility for the welfare of the people in the program fell upon already overworked industrial training people. Traditional lack of follow-up on the part of school officials has often put a damper on industry's enthusiasm for such programs.

BUSINESS-LIKE EFFORT

School systems cannot expect to accomplish anything constructive in developing its professional staff simply by dumping them on industry for a summer. Industry is very conscious of the tenets of an effective training plan — selection, training and follow-up. When the training sponsor — the school system — fails to recognize the importance of all these phases of a training plan, industry's enthusiasm is apt to be turned off rather quickly.

So I make a strong appeal here for emphasis on a business-like, dedicated effort on both sides when industry and vocational school personnel are planning, executing and evaluating mutual involvement in teacher development programs. I caution that industry over the years has become somewhat wary of involvement because of what has seemed something less than total dedication on the part of school people in the past in the matter of following through on personnel development programs.

Such caution from the educator's point of view may seem unwarranted. Be that as it may, however, industry is wary and needs to be courted carefully and with evidence that its involvement is necessary and professionally appreciated if it is to become an integral part of your people development programs. Again I emphasize the fact that industry has enough of its own problems along this line and can quite conscientiously rule out involvement in anyone else's if it

has any doubt at all about the value or objectives of the program it's being asked to be a part of.

WHERE CAN INDUSTRY COOPERATE?

I do not see that industry everywhere can be equally helpful in every area of effort involved in the improvement of vocational education personnel. Certain industries can provide assistance that others can't. Large industries can provide broader assistance than small ones. But small industries can often provide very specific help. Industries totally involved in government-funded projects, for example, are often limited in the amount or kind of help that can be provided because of security regulations. Therefore, the cooperation from industry can be somewhat complex. Vocational personnel cannot simply approach industry broadly with a request for help. They must know the industry — study it — understand the extent of its ability to get involved. And, above all in this day and age, don't ask for the contribution to be totally on the part of industry. Selection of teachers and other personnel to be involved must be done with care so that industry isn't expected to have to deal with someone else's problem people!

SUMMER HIRE PROGRAMS

Most industries are able in one way or another to contribute to the development of vocational teachers. Summer hire programs can often be developed within companies whose production activities involve the type of work that is related to the teacher's skill. Here again, however, a word of caution is necessary. Too often summer hire programs develop into little more than an opportunity for a teacher to implement his annual income. If that is the intent, let it be so — but don't let that sort of employment have the label of training or development attached to it. Development programs must match selection with development opportunity, must provide training related to the need, and must have follow-up (evaluation) that

will indicate whether the training effort was effective, needs revamping, and what steps in the development program should follow. Again, I emphasize that this industrial phase of teacher professional development has to be approached with the same care and the same amount of planning, execution and follow-up that is involved in a teacher's basic training program.

Supervisors in vocational education systems can probably receive help from a broader spectrum of the industrial world than can any other single group. Practically every industry today has a full-blown, effective in-house supervisory training program that involves sessions in leadership, communication and motivation. Industrial instructors from industry are usually available for direct service to vocational school systems or they are available as instructors in adult continuing education programs in junior colleges, colleges and universities. Many such institutions now offer courses that are designed by industrial managers or trainers and offered — some for credit — by the institutions with industrial personnel as instructors. Within industry we have found that most problems that are identified by supervisors fall under the three generic headings: leadership, communication and motivation. Very likely the same is true of problems that develop within the ranks of vocational supervisors.

PERFORMANCE APPRAISAL

Another area of interest insofar as the development of vocational personnel is concerned and one in which industry can make a unique contribution is that of evaluation or appraisal of performance. I can remember that years ago "performance appraisal" was almost a dirty phrase in academic circles. I'm sure we've come a long way since those days toward understanding that everyone doesn't contribute to the same degree, or to the same degree at all times — nor, perhaps, is everyone capable of equal contribution to objec-

tives. If everyone were it would be rather difficult for us to identify leaders, supervisors, executives, school superintendents, department directors, program coordinators, etc.

We in industry believe firmly in the value of trying to find the best man for every job. We think that we do a reasonably good job of selection. But with all of the effort we expend in that direction we still select a lemon or two now and then for important positions. It can't be emphasized enough that an appraisal program is a must in any people organization if the fault of poor selection is to be avoided. So here is an area where industry has had years of excellent experience followed by good results. You'll find industry quite willing to provide some help here — help, I'm sure, that can be used by educators.

CONCLUSION

It appears without question that industry can make a significant contribution to the professional development of vocational education personnel. It is quite likely that industry is more than willing to be a part of a system which will insure such development. It's to industry's advantage to have well-trained, effective teachers in our vocational school systems.

Industry, however, can only provide the type of help that it has available. It is the educator's task to determine the nature of this available help locally, and if it can meet an existing need in the schools or help to solve an existing problem, use it! There is nothing to be gained by asking any industry for a kind of help it cannot provide as normal fallout from its normal business operations. But if just this fallout assistance is used it can make a fine contribution.

There is definite need for a strong industry-vocational education alliance to insure the best possible professional development of teachers in the vocational industrial school systems. Further, there are real areas of commonality of interests in industry and vocational/industrial education. It takes only a little determined effort on the part of interested parties to isolate and capitalize upon these common interests in the process of developing teachers professionally.

REFERENCE

1. Jennings, Eugene Emerson, "The Anatomy of Leadership," *Management of Personnel Quarterly*, Autumn, 1961.
2. *Ibid.*

APPENDIX F

**IDENTIFYING AND VALIDATING PROFESSIONAL
OCCUPATIONAL TEACHER EDUCATION COMPETENCIES**

Daniel E. Vogler
Assistant Professor of Education
Coordinator for Undergraduate
Occupational Education
The University of Michigan

INTRODUCTION

Conferences such as this and problems of developing competency-based teacher education programs remind me of a story. The story is old and I know not the origin. However, trite as the story may seem, I believe it will help place this conference and problem solving in perspective.

Once there was a king who offered his beautiful daughter to any man who could eat an elephant. The offer was put to the kingdom. Three challengers accepted the offer to engage in elephant eating. One challenger immediately set out to eat the elephant. He returned in three days deathly ill. He told the king to keep his daughter and advised him that it was impossible for one man to eat an elephant. Another challenger sized up the elephant. He planned, contemplated, and thought. He returned in a week in good health. He told the king to keep his daughter and advised him that there appeared no way for one man to eat an elephant. The third man returned in one year. He advised the king to turn over the beautiful daughter. The king asked how he was able to eat the elephant. The winning challenger replied, "A bite at a time."

Each of the three challengers has something to offer us. First, we need to start eating sometime. Secondly, we need to comprehensively plan before eating. And thirdly, we need to eat just a bite at a time. No doubt, we have plunger eaters, thinker eaters, and bite-at-a-time eaters at this conference. Before we begin eating our elephant, developing a competency-based occupational teacher education program--let's take a closer look at our elephant.

sizing up the elephant

COMPETENCY-BASED TEACHER EDUCATION: STATE OF THE ART

Competency-based teacher education is a contemporary issue and appears to be taking on the significance of a movement. Competency-based teacher education appears to be no different from what is labeled performance-based teacher education. Regardless of label, there appears to be consensus on several of their characteristics.

The significance of the movement is indicated in a survey conducted by the American Association of Colleges for Teacher Education, AACTE, in 1970. The survey indicated that about one-third of the State Departments of Education in the United States were involved in developing performance criteria for teachers. An approximate one-third more were planning to move in this direction. The remaining departments reported no interest. The qualitative and quantitative aspects of involvement varies considerably. The range spans from no involvement to a proposed implementation of a competency-based program in 1972 in the State of Washington.

The characteristics of a competency-based teacher education program are presented in the first of a series of papers commissioned by the AACTE Committee on Performance-Based Teacher Education. These five points made by Stanley Elam, Editor, Phi Delta Kappa Publications, provide a summary of consensus:

1. Competencies (knowledge, skills, behaviors) to be demonstrated by the student are derived from explicit conceptions of teacher roles, stated so as to make possible assessment of a student's behavior in relation to specific competencies, and made public in advance.
2. Criteria to be employed in assessing competencies are based upon, and in harmony with, specified competencies; explicit in stating expected levels of mastery under specified conditions; and made public in advance.
3. Assessment of the student's competency uses his performance as the primary source of evidence; takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behaviors; and strives for objectivity.
4. The student's rate of progress through the program is determined by demonstrated competency rather than by time or course completion.
5. The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified.

Scrutiny of these five points reveals that the identification of desired competencies is essential to development of a competency-based teacher education program. The identification of competencies essential to teaching occupational education has already begun.

bite one

TECHNICAL COMPETENCE IDENTIFICATION

The notion that occupational teachers must be competent in an occupation as well as competent in teaching is almost universally accepted. Thus, the ideal occupational teacher should evolve

from a teacher training program as a dual-prepared person, possessing competencies of an occupation and competencies of the profession of teaching. The process of identification of technical competencies is a problem which can be dealt with somewhat separately from professional occupational teacher competencies. Therefore, recognizing occupational competencies as an essential component of any occupational teacher program, let us set aside occupational competencies and concentrate on the identification of professional occupational teacher competencies.

bite two

PROFESSIONAL OCCUPATIONAL TEACHER COMPETENCIES IDENTIFICATION

The problem of identifying professional occupational teacher competencies has been dealt with in a number of studies. The "Model Curricula for Vocational and Technical Teacher Education" project, under the direction of Dr. Calvin J. Cotrell, the Center for Vocational and Technical Education, The Ohio State University, is generally recognized as the most comprehensive study of the occupational teacher education competencies.

The "Model Curricula for Vocational and Technical Teacher Education" project was begun in 1967 and was designed to span several years. To date, the project is not completed. Presently, module instructional units are being developed and field tested. The magnitude and seriousness of the work is exemplary. Great care is being exercised by the research staff. The staff has

received input from over 1,000 persons. Each step is monitored by advice from the profession. The project staff has made certain that all vocational service areas are equally represented in terms of input and critique. The design of the study appears sound. Through various identification and refinement processes 384 competencies have been put in writing.

The language and format of the competency groupings by Cotrell are straightforward and logical. The competencies are labeled "elements." The elements are grouped into 50 "clusters." The clusters are grouped into a "category" of which there are ten. Table I should help to conceptualize the format.

TABLE I
FORMAT OF COMPETENCY GROUPING

CATEGORY:	INSTRUCTION-EXECUTION
CLUSTER:	Promote group interaction
ELEMENT:	Conduct buzz groups

The ten categories provide an overview for expectation of clusters. The ten categories are presented in Table II.

After analysis by Cotrell's staff, the listed categories appeared appropriate for both the secondary and post-secondary educational levels. On the surface they appear to relate to desired teacher competencies. However, some other category headings could just as well serve to classify the competencies.

TABLE II
CATEGORIES

-
1. PROGRAM PLANNING, DEVELOPMENT AND EVALUATION
 2. INSTRUCTION-PLANNING
 3. INSTRUCTION-EXECUTION
 4. INSTRUCTION-EVALUATION
 5. MANAGEMENT
 6. GUIDANCE
 7. SCHOOL-COMMUNITY RELATIONS
 8. STUDENT VOCATIONAL ORGANIZATION
 9. PROFESSIONAL ROLE AND DEVELOPMENT
 10. COORDINATION
-

The fifty clusters are headed with action verb phrases. Examination of the action verb provides some insight into the things which occupational teachers should be able to do. The things which teachers must be able to do are competencies in the purest sense.

The Cotrell staff studied each cluster to determine its relevance to: (1) a cooperative education program, and (2) an in-school secondary and post-secondary program. This activity resulted in the assignment of certain clusters to both or to only one of the two types of programs. The implicit conclusion is that occupational teacher education could be divided into preparation options, an in-school preparation option, a cooperative education option, and/or

a combination preparation option. The action verbs and their frequency of appearance are presented in Table III.

TABLE III
FREQUENCY OF APPEARANCE

<u>Verb</u>	<u>Frequency</u>	<u>Verb</u>	<u>Frequency</u>
administer	1	improve	1
advance	1	involve	1
advise	1	maintain	5
apply	1	obtain	2
assist	2	participate	1
comply	1	plan	3
conduct	1	prepare	1
contribute	1	procure	1
control	1	project	1
counsel	1	promote	2
design	1	provide	1
direct	1	publicize	1
develop	3	select	3
employ	1	structure	1
engage	1	supervise	2
establish	1	uphold	1
evaluate	4		

The breakdown of clusters into competencies follows a logical system of moving from the general to the specific. Again, an analysis of the competency action verbs provides clues to what occupational teachers must be able to do--competencies. Table IV is a listing of verbs used in the "Model Curricula" project. No asterisk indicates that the verb was used less than five times in the 384 competencies. One asterisk indicates that the verb was used five to 14 times in the 384 competencies. Two asterisks indicate the three verbs which were used in excess of fifteen times.

TABLE IV
ACTION VERBS IN COMPETENCIES

accept	disseminate	*prepare
acknowledge	*direct	**present
acquaint	employ	procure
acquire	encourage	promote
adapt	engage	*provide
administer	enrich	publicize
affiliate	*establish	recognize
aid	*evaluate	recommend
analyze	exchange	record
appraise	examine	recruit
apply	expand	refer
approve	express	reinforce
*arrange	*formulate	represent
assess	gather	review
assemble	give	schedule
assign	guide	seek
**assist	*identify	*select
carry-out	illustrate	send
check	implement	sequence
collect	inform	*serve
communicate	interpret	solicit
compile	interview	speak
conduct	introduce	specify
confer	invite	sponsor
contact	involve	structure
*consult	keep	study
control	lead	suggest
convince	**maintain	supply
correlate	match	support
demonstrate	*obtain	supervise
describe	organize	up-date
design	orient	uphold
*determine	participate	use
*develop	persuade	write
*devise	*plan	work

* Frequency of use 5 or more.

** Highest frequency.

A descriptive discussion of the "Model Curricula for Vocational and Technical Teacher Education" could become lengthy.

However, for our purposes, four important points emerge: (1) 384 professional occupational teacher education competencies have been identified and put into writing; (2) the identified competencies are a result of sound educational analysis by the profession; (3) the competencies can be grouped into a logical and understandable format; (4) and most important, a process is indicated.

The process follows these guidelines:

1. Move from general, terse, descriptive phrases to more specific, terse, descriptive phrases.
2. Place a descriptive action verb prominently in the phrase. Take care on the selection of action verbs.
3. Move to a sensible state of specificity.
4. Omit conditions under which the competency is to be performed.
5. Omit criteria under which the competency is to be evaluated.

A test of competency identification is to ask, "What must an occupational teacher need to know or be able to do to accomplish the category phrase or cluster phrase or element phrase?" An example would be, "What must an occupational teacher need to know or be able to do 'to promote group interaction'?" "To promote group interaction" represents a cluster, and the responses, stated according to guidelines 1-5, would represent competencies required of the occupational teacher.

At this time, I would be remiss if I were not to laud and acknowledge the big bite taken by Cotrell and his staff. While many disciplines in teacher education are still debating the merit

of the concept, occupational education has a strong foundation from which to build a competency-based program. However, as is the usual case of a big bite, there are some crumbs from the bite.

crumbs of bite two

VOID and/or COMPETENCY IDENTIFICATION IMPROVEMENT

To consider exclusion and/or need for competency improvement is a "can of worms" task. However, a systematic approach to this task can prove worthwhile. And, needless to say, it is an essential task. To accomplish this task several questions will be proposed. Some background reaction and a few suggestions will be made. These reactions and suggestions are intended to spur thought, not resolve the problem. The resolution will come only through thought, debate, and direct action.

Question 1: Are the occupational teacher education competencies identified an indication of what should be done by occupational teachers?

Reaction Suggestion: The process of task analysis and competency identification is founded on what has been done in the past--or at best what is being done now. This implies that what was good yesterday and today is good for tomorrow. This process does not lend itself to looking ahead. I suggest we drop our guard, dream, project, brainstorm, and think. Innovate!

Question 2: Are the occupational teacher education competencies identified the same competencies needed to teach the socio-economically disadvantaged?

Reaction Suggestion: Occupational education is married to the problems of the socio-economically disadvantaged. The knot is tied not only by the dictates of need but by legislation and funding. The competencies have been identified by traditional occupational educators--not by special education experts. The identification was started in 1967 which was long before the impact of the 1968 legislation. I suggest we put the socio-economic teaching in perspective--that is as priority number 1.

Question 3: Are the occupational teacher education competencies identified to date the competencies needed to teach the handicapped?

Reaction Suggestion: Teaching of the handicapped has long been the step-child of occupational education. About the only attention provided this area comes from the desire for funding. Most occupational teachers do not know how to teach the handicapped. I suggest we either turn the task over to others or adopt the handicapped program with full rights and privileges. The latter will require attention be given to the competencies needed to work with the handicapped.

Question 4: Are the occupational teacher education competencies identified the same competencies needed to teach within the career education concept?

Reaction Suggestion: The significance of career education was recognized only this year. Career education requires teaching from the cradle to the grave. The competencies were identified prior to this development. Career Education mandates an orientation to awareness, accommodation, exploration, skill development, and salable skill development. Occupational education has traditionally focused upon salable skill development. I suggest we gear up to meet these new realities, not just to prepare occupational teachers, but to provide related instruction to all involved in the cradle to the grave education process.

Question 5: Are the occupational teacher education competencies identified common to all service areas?

Reaction Suggestion: Traditionally, occupational teachers have been prepared by the individual service areas. Traditionally, these teachers have had little or no interaction and common instruction. This point has been debated, in many instances very hotly, for five years. Cotrell's research supports that there is a common core. Practice suggests that occupational teacher education training institutions do not believe it. I suggest we look at each competency for what it says and move forward rationally.

Question 6: Are the occupational teacher education competencies identified placing priority on developing teachers to teach students?

Reaction Suggestion: This question was placed last because it may be the most significant question posed. The present list

of competencies appears, to me, to relate more to the process of teaching rather than the product of teaching--prepared students. In professorial language, the priorities appear to be placed in developing cognitive rather than affective competencies. Research indicates that affective competencies are particularly crucial to teaching socio-economically disadvantaged, handicapped, and elementary students. I suggest we carefully examine competencies and make appropriate corrections to insure that competency will be developed in the affective domain.

swallowing bite 2 and the crumbs

VALIDATION OF COMPETENCIES

Big bites, little bites, and crumbs will do us no good if we do not swallow them. Before the outcry that they will not hurt us if we do not swallow, please be reminded that one can die of starvation as well as consumption of poison. Incidentally, competency-based teacher education does not have the flavor of poison! Being able to swallow the competencies must rest in the realm of validation. Following are reported four points which are pertinent to the validation of competencies:

Point 1: The validation or worth of the competencies must be linear. Some students will come to programs with competencies. Others will come with--none--? Some competencies will be developed in class, others in student teaching, others in teaching. Some persons will develop a minimal amount of competence, others will

develop considerable competence. The crux of the point is that we should expect variation with regard to qualitative and quantitative competence growth of individuals. Figure 1 indicates this point.

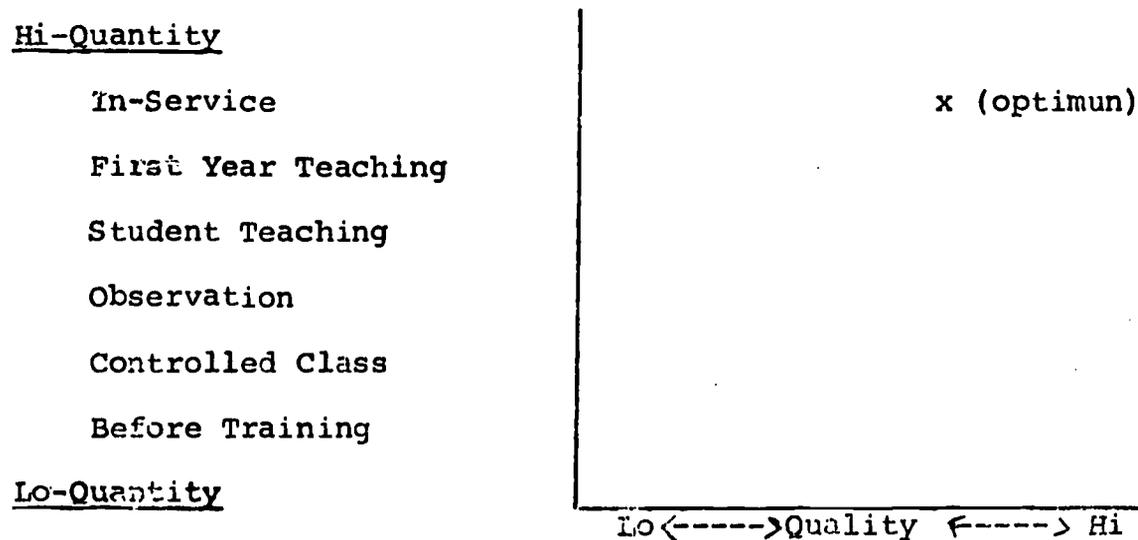


Fig. 1.--Professional Competency Attainment of Occupational Teachers

Point 2: Decisions must continually be made as to which competencies should be developed and to what extent they should be developed. Further, the method used to develop the competencies must be flexible and applied differently in different situations. These decisions are decisions for experts. We are the experts. However, it is always a problem to get consensus among experts. The Cotrell competencies have achieved consensus on a broad base. The expert consensus process is probably our most efficient validation tool.

Point 3: The ultimate validation of competency-based trained teachers rests in these teachers' students' behavior. In a quick, short, and to the point fact, we will never know this until we try it!

Point 4: It is from the previous three points that point four comes. A review of validation techniques appears to overlook the teacher trainee's direct input. I propose we build a validation system which will account for input from the teacher trainee sources. Figure 2 indicates how this might be accomplished.

How satisfied are you with your performance of competencies listed?

4 = very satisfied
3 = satisfied
2 = dissatisfied
1 = very dissatisfied
0 = no basis to respond

How much assistance do you need in performing the competencies listed?

4 = great deal
3 = some
2 = very little
1 = none
0 = no basis to respond

Competencies

Circle

1. ---- 4 3 2 1 0
2. ---- 4 3 2 1 0

Competencies

Circle

1. ---- 4 3 2 1 0
2. ---- 4 3 2 1 0

Fig. 2.--Teacher Trainee Validation System

This system could be applied at several points in the training program. For instance, the prospective teacher might be asked to react to the competencies before instruction. If the student indicates that he cannot perform a competency and needs assistance, the student indirectly has validated that competency! The same approach could be applied at course end, student teaching, after one year of teaching, and at the end of 33.2 years of teaching.

digesting one bite and crumbs

SUMMARY

In retrospect, I hope you have taken, chewed, and swallowed a considerable amount of food for thought. This quote by Neil Postman, Professor of English Education, New York University which appeared in the March 22, 1972, Wall Street Journal, seems an appropriate summary.

In spite of our attempts to make teaching into a science, in spite of our attempts to invent teacher-proof materials, and even in spite of our attempt to create "relevant new curricula" one simple fact makes all of this ambition quite unnecessary. It is as follows: When a student perceives a teacher to be an authentic, warm and curious person, the student learns. When the student does not perceive the teacher as such a person the student does not learn. There is almost no way to get around this fact, although technological people such as ourselves try very hard to. We believe in experts and expertise, and we tend not to trust any activity that does not involve a complex technique. And yet, increasing the complexity of the act of teaching has not really made much difference for there is always that simple fact that teaching is the art of being human and of communicating that human-ness to others.

I agree in principle with Professor Postman. However, to accept such a fatalism is a cop-out. Our task is to identify and then develop what teachers must know and be able to do to be human and to communicate human-ness.

APPENDIX G

**ACQUIRING AND MAINTAINING COMPETENCIES THROUGH
TEACHER EDUCATION CURRICULA**

Daniel E. Vogler
Assistant Professor of Education
Coordinator for Undergraduate
Occupational Education
The University of Michigan

INTRODUCTION

This paper is designed to accomplish four goals. They are:

1. Define and place into perspective the problem of providing teaching competencies through Teacher Education Curricula.
2. Identify and discuss the competency-based approach to teacher training.
3. Identify constraints to competency-based teacher education.
4. Describe one teacher training curriculum which is moving toward a competency-based approach.

THE PROBLEM

The acquisition and maintenance of professional competencies through teacher education is a challenging task. This presentation is limited to professional teaching competencies. This is not done to indicate a reduction of importance for technical occupational competencies, but rather, for the purpose of analyzing half the problem.

The challenge of this task might be placed in better perspective with facts and figures. Please permit me to use Michigan information. Figures for Illinois and other states of the Union could be inserted. The Michigan situation could be multiplied by fifty to provide a quasi-federal perspective.

Data were extracted from a study by Professor George Ferns, Michigan State University, entitled "Michigan's Vocational-Technical Education Personnel Development Needs 1971-1975." And, data were extracted from "The Michigan State Plan for Vocational-Technical

Education 1971." These two data sources reveal the following facts and figures about Michigan's prospective and currently employed occupational teachers for 1970.

1. 6643 occupational teachers taught in reimbursed programs.
2. The educational preparation of teachers ranged from no degree to doctorate.
3. Approximately 50% of the teachers taught part-time.
4. Approximately 50% of the teachers were employed at the post-secondary level.
5. 3488 persons were enrolled in pre-service teacher training programs.
6. 1854 persons were enrolled in in-service teacher training programs.
7. 940 persons were projected to complete pre-service teacher training programs.
8. 314 persons were projected to complete in-service teacher training programs.
9. Use of paraprofessionals is on the increase, particularly in area vocational secondary centers and community colleges.
10. No institutions were preparing health occupation teachers.
11. No surpluses or projected surpluses of occupational teachers are expected except in office occupations.
12. No certification requirements exist at the post-secondary level.

This information leads to some general conclusions. Pertinent to our discussion are the following:

1. The data does not account for any changes which might occur as a result of the career education thrust.

2. The demand for occupational teachers in all but office occupations is very optimistic.
3. The need for health occupations teachers is particularly severe.
4. Most importantly, the problem is complex and should be approached in a systematic manner.

No doubt, there are several means of providing a systematic process to occupational teacher training. Indeed, our current process appears to produce more competence than incompetence. However, I believe this system can be improved. In fact, I believe we must improve it. Thus, a crucial problem for occupational teacher training curricula becomes: What is the optimum systematic process by which occupational teachers can acquire and maintain professional teaching competencies?

THE SYSTEMATIC APPROACH

Competency-based occupational teacher training programs can provide the systematic approach to acquiring and maintaining competencies. Competency-based teacher training programs have several implied characteristics. Dr. Stanley Elam, editor of Phi Delta Kappa Publications, in his work with the AACTE Committee on Performance-Based Teacher Education identifies five implied characteristics. In addition, he identifies seven related and desirable characteristics. These characteristics are:

Implied Characteristics:

1. Instruction is individualized, personalized, and modularized.

2. The learning experience of the individual is guided by feedback.
3. The program as a whole is systemic.
4. The emphasis is on exit, not on entrance, requirements.
5. The student is held accountable for performance, completing the program when, and only when, he demonstrates the competencies that have been identified as requisite for a particular professional role.

Related and Desirable Characteristics

1. The program is field-centered.
2. There is a broad base for decision making (including such groups as college/university faculty, students, and public school personnel).
3. The protocol and training materials provided to students focus upon concepts, skills, knowledges, (usually in units called modules) which can be learned in a specific instructional setting.
4. Both the teachers and the students are designers of the instructional system.
5. The program is open and regenerative; it has a research component.
6. Preparation for a professional role is viewed as continuing throughout the career of the professional.
7. Instruction moves from mastery of specific techniques to role integration.

Analysis of the implied and related characteristics of competency-based teacher education programs reveals that a competency-based program could indeed provide a process for acquiring and maintaining teacher competencies. However, empirically speaking, the implementation of such a program is easier said than done. There are several constraints to implementation.

CONSTRAINTS TO COMPETENCY-BASED
TEACHER EDUCATION CURRICULA

The constraints to competency-based teacher education are synonymous to our current checks and balances of the teaching profession. These checks and balances are well-known to us, and many of us have reservations about their effectiveness. Permit me to identify and briefly react to the constraints to competency-based teacher education in our present system.

Certification

Certification has traditionally been granted upon completion of a degree. Students who could compete academically became certified. For vocational certification work experience was required. Needless to say, this notion assumes that competence in teaching is highly correlated with obtaining degrees and, in the case of vocational certification, working a minimum of two years. This assumption caused gross inefficiency. For instance, Michigan graduates about 24,000 bachelor degree college students per year. Approximately 13,500 of these students meet general certification requirements. The same situation, over production, could evolve in occupational teacher training. Certification procedures and laws would need to be changed with a competency-based program.

Tenure

Tenure was designed to protect teachers from being released from teaching without cause. The security of teaching due to tenure was to insure that qualified teachers remained in teaching. Tenure

is usually granted with the acceptance of a third-year contract. The assumption is that two competent years of teaching will lead to 10, 20, and possibly 40 years of competent teaching. Competency-based programs would suggest a substitute for this practice.

Professional Organizations

Organization of teachers during the past five years has led to substantial changes in economic decision making in education. These changes have been linked to a salary schedule based upon degrees and years of service. This practice provides a reasonably clear tool for negotiating economic issues. It has little to offer in terms of measuring teaching ability. A competency-based program would necessitate change of this practice. The professional organizations must assist if this and other practices were changed.

Assessment Programs

Many states including Michigan are participating in achievement assessment programs. These programs are designed to assess cognitive skills of students. Teachers working in a state with assessment programs are influenced by pressure to produce desired cognitive results. A competency-based program could lead us away from teaching based entirely on cognitive student achievement for assessment. However, it is important to realize a competency-based program is prone to be dominated by easily described behavior. These behaviors are primarily in the cognitive and psychomotor domain. We must exercise care not to overlook the affective domain if the emphasis in teacher education becomes competency-based.

Teacher Training Institutions

Ironically, teacher training institutions are looked to for leadership; yet, teacher training institutions are probably the slowest to react to new ideas. We have a tendency to research, write, and file results concerning new ideas. Competency-based teacher education must not be an example of falling into the holding tray. The teacher training institution must provide the leadership toward competency-based teacher training.

Given the problem of providing competency acquisition and maintenance through teacher education curricula; given the complexity of variables associated with the teaching clientele to be served; given the theory of a competency-based system; and given the above constraints to implementation of a competency-based program, what can be done?

THE UNIVERSITY OF MICHIGAN OCCUPATIONAL EDUCATION

To help provide an answer to persons seeking teaching competencies, The University of Michigan's Occupational Education Program has recently undergone drastic revisions. Moving toward an ideal the program has combined the best of the old and the new of teacher education. Central to the program is a comprehensive across-the-service-area approach. The program does not distinguish between service areas in course content. Rather, common professional teaching competencies are focused upon and application to specific service areas are identified through student instructional interaction. This approach is conceptualized in Figure 1 on the following page.

AREAS OF SERVICE

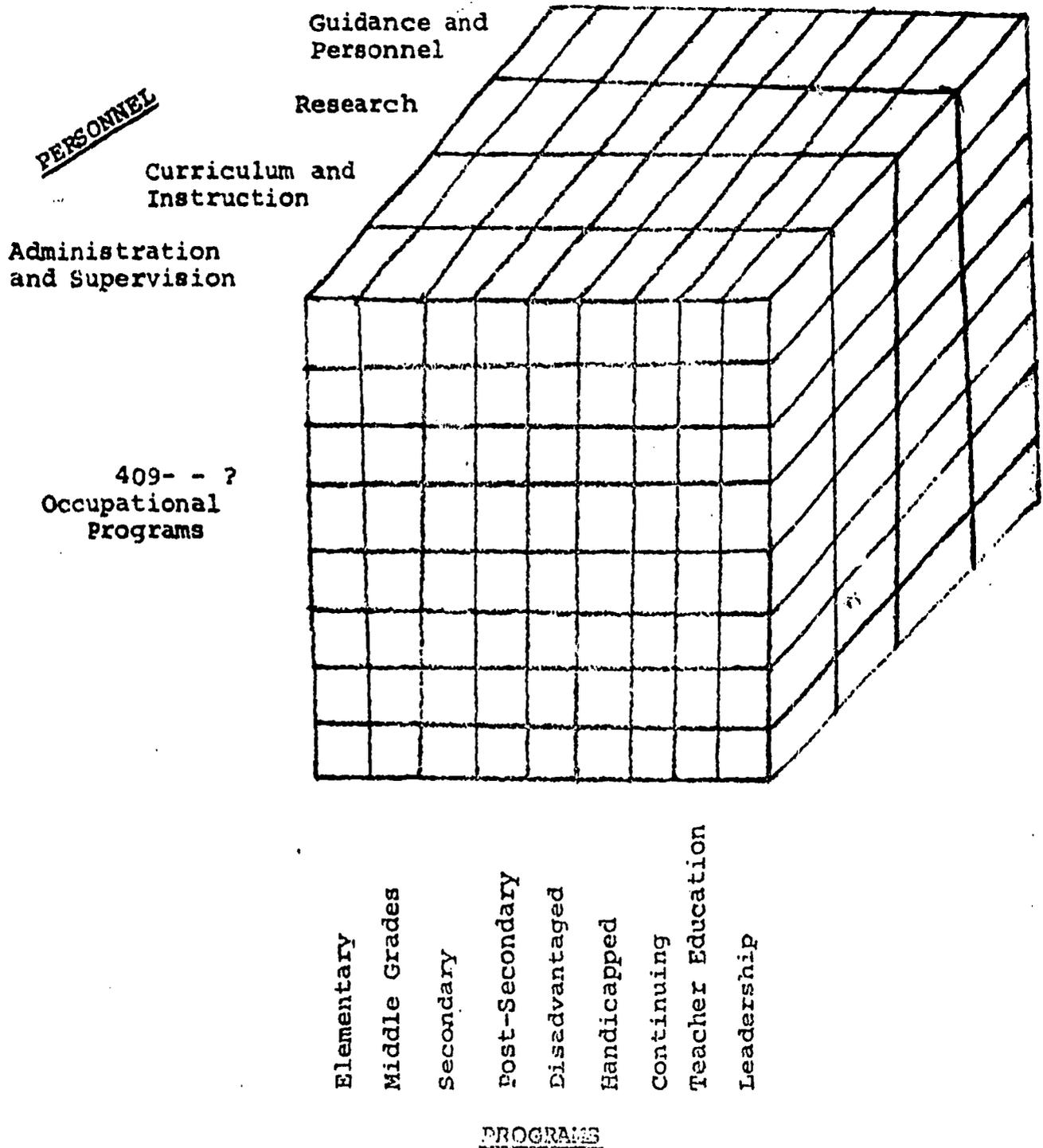


Fig. 2.--Three-Dimensional Matrix of Personnel Programs and Areas of Service in Comprehensive Occupational Education

The undergraduate component of The University of Michigan's Occupational Education program exemplifies this concept in practice. A descriptive presentation of the undergraduate teacher education curricula will demonstrate one system by which acquisition and maintenance of professional competencies can evolve.

UNDERGRADUATE COMPONENT

The program began in the fall of 1971. Community college vocational-technical graduates are recruited to the program. The students have occupational competencies acquired at the community college. Students with occupational work experience are given high priority in recruitment. Students without work experience enroll in Structured Work Experience courses designed to provide on-the-job learning experiences. All students are encouraged to work part-time during their training to help maintain occupational competence.

The community college degree and letters of recommendation provide criteria for translation of technical credit to a university major. Students enter as juniors and can complete the requirements in two years. Upon completion, the students will have earned a bachelor's degree and are qualified for general and vocational certification.

The entrance requirements are flexible, yet direct. Students should have:

1. 55 semester hours of transfer credit.
2. 30 semester hours of technical credit.
3. 20 semester hours of general education of which technical communication, technical math, and technical science applies.

4. a cumulative grade point average of 2.5 on a 4.0 scale.
5. a letter of recommendation from the community college.

The graduation requirements are also flexible, yet direct.

The distribution of course work follows this outline:

1. 12 semester hours of humanities.
2. 12 semester hours of natural sciences.
3. 12 semester hours of social sciences.
4. 20 semester-hours minor of which 8 semester hours of humanities, or natural science or social science can apply.
5. 20-30 semester hours of professional education.
6. 30-40 semester hours of technical major.
7. 124 semester hours to graduate.

The program is designed to incorporate many contemporary approaches to teacher education. Not one of the approaches is original. The blending of the approaches provides the uniqueness. Six aspects of the program should clarify this point.

Comprehensive

Conceivably, students can have training in any of the 309 occupational areas identified by the U.S.O.E. The formal occupational training is completed when the student enters the University. This approach allows for accelerated production of trained teachers. The first twenty-one pilot students represented thirteen occupational backgrounds. These occupations were drafting, auto-mechanics, tool and die, machine repair, heating and refrigeration, X-ray

technology, inhalation therapy, dental hygiene, dental assisting, nursing, commercial art, electronics-electricity, and building trades. Tradition called for our institution to exhibit a "hands off" attitude toward the service areas of agriculture and home economics.

The pattern of student movement through the program is indicated in the curriculum outline. See Figure 2. The student may interchange terms 1-3, but term 4 remains at the end.

Quasi-Competency-Based

The 384 competencies identified in the "Model Curricula for Vocational and Technical Teacher Education" project located at the Center for Vocational and Technical Education at The Ohio State University, were used to establish curriculum content. Sorting and assigning of competencies to courses resulted in utilization of 269 of the 384 competencies. The competencies serve as instructional topics. Learning experiences result in acquisition of competencies.

Plans are to group three to five competencies and develop learning modules. The learning modules, whenever possible, will be developed to enable individualized instruction. The assessment of student competence will be keyed to the evaluation of learner competence. This will allow a student to start where he is and allow self-paced movement in competency acquisition. These plans are similar to those of the "Model Curricula for Vocational and Technical Teacher Education" project. Hopefully, much of the project's work can be adopted. However, the current teacher training credit

Term 1		Term 2	
A330 Ed. Soc.	2	E363 Occ. Proc. (S.W.E.*)	
C300 Ed. Psych.	3	E463 Occ. Pract.	2-4
D319 Methods	3	(Dis & Hcp)	
E462 A. V. Media	2	E460 Foundations	
E362 Occ. Proc. (S.W.F*)	2-4	Degree and minor requirements	12-14
E463 Occ. Pract.	3		
	<u>15-17</u>		<u>16</u>

SUMMER

E364 Occ. Proc. (S.W.E.*) 4

Term 3		Term 4	
E365 Occ. Proc. (S.W.E*)	2-4	D301 Directed Teaching	10
E463 Pract.		D304 D.T. Seminar	2
E5--		E564 Cooperative Educ.	2
Degree and minor requirements	12-14		
	<u>16</u>		<u>14</u>

* Structured Work Experience.

Undergraduate Curriculum by semester.

Fig. 2.--Curriculum Outline

system will have to be made more flexible before these plans can become a reality.

Structured Work Experience

The student is encouraged to work part-time in his occupation during the academic year and to work full-time during the summer. The University assists the student in finding work. The S.W.E. is a seminar course and credit is granted on the same basis as laboratory classes. Students are required to do an occupational analysis. This process produces insight into the occupation and the world of work. The analysis ultimately produces identification of self possessed competencies. The identified competencies are utilized by the student to simulate occupational course construction and content. Comparisons between the students' analysis and other analyses of the same occupation usually reveal self strengths and weaknesses. This gives an indication of need for further work experience.

Socio-Economic Disadvantaged

The problem of teaching the socio-economically disadvantaged student is addressed. The competencies required to effectively teach the disadvantaged have not been identified and validated. However, some strong "hunches" are being actively pursued through experimentation.

Logic supports that awareness is a prerequisite to conscious action. Educational psychology supports the notion that recognized needs are pursued more vigorously than non-recognized needs. Thus,

initial learning activities are designed to create awareness of characteristics of the socio-economically disadvantaged. Subsequent learning activities are provided to enable students to identify positive techniques of meeting the needs of socio-economically disadvantaged.

The highlights of the socio-economically disadvantaged learning experiences included an intensive in-the-field community workshop. Sixteen social agencies in the City of Detroit were used to provide structured exposure to the socio-economically disadvantaged. This exposure was followed by group interaction sessions and school observation experiences. The notion of need recognition produced in these activities is incorporated in other instructional learning experiences.

Instructional Techniques

A student-centered learning-by-doing approach is the basis of instruction. Micro-peer teaching, programmed instruction, and problem-solving techniques shift responsibility for learning to the student. An example should help to place the approach in perspective.

The students are divided into groups of five to ten students. Different occupational backgrounds are represented in each group, and group composition is regularly rotated. The students are asked to teach knowledges and skills from their occupational area to their group. They develop instructional content for presentation in either traditional methods or through programmed techniques.

The instructor and the students use a problem-solving instructional model. In simple terms, the model seeks answers to five questions concurrently. The questions are:

Where are the students now?

Where are the students going?

Why are the students going?

How are the students going to get there?

How do you know when the students get there?

Acquisition of competencies required in the teaching-learning process is the outcome.

Directed Teaching

The directed teaching term is designed to develop qualitative competence. At the close of professional education course work the student is asked to rate his performance of competencies and his need for assistance. The self-evaluation of competence determines the directed teaching structure. This technique of structuring allows the experience to become more meaningful. The learning experiences can be provided which are most needed.

In-Service

Michigan has in excess of 1,200 non-degreed persons teaching in occupational education programs. Most of these persons are in need of help to acquire teaching competencies. Very little is being done through teacher education curricula to meet these needs.

The University of Michigan's Occupational Education Program is developing an in-service component. The constraint to this

approach are many. Three of our twenty-one pilot students are pioneering the in-service route. Their major constraints include admission requirements, residence requirements, limitation of extension credit, limitation of transfer credit, and required class scheduling patterns. However, cooperative efforts could make this a viable option for the preparation of occupational teachers.

Upon completion of a bachelor degree and certification requirements, the student can maintain and acquire new competencies through graduate programs or through teacher training sponsored in-service workshops. The University of Michigan is trying to provide realistic services in these areas. As an example, twenty-four of the thirty hours required for a master's degree can be completed in extension. The Occupational Education Program now offers annually over fifty extension courses in five areas of the State. Three-year projections suggest that this number should be doubled. In-service workshops are on the increase. Occupational Education Programs offer three state-wide workshops and several contracted workshops with certain schools each year. This trend seems to be increasing.

The final goals of the undergraduate program are not yet realized. However, interim evaluation indicates success. All educational courses are evaluated on a rating scale with nine points. The occupational education courses have achieved ratings above the 75 percentile when compared to all courses rated within the School of Education. Further, first term grade points were all in excess of 3.00 on a 4.00 scale. Lastly, there has been no attrition from the program.

In closing, I am reminded of this quote from Knots by R. D. Laing, Pantheon Books, Random House, New York, 1970:

They are playing a game. They are playing at not playing a game. If I show them I see they are, I shall break the rules and they will punish me. I must play their game, of not seeing I see the game.

My fellow occupational educators, we may be playing a game or we may not. Assuming that we are, let us be cognizant of a few facts:

1. The ante is high.
2. The stakes are even higher.
3. The rules are complex.
4. The skill by which we play will determine the winner.

APPENDIX H

**ACQUIRING AND MAINTAINING COMPETENCIES
THROUGH OTHER SOURCES**

Ronald W. Stadt
Professor of Education
Department of Occupational Education
Southern Illinois University - Carbondale

Acquiring and Maintaining Competencies Through Other Sources

It is a pleasure to be^o talking to such an open-ended topic and to one about which I know something more than can be found in the literature of professional development. I should tell you, though, that I am humbled by the responsibility of describing some of the practices I'll be mentioning in a few moments. I hope that the people at the University of Alberta, where much of my experience with irregular practice was gained, and Wayne Ramp, who "wrote the book" at Southern Illinois University-Carbondale before I arrived, will feel that I have given you an accurate picture.

This talk has three parts: (I) Competency Sources Prior to Entry, (II) Competency Sources During Teacher Education, and (III) Competency Sources After Entering Teaching. These categories are not mutually exclusive but they are rather exhaustive and do give an easy to understand chronology to my remarks.

The first then is:

I Competency Sources Prior to Entry

A. As many of us have been saying at this conference, one of the primary sources of competencies is going to be community college occupational study. Teacher education departments have to form an articulated and working relationship with community colleges. No longer can we rely on university coursework alone for competence in various and sundry teaching fields. Many community college programs are better staffed and equipped to do this. Furthermore, many of the necessary fields are not offered at most universities but are primarily the function of colleges and other schools.

Community college occupational credit must be taken at face value and not subjected to proficiency examination or evaluation on a course-against-course basis as some university departments insist on doing. I look forward to the day when we will have at the

base of a collegiate common market in Illinois, a unified admissions and recording function. There ought to be one transcript for all the fisheries the taxpayer buys. We should have a system like New York, where technical institute credit, by law, is on the SUNY transcript for departments anywhere in the system to utilize as they see fit.

Several advantages of using community college credit in the B. S. in occupational teaching are obvious:

1. We graduate specialists, who can move young people to employment, rather than people who are prepared to teach some parts of two or three or four occupations or clusters. We have too many teachers who can teach only beginning and intermediate industrial, or business, or personal service courses in several areas. We have far too few teachers who have depth in an area, such as ag. mechanics, or auto body, or insurance. In many specialties, such as unit record data processing, the only way we can develop teachers is to incorporate experience from other sources, such as community colleges.
 2. The second advantage is familiarity with a local agency which has the occupational education function as one of its primary goals. This is a sort of freshman-and-sophomore years pre-student teaching experience that is invaluable. I dare say that community college graduates in occupational teaching baccalaureate programs know more about college student culture and community college services than do professors and graduate students in departments of higher education--they have lived it.
- B. A second source of prior-to-entry competencies in National Association of Trade and Technical Schools. NATTS is a relative newcomer in the accrediting game. It was established because of the special needs of private non-profit and profit, college-level programs. NATTS is in-turn, accredited by the accreditor of accrediting agencies--the National Commission on Accrediting in USOE. NATTS accreditation does not give some assurances. Just as community college or university programs in applied

fields which are approved by regional and professional accrediting or licensing agencies vary from excellent to suspect, so do MATTS schools and their products vary.

Safeguards for accepting MATTS graduates are the same as accepting any kind of input. As Dan Vogler said, we must put the emphasis upon exit not on entrance. The competency hurdles along the line will sift out the chaff. Doing an occupational analysis, undergoing a pre-student teaching experience, preparing slide-tape sequences for actual instructional units and being interviewed for a student teaching assignment will assure separation of those with success and failure potentials for teaching.

I might add here that from one MATTS school we have had quite a range of transfers. The first one or two, who came to us because of the Community College Cooperative Internship Program which our department of higher education was conducting with Ford Foundation sponsorship, did not adjust to university study. But, since we have had several in electronics and in drafting who had fine records at SIU-C and who have become fine teachers.

- C. A third and very similar source of prior-to-entry experiences is schools which are accredited by professional associations. It is relatively easy to treat credit from accredited schools of nursing and other health occupations. All we need is a vehicle for making the admissions process mechanical. This may take some doing but there are precedents at SIU-C and several other universities.
- D. A fourth major source of prior-to entry experiences is study in military and/or industrial schools. The USN and USAF are especially good sources of competent technicians in various and sundry fields. Credit or certificates from military and industrial schools

should be equated to university credits on the same bases that community college and other experiences are equated. We are fortunate at SIU-C to have Dr. Raymond Bittle who spent time in training and counselling in the USN and USAF and with General Electric. Ray is adept at evaluating military and industrial schooling for university credit because he has lived such schools. Of course, he gets advise and counsel from others as we admit students with backgrounds which are new to us. For example, Dentists who are managing associate degree programs helped us to do initial evaluations of dental auxiliaries schooling in the military. Such consultation weighs heavily with university registrars and more importantly helps us (1) to treat applicants equitable and (2) to graduate only teachers who know their stuff.

- E. A fifth source of prior-to-entry experience is teaching in the military or private sectors. We must recognize teaching experience in military, industrial, private, and flight schools. Recognition in most instances should be by proficiency examination but in the case of licensure as we have it in cosmetology, we should probably just post credit for teaching experience.
- F. I've saved the most valuable source of prior-to-entry experience until last. This is work experience. The future of public career education is very much dependent upon how well we do at assuring that occupational teachers are experienced professionals, craftsmen and artisans. Advancing people toward the E. S. degree on the basis of work experience is certainly not new. Lowell Carver was doing it in Iowa six years or so ago. Colorado A & H has been doing it since the 20's. The University of Alberta has been doing it for ten years. SIU-C has been doing it for four years.

We need to come to grips with this matter. There are no problems when apprenticeship or licensure is involved. Journeyman status in machinist trades or operator status in cosmetology and subsequent years of experience are easy to document and equate to university fisheats. But, from there the matter gets troublesome. What to do with a community college data processing instructor who hasn't been to school since high school but has twenty years of Data Processing experience and is doing well in university extension courses at the beginning graduate/advanced undergraduate level? We are able to award up to 60 quarter hours of credit for documented work experience alone and hope that other universities in Illinois will do so soon. Again, remember Dan's charge to focus on exit not on entry.

The second part of the presentation then is:

II Competency Sources During Teacher Preparation

I have just two of these to talk about.

- A. The first is cooperative work experience. This has been a part of the industrial oriented teacher education scene in Illinois for two decades. It is not widely enough used in industrial and all too seldom used in other occupational areas. This is a very important vehicle for assuring minimum amounts of work experience for those who come directly or almost directly from occupational study in community colleges or elsewhere to occupational teacher education. This quarter, we have eighty-one people working in twenty-three occupational areas, in Illinois, Missouri, Indiana, New Mexico, California, Colorado, New York and Massachusetts. The people find their own jobs and we find in almost all instances that employers are pleased and proud to be involved in teacher education. The transient nature of the program is not a hindrance. We insist that

people work appropriate tasks. This is no consequence in occupations involving licensure. It can be a problem in, say, automotives. Be assured that we have never permitted a future machine shop teacher to sell shoes during his cooperative experience (I know of such a case).

- B. The other source of competencies which can be used during the time students are in teacher education programs is advanced study in some of the kinds of schools I mentioned earlier and advanced work experience. Examples of real people will convey the meaning here. Last fall we had two nurses enrolled for credit (one undergraduate and one graduate) while they were studying the care and feeding of coronary care units in an out-of-state medical school. We have had a number of people do advanced study in automotive training centers sponsored by manufacturers. My favorite example is a lady who had been a medical lab technician some years ago and obviously needed updating before teaching. She worked for pay and eight hours of graduate credit in the Herrin Hospital lab for six months. Today we would give her twelve credits. At full pay, that ain't bad.

We have to cash in on work and study opportunities. Now that phrases such as common market are in, we need to accomplish more of the kind of plowing we have know how to do but haven't been willing and/or able to do.

The third, shortest, and final part of the presentation then is:

III Competency Sources After Entering Teaching

Many of the sources mentioned previously are appropriate for updating competencies of in-service teachers. So long as the in-service teacher maintains the master teacher objective there isn't a whole lot that teacher education departments can do. We are better prepared to assist people who make oblique shifts. If teachers want to become coordinators, or managers, or counsellors, we are more help than we are if they want to continue in teaching.

To serve master teachers, several segments of the profession must make some changes. Local agencies must permit rank and pay advances on other than fishheads-of university-credit bases. Advanced work experience must be the mode not the rarity for master teachers at the 11-14 levels of career education. Summer work experience for orientation-level and K-8 teachers should also be rewarded. Counsellors and other ancilliary personnel could benefit more from experiences in firms and agencies in the employment community than they do from many university-sponsored experiences.

Professional associations will probably play a role in gaining acceptance for other than credit-producing experiences. They will also play an increasing role in the planning and conduct of in-service experiences.

Universities will need to acknowledge other than regular credit producing experience in masters degree programs. Hopefully, there will be contractual, partnership relationships between universities, local agencies, the DVTE, professional associations, and hardware and software suppliers to undertake the continual updating function. Some of the ways a coalition could satisfy this function are:

A. Summer Workshops in excellent local agency facilities.

Let's admit that places like Triton and the Collinsville area center are better equipped and staffed in many areas than are universities. Shouldn't we use such facilities and instructional teams consisting of DVTE personnel, professors, practicing master teachers, and supplier tech reps to update teachers and others on the instructional team? Certainly, we should. The variety of such partnerships and benefits to teachers and their kids is endless.

B. A second coalition should probably center around university extension services. Summer travel tours do much in other states to familiarize in-service teachers with practices in relevant occupations. Shouldn't we foster trips to where the action is? Shouldn't instructional and ancilliary personnel study working conditions, hiring policies and other features of the employability milieu first hand? Of course, they should. Why not foster bus and plane tours with pre-departure study, instruction on the way,

lecture-discussion sessions with government and private sector personnel managers, and simulated and live experiences on job sites?

In closing, let me say two things. (1) I haven't discussed thoroughly experiences for other than grades 11-14 instructional staff. For example, we haven't time to treat internships in corporate finance departments for managers. (2) Let me emphasize that none of what I said is new. These were old ideas when I was a high-school student. Please emphasize for yourself what you can do to penetrate old heads to function in competency-based professional development without walls.

Thank you for your attention

APPENDIX I

**REMARKS ON THE MATTER OF EVALUATING
TEACHER COMPETENCIES**

Robert E. Stake
Professor of Education
Center for Instructional Research
and Curriculum Development
University of Illinois - Urbana

Remarks on the matter of Evaluating Teacher Competencies*

Robert Stake
Associate Director
Center for Instructional Research and Curriculum Evaluation
University of Illinois
Urbana, Illinois

As a specialist in evaluation I usually tell people that they ought to get busy and evaluate, but tonight my remarks are going to be cautionary. I am going to share with you some of the concerns I have about evaluating teacher competence.

You all have heard the story of the fellow who decided to go into the plumbing business. He didn't have any training and he didn't know anyone who did, but he figured he could figure things out for himself. He found that hydrochloric acid worked real well for clearing up clogged pipes, but he got to worrying a little when his wife told him that stuff was dangerous. So he wrote a letter to the Small Homes Council. You'll recall that they answered him in a very elliptical technical language, saying, literally that, "the use of HCl as a solvent in lead pipes was exceedingly corrosive and would exacerbate the deterioration of the lines." He wrote back, "thanking them for okaying the use of HCl." They wrote another letter saying, "Your interpretation of the previous communication was erroneous. Notwithstanding the fact that HCl will remove any stoppage in household drains, its corrosive characteristics contribute greatly to the attenuation of the interior surfaces and antedote even more serious dysfunction of the system. Of course he wrote back and said again, "Thanks for telling me

* Outline of presentation.

that it is all right to use the acid." To which he finally received the following note:

"Don't use the acid! It eats the hell out of the pipes!"

Well my word for you tonight is: Be careful with that evaluation.

It eats the hell out of the pipes!

It may make things move along better. It may clear up a gooey problem. But you may wake up without any pipes.

Mike Atkin, our Dean at Urbana, talks about the Law of the Hammer. Put a hammer in a child's hand and everything needs hammering. Put a few teacher competence scores in the hands of a board member, and everything may seem to need hammering. It eats the hell out of the pipes.

We like to think that we can be judicious about what we pay attention to, that we won't be swayed by a few test scores--But when we get those scores in front of us we tend to forget that there are lots of things that weren't measured. There are lots of other competencies, there are lots of talents, there are lots of attitudes that we want to have in our teachers. I'm sure you've said that many times yesterday and today. Will those things that are not measured continue to get enough attention when we have scores on these that are measured? Research on admission practices, selective service procedures, change processes, as well as my own experience persuades me that we pay more attention to specific information in front of us than we intend to.

Do competencies nicely represent what people mean when they talk about ideal teachers? Hear this:

Interviewer: When you were in school did you have an extra special teacher? One whom you never forgot?

Respondent: Yes, Mr. Carter, Bill Carter.

I: What do you remember about Mr. Carter?

R: Well, he assisted us students with job related problems.

I: You mean he worried about your life work.

R: Oh, no, I don't know that he worried. He was just very competent.

I: In what special ways was he competent?

R: Well, he evaluated his own techniques and methods of teaching.

I: And that was important to you?

R: You bet, and he was really keen when he demonstrated a manipulative skill.

I: Did he ever seem more like a Father than a teacher to you?

R: He sure did. I remember the times he presented information by the use of the case study method. Boy, that really got to me.

We tend to simplify. We search for ways of reducing complex acts, like teaching, to simple representations; circles and boxes, numbers and statements, symbols and test scores. We oversimplify.

Here's a comment by Pat Hoyniham:

A century ago the Swiss historian Jacob Burckhardt foresaw that ours would be the age of "the great simplifiers," and that the essence of tyranny was the denial of complexity. He was right. This is the single greatest temptation of the time. It is the great corrupter, and must be resisted with purpose and with energy.

An educational program has many obligations for the teacher, many of the important competencies are not needed in the planned program, but needed when a crisis arises. And pocket sized crises occur every day.

The whole cloth of an educational program is a grand accumulation of intents, transactions, and outcomes. The teachers intend to deliver on many promises and to take advantage of many targets of opportunity. Students and parents have their expectations and apprehensions. Community leaders, social critics, and educationists "view with alarm" and "point with pride." Each child brings his own complex of convictions, misunderstandings, and propensities and takes away some of those and still others. Each classroom is a community, with rules and stresses and competition and compassion. Yesterday's subgroups are not tomorrow's. Things are learned, unlearned, relearned; much as shoelaces are knotted, untied, broken, and retied.

Is it possible for us to deal with the complexity of teaching when we have a list of competencies in front of us?

I remember, I think, when I started to lose my zeal for being analytic, for attempting to take every idea apart in order to understand it. In graduate school I learned about the work of L. L. Thurstone, a father of modern psychometric theory, a genius, the man who gave us the notion of the primary mental abilities. His idea was, P.M.A. > Intelligence quotient, rote memory, perceptual speed, verbal fluency, deduction reasoning. It didn't work --

Setting forth a set of teacher competencies, -- and showing you mean business by measuring these competencies -- is tantamount to setting up a blue print for the school. The schools will change, we want them to change, we want to help them change. Have we thought enough of what sort of schools we want?

The analyst and the portrayer (2 kinds of evaluators)

The answer to the question "what should the schools be?" you will get from the analyst, the person who cuts things up to look at them, is an answer about budgets, and busing, and cafeterias, and athletics, as well as of teacher competences, and student performance.

There is another kind of answer, the answer you get from the portrayer, often in metaphor. What things should school be like? Do we want our schools to be like Sears Roebuck (there's a metaphor). With each child and parents ordering modules from the catalogue, boosting our average daily yearnings with the "wish book", charging our purchases to our revolving accounts, sending us bills that, when erroneous, take months to correct. Do we want our schools to be Sears Roebucks?

Do we want our schools to be like the National Football League? Efficient, beyond all belief, breathless drafting the best of the talent for one special vacation or another, preaching "Winning is not the most important thing, it's the only thing." Do we want our schools to be a National Football League?

Do we want our schools to be what everybody talks about, like the weather is.

I bring these things up because when you think of what schools should become and what schools should not become: you get to worrying more about giving too much emphasis to the measurement of teacher competence.

But we must measure!

We must evaluate.

Humans can't behave any other way. Surviving, helping, sharing, striving, improving, all of these depend on understanding the weight of

things, the distance of things, the amounts of things. The value of things.

If we are going to understand teaching -- If we are going to help others to teach we must evaluate teaching.

We cannot suppose there is but one dimension to teaching; we must acknowledge there are many. (And we are calling them competencies.)

What special questions shall we ask as we try to find better ways to evaluate teacher competencies. Here are 6 questions:

1. Should we use paper and pencil tests?

Yes, sometimes, but performance tests and ratings by experienced professional people are more important.

2. Should a teacher be evaluated by his peers, by his students, by his supervisors, or by specialists in measurement?

All four, already are. But for the record:

PEERS - best for subject matter competence.

STUDENTS -- best for telling how he relates to their needs as they see it. High validity, but maybe tunnel vision because of suspicions.

SUPERVISORS - best for organizational contributions, team-work relating to community needs.

SPECIALISTS - best for Independent View and establishing complex performance alterations desirability of a competence credentialing center.

3. Is clinical judgement acceptable? Does it need to be validated against objective data?

It is acceptable. In fact it is essential. We will not have

sophisticated measurement and evaluation in education until we make a larger place in our evaluation designs for clinical judgment. Outside-criterion validation is not desirable; but you do have to have general agreement that the expert is an expert in a specific area of professional work.

4. In making the measurement shall we stick very close to the statement of the competence?

That depends. If you are interested in whether or not you have taught that specific competence, then some of the measurement, any way, should be directly aimed at it. But when you are interested in hiring someone, you should be concerned about whether he has only a specific skill or a generalizable, transferable skill. Many of our measurements of competence will be too specific. Measure what's easy?

5. Is a profile the right way to present the evaluation of a teacher?

Sometimes a profile will be useful as a part of the portfolio. Sometimes it will be too simplistic, even if it has 20 categories. The analyst counsels you to use things like profiles. Remember that the portrayer advises you to use outstanding examples, or metaphors, to describe teachers. What examples do we have? Mark Hopkins, Socrates, Fellow from OSC, Vince Lombardi, Walt Disney, an IPI self-study teacher. Can compare with these - can evaluate.

6. Is the best teacher the one who is highest on all the competencies?

Of course not. Different teachers will be good at different things. The competent administrator is one who puts together an effective team. Different talents, different role models, different competencies.

I think that if we consider carefully these six questions we can develop an evaluation plan that will help us understand the competence of our teachers. Not as an end in itself, but for the right purpose: to deliver high quality curricula, useful learning opportunities and memorable human experiences.

APPENDIX J

**RESPONSIBILITIES OF LOCAL AGENCIES IN ACQUIRING,
MAINTAINING, IMPROVING AND EVALUATING
VOCATIONAL TEACHER COMPETENCIES**

James H. Cadagin
Director, Pekin-Area
Vocational Center
Pekin, Illinois

RESPONSIBILITIES OF LOCAL AGENCIES IN ACQUIRING, MAINTAINING,
IMPROVING AND EVALUATING VOCATIONAL TEACHER COMPETENCIES

James H. Cadagin
Director of Pekin-Area Vocational Center
Pekin, Illinois

THE JET AGE

For the past several years, my wife, Jacquie, has been telling me to slow down and not try to move so fast. So I gave this thought serious consideration concerning my attendance at this conference. As a result, I decided to leave Pekin at 4:30 p.m. on Sunday and drove leisurely to Springfield, a distance of 70 miles. I visited with my sister and her family, then to my parents' home where I spent the night. And as a means of making the trip slow and easy, I never exceeded 50 m.p.h. as I drove along in my 1938 Buick Special.

So what happens at the conference: Dr. Barlow wings in from California, and then leaves on Tuesday to return; Dr. Holderman flies down from Chicago and quickly returns; and Mr. Connors jets in from Maryland, speaks, and leaves to teach his night class back home.

WHY AM I HERE?

You realize, of course, that to be a completely fair and objective conference, somebody must represent each side of the problem area under discussion. Therefore, we have had several people portraying an image of competency, and now you have me.

You have now been officially welcomed, given an overview of the conference, heard that occupational competence is not enough, told the role of business and industry in providing and validating vocational teacher competencies, considered those competencies already identified, heard about the changing roles in vocational education from 1917 to 1972, viewed the Illinois State Master Plan, acquired and maintained competencies through teacher education curricula (and other sources), developed more efficient methods of achieving and maintaining vocational teacher education competencies in Illinois, evaluated teacher competencies and NOW, well, you are supposed to hear about what is left.

Ladies and gentlemen, I sincerely submit to you that I was in a sufficiently precarious position concerning my comments even before anyone started to say anything two days ago.

Right now, I feel as out-of place as an illegitimate child at a family reunion. I was undoubtedly selected for this task (upon the recommendation of my boss) because of being such a prime example (for the past four years) of the truth embodied in the PETER PRINCIPLE. To refresh your memory, the PRINCIPLE states that "in a hierarchy, every employee tends to rise to his level of incompetence."

Every spring when I ask for a raise in pay (and state that I am not being paid what I am worth), the members of the Board of Education remind me that lots of people who aren't being paid what they are worth should be thankful for it.

DEFINITION

I am sure that all of us here know the meaning of the word "competency". However, to insure that all of you know exactly the connotation with which

I identify this word, I should like to state that the specific meaning I prefer is the one which says

"competency is possessing the requisite natural qualifications"

Upon hearing this, some of the key questions which immediately come to mind are:

1. What are these qualifications?
2. Who determines their extent?
3. Who interprets the results?
4. What is the length of the approval?
5. To whom may the victim appeal?

But I think all of you see the problem.

ADVICE FROM OTHERS

Since I was being asked to try to represent local education agencies, I contacted several directors and superintendents whose opinions I respected, and asked for their comments regarding the title of my presentation.

The ideas presented to me have been generalized and incorporated into the content of my remarks.

QUESTIONNAIRES

In China, I believe that this is the year of the RAT; and in Peking, it is important to know these things.

In educational circles however, from my point of reference, this must be the year of the QUESTIONNAIRE. I submit to you that I have attempted to answer all of the questionnaires, opinionnaires, sampling studies, "Q" sorts, and other examples of polling techniques which have been sent to me which were applicable, and many of these dealt with the subject of competency.

But I sincerely question the vast array of the requests being sent out. I also question their length, their breadth, and their depth; and especially do I question the time estimate it says should be necessary to complete them. I should like to remind many of the authors that there are but 60 minutes in each hour, not 80.

Most important of all, I am beginning seriously to question the integrity of the designer, the usefulness of the instrument, and the sanity of the volunteer.

Research is absolutely necessary and worthwhile, but I am wondering if the quantity being churned out should not be evaluated with an eye toward improving quality.

THE PAST

In the not-too-distant past, we at the local level were faced with a bureaucratic boggle termed MINIMUM REQUIREMENTS. There was nothing fundamentally wrong with these statements as I am told they were originally drawn up. The resulting disaster however, grew out of the practice of narrow-minded persons who insisted on reading this fine print with an oversize magnifying glass. Then in a compounding of errors, little, if any, significance was attached whatever to items such as people, places, programs, philosophy, practicality, principles, or prudence; but great emphasis was placed on the past patterns of precedence thus perpetrating purification and pusillanimity.

Some persons term this practice nit-picking. I will admit that I had to look up the term "nit" again - it means "the egg of a louse".

Thus we were faced with the uniqueness of describing the unscientific phenomenon of trying to develop a convergent view while actually looking

at a divergent situation. This is not only extremely difficult to do, but can only be mastered by long tedious hours of painstaking research generally culminating in conditional approval being granted until such time as Industrial Technology and Vocational Education Course Number 302, titled The Elements of Administration, Supervision, Organization, and Direction of Vocational Technical Education is successfully completed within a period of time not to exceed three years unless special consideration was asked for and granted.

PERMANENT APPROVAL

Once the deficiencies of this conditional approval were overcome, the applicant was then granted full, and permanent, approval as a vocational instructor, a teacher-coordinator, a supervisor, or whatever. Please note that I said permanent.

Now this fully approved person could get on with his job without ever having to be bothered again by course requirements, workshops, self-study, and other such nuisances normally associated with professional and technical upgrading.

TYPICAL RECORD

Let me run through quickly the academic course work of a typical person who was approved as a vocational teacher in another state, acquired a Master's Degree, came to Illinois, was approved here, and then settled down. With additional salary inducements beckoning, the following courses were taken as a means of improving himself:

Evaluative Techniques

Principles of Guidance

Economic Geography

Workshop in Reading
 American History
 Psychological Measurements
 Mental Health
 Audio-Visual Techniques
 Problems of the Exceptional Child
 Principles of Industrial Supervision

It is likely just sheer coincidence that these ten courses add up to a total of thirty semester hours credit; and that the 30 (or 32) hours is another step on most salary schedules.

But to say that the courses taken, by this individual, represents any attempt at a program of planned improvement in the competency of the individual concerned is to tax the credulity of each of us.

And yet, this one situation is not really unique in our state.

From the date of the acquisition of the Master's Degree, by this individual, until this year has been a total of 17 years. During that time, attendance at seminars, workshops, conferences, drive-ins, and even attendance at the annual Illinois Vocational Association convention has been so minimal as to be patently absurd.

And yet this person was fully-approved as a vocational teacher in Illinois.

This was the past. My only comment regarding it is: THANK GOD, it is past.

THE PRESENT

Today, we are in the position whereby the administrators at the local level are responsible for the approval of those whom we hire. This is beautiful; and is precisely the way it should be.

THE FUTURE

What will the future bring regarding the competencies of vocational teachers? More questionnaires, more studies, and more conferences.

I would submit to you, in all seriousness, that I will be exceptionally well pleased if the results of this conference equal the corresponding type of study being undertaken regarding the evaluation of total programs of vocational education here in Illinois.

Let's not be "BORN LOSERS". The latest definition of such a person is the man who walks into a dark park leading a big German-shepherd dog to protect him -- only to be met by a mugger who has a pet rhinoceros.

Instead, let's try to be more optimistic as was little Jeanie who was working hard on her homework. When her father asked what she was doing, she reported: "I'm writing a report on the condition of the world." "Isn't that a pretty big order?" her father asked. "Don't worry," she explained, "There are three of us in the class working on it."

RESPONSIBILITY

The question has been posed, "Who should be responsible for the approval of those personnel who aspire to be hired as vocational instructors?"

I submit to you people that in the city of Pekin, Illinois, there is no one who is more deeply involved and committed to the concern of quality in the total vocational education program being offered than the present Superintendent, William Holman, and the Director of Vocational Education, Jim Cadagin.

Personnel in the Division Office in Springfield and professors on the university campus are both removed from the local scene. But I can assure you folks that we are Johnny-on-the-spot and try though we might,

we certainly can't, and won't, fool the local people for very long. And when they do awaken, you can be certain that the axe will surely fall on the neck of the local director first as he is placed on the sacrificial altar of public indignation. And that is simply telling it like it is.

Therefore, if I have to live, and die, with our program in Pekin, I most assuredly want some direct say as to who I will hire for a given position, if he is competent, and what he should be doing to increase his competency after being hired.

UNDESIRABLES

I have heard some directors express great concern regarding the possibility of the local superintendent hiring an academically oriented instructor to be a vocational guidance coordinator. My answer to that statement is simply that if the superintendent feels strongly enough about undermining his programs of instruction, he will likely accomplish the job even though he may have to bend the existing rules.

Let us not kid ourselves that we can ever hope to successfully legislate morality.

GUIDELINES

Several of these same persons have stated on occasion that we should return to the Minimum Requirements concept which previously existed.

I am idealistic enough to feel that guidelines could be drawn up by the staff members of the Division of Vocational Technical Education; and then distributed to all local education agencies for implementation by them. The simple fact remains however, that programs of instruction need not be the same (except for quality) in Waukegan as in Wood River.

I am sufficiently realistic however, to be keenly aware of the fact that too often the "diviner of the wisdom" feels that he alone is capable

of interpretation of the guidelines. It is at this point that the guidelines become Minimum Requirements.

Instead, I would suggest the writing of the guidelines be done in a conference such as this, and then distributed through an organization such as the Illinois Council of Local Vocational Technical Administrators; thus freeing the Division of Vocational Technical Education from being tempted to return to Minimum Requirements.

If you think for one moment that any man is going to be happy and prosperous by letting the government take care of him, you should take a close look at the American Indian.

ACCREDITATION

Earlier, I stated that I had sought counsel from some of my colleagues across the state. Should you now be concerned as to the proper allocation of credit regarding anything I have said, you may use this simplified rule of the thumb:

If you agree with a statement; think it was clever or well thought out; or represents a quite acceptable practice; then my colleagues should receive credit for that part of my remarks.

On the other hand, if you felt that the remark was ill-timed, poorly stated, lacking sound philosophy; and in general, just plain poorly done, then that part was mine.

You can now readily understand why my advisers emphatically requested that their names not be used in this presentation.

COMPETENCIES

Some of the characteristics which I feel should be present in the vocational teacher being considered for employment include:

1. a keen interest in one specific subject matter area (Drafting)
2. a general interest in all of the areas within the broad area field (Industrial Arts)
3. an indication of being a regular, interested reader of professional trade journals
4. some work experience in the area in which he will teach
5. an interest in moving onward in his chosen area
6. an interest in student organizations such as club activities, field trips, student interests
7. a general knowledge of audio-visual methods and techniques available
8. a general curiosity concerning what is going on within the area of subject matter
9. an understanding (and appreciation) of the needs of the slow learner (compassion)

SUGGESTIONS

Since I have been asked to comment on the four areas dealing with acquiring, maintaining, improving, and evaluating competencies needed by the vocational teacher, I would be remiss if I did not offer some ideas for each of the areas.

ACQUIRING

In the process of acquiring competencies, I feel that part of the task may be accomplished by:

1. a well-planned program of study at the university
2. selective pre-service employment
3. developing basic technical competencies within the specific area of subject-matter speciality

4. becoming familiar with catalog information regarding equipment used within the area of instruction

MAINTAINING

Once employed, the task of maintaining competence may be partially accomplished by:

1. attending various public hearings and reporting to other staff members
2. visiting other institutions offering similar and/or different types of programs
3. interacting with instructors from all areas of instruction

IMPROVING

In the realm of improving competencies, the field is wide open. A few thoughts are to:

1. utilize extensively the concept of in-service training sessions for

a. behavioral objectives	e. administration
b. legislation	f. supervision
c. funding	g. requisitioning
d. student retention	
2. schedule conferences for improvement in the areas of

a. guidance	d. student selection
b. counseling	e. testing
c. placement	
3. mandate summer employment in related occupations over a period of a year
4. encourage attendance at meetings, workshops, seminars, conferences, drive-ins

EVALUATING

When thinking of the subject of evaluating, the thoughts which come to mind immediately include

1. utilize the results of the North Central Association evaluation of the district
2. utilize professional evaluations employed by many school districts on a regular basis by department chairman, principals, supervisory personnel, and administrative personnel.
3. utilize the evaluation of vocational education programs being conducted by the Division of Vocational Technical Education

At this time, I would like to digress for just one moment to express my thanks to some of the people in the Division of Vocational Technical Education; specifically, the Program Approval and Evaluating Unit, and to compliment them on the real progress made in evaluation of total programs during this past year.

I haven't hesitated to criticize them, so I want to be sure to praise them when they deserve it.

SUMMARY

You probably thought I would never get to a summary, but let me say that

1. I was mighty unhappy with the previous Minimum Requirements.
2. I am well pleased with the philosophy of the local administration being charged with the responsibility of acquiring, maintaining, improving, and evaluating vocational teacher competencies.
3. I am well aware that the program is not perfect.
4. I am well aware that we need lots of help to correct the deficiencies.

5. I am still working on improvements within our system.
6. I have not given up yet on the present system.
7. I would hope that all of you would generally agree with these points.

Again, I want to digress for a moment - to chide many of you. The subject is that of membership (or lack of it) in professional associations.

As I sat here in the audience all day Monday, the thought kept running through my mind that so many of the names of the persons in attendance were unknown to me. This is not significant in my job as director of an area vocational center. However, as secretary of the Illinois Vocational Association, I felt that I should have recognized more of these names if they were members.

Therefore, I decided to ask my private secretary to run the check for me immediately. I am able to get this kind of reaction since I also sleep with her.

Here are the results: there are

87 names on the list

47 names are people whom I know or saw here

51 { 24 names are AVA members for 1971-1972

61 { 5 names are IVA members for 1971-1972

19 9 names have been IVA previously, but not this year

19 9 names are not listed as ever having been in IVA

QUESTIONS

1. If the local leader doesn't join, is it likely that the followers would normally be expected to join?
2. Does the leader look to any groups to exert pressure on the General Assembly? If so, who?

3. Does the leader realize the influence of the AVA on our Congress and its legislative output?

Conclusion: It would appear that there are more executives in attendance than leaders.

COMMENTS

John F. Kennedy once said, "When things are non-controversial and beautifully coordinated, there is not much going on."

Jim Cadagin says, "If there is one thing I hate passionately, it is complacency."

REMARKS

If you would tend to be upset by some of these remarks, please call to mind what the Roman orator, Junius, had to say, "Be not affronted at a joke. If one throw salt at thee, thou wilt receive no harm - unless thou art raw."

FINAL THOUGHT

Now that I have you muttering about my comments, remember

"If they are talking about you,
they are thinking about you."

THANK YOU for being so attentive.

APPENDIX K

**SUMMARY REPORTS FROM CONFERENCE'S
SMALL WORK GROUPS**

SUMMARY REPORTS FROM CONFERENCE'S SMALL WORK GROUPS

This conference was conceived as a "working conference" and accordingly the participants were asked to come prepared to contribute toward a better understanding of teacher competencies and of how these competencies might better be developed. To this end each participant received two weeks prior to the conference a copy of Changing The Role of Vocational Teacher Education¹; a list of the teacher competencies derived by Cotrell, et. al.², together with a modified report of the "critical incidence" of the competencies; a copy of both the final report of the first Illinois vocational teachers competencies conference and the first Illinois vocational administrators competencies conference³; and copies of several of the papers to be presented at the conference.

To facilitate discussion and to achieve greater opportunity for participation in the conference, the participants were divided into five small work groups. The chairperson, recorder, and participants of each group were pre-selected by the conference staff with each group originally structured to be representative of the conference's total assembly. Last minute cancellations by conference participants however, led to some groups not being as representative as previously planned.

¹Rupert K. Evans and David R. Terry (Editors), Changing The Role of Vocational Teacher Education. Bloomington, Illinois: McKnight & McKnight Publishers, 1971.

²Calvin J. Cotrell, et. al., Model Curricula For Vocational and Technical Teacher Education: Report No. 1 -- Performance Requirements for Teachers. Columbus, Ohio: Center for Vocational and Technical Education, The Ohio State University. December 1971.

³Summary Reports: Illinois Vocational Teacher Educators and Vocational Administrators Conferences on Competencies Development. Springfield, Illinois: Division of Vocational and Technical Education. April 1971.

Group chairpersons and recorders were invited to an early morning orientation meeting conducted by the conference staff on the first day of the conference and introduced to the competencies survey instrument⁴. Special attention was given to the facts that the list of competencies was not considered complete nor had the competencies listed been validated. It was pointed out that the competencies had been grouped by major duties or functions of teachers but that no competencies had been eliminated from the original lists, even though some statements were virtually the same as others. That some potential competency areas might be missing was noted, as well as the fact that perhaps the competencies presented were more reflective of what vocational education has been than of what it ought to be. The chairmen were charged (1) to work with their groups to assure the survey instrument was completed, and (2) to investigate the above considerations and any others which may arise and be pertinent. Finally, chairmen and recorders were to be responsible for submitting a report for each working session.

Evaluation of Teacher Competencies

In an attempt to structure the conference in such a way as to have the participants work collectively and individually at the task of making some evaluation of what had been done in the previous conference and to acquaint them with similar attempts by others to define a number of vocational teacher competencies, an instrument was constructed that would serve several purposes. The instrument was designed to function as a focal point for discussion and for making some evaluation of vocational teacher competencies. By listing, within categories, a number of previously identified competencies, it was

⁴See Appendix L.

anticipated that:

- (a) Those conference participants not acquainted with performance-based teacher education would be introduced in a fairly systematic approach to what had been done in Illinois and elsewhere in defining teacher competencies;
- (b) The areas of identified teacher concern, together with their associated competencies, would serve as a point of discussion or departure for additional development;
- (c) The listing could be used as an instrument to evaluate perceptions of the relative importance of the identified competencies; and
- (d) The instrument could be used to identify perceptions as to the circumstances (inservice vs preservice and preservice vs internship, etc.) which would best insure that the identified competencies would be developed satisfactorily.

Since Calvin Cotrell, et. al.⁵ had done considerable work in developing a model curricula for vocational and technical teacher education based upon performance requirements for teachers, it seemed appropriate to incorporate those competencies identified in his study along with those identified in the first competencies conference for Illinois vocational educators. Cotrell's competencies were left intact and are presented as the first 256 competencies in the instrument. Those competencies identified in the Illinois conference were then added to make a grand total of 477⁶ competencies.

⁵ See Appendix L.

⁶ See footnotes at bottom of page L-2 of Appendix L.

Two general columns were then prepared adjacent to each competency wherein the participant could indicate his/her feelings as to the essential need for each competency and as to where the competency might best be obtained within the teacher educator program. The reader is directed to Appendix L for a more thorough presentation of the process used during the conference to achieve the ends for which the instrument was designed.

Summary of First Session

The first session of the groups was devoted to considering the identified competencies in terms of those which were to be considered (a) essential, (b) desirable, (c) nice-to-know, (d) not required, and those which should be added. No attempt was to be made at this time to determine where the prospective teacher should obtain the competencies.

In general the participants felt that the list of competencies was too long. It was evident that many of the participants had not done their homework and that they were surprised by the length of the list and the immensity of the job at hand. The great majority of the participants, however, applied themselves seriously to the task.

There was a general concern among the groups to the effect that the competencies were too teacher oriented. It was suggested that they should be product or student related in such a way as to produce or to identify teachers who are participating⁷ with students rather than just instructing them. It was noted particularly that the affective domain was rarely tapped by the competencies. Several comments were made about the inability of

⁷Rensis Likert, The Human Organization. New York: McGraw-Hill, 1967. (pp. 14-24).

teachers to relate to students even though the teachers appear to be fairly well prepared in their subject matter area. With an apparent decrease in the demand for new teachers many participants indicated that more of an attempt should be made to recruit student teachers on the basis of some measure of commitment to affective teaching behaviors and then to prepare them with agreed upon competencies.

Several questions related to the "level" of the competencies were raised. Were the competencies identified for the master teacher, for the general teacher, or for the paraprofessional teacher? Or were they for the teacher-administrator? If they were for the general teacher, were they stated in a context to reflect the achievement level for the beginning teacher or for the experienced teacher?

Not unrelated to the foregoing concern was the question of whether competencies should be indicative of "general principles" or of "specific acts or activities" to be carried out?

While it was generally agreed that the list of competencies submitted in the survey instrument was too lengthy, it was nevertheless the opinion of the groups that several entire areas of competencies had been omitted and that some competencies within the given areas were missing. Special attention was drawn to the fact that there did not appear to be any competencies related to effective participation in the designing or developing a local or state annual and long-range plan for vocational education.

The following competencies were suggested as those to be considered in formulating additional lists:

1. Develops an understanding of the learner in terms of his/her social/economic background and personal characteristics.

2. Utilizes the self discovery teaching approach.
3. Assists students in their employment readiness.
4. Assists students in obtaining a positive feeling about additional education.
5. Assists students in effectively relating to the differences of attitudes and personalities on the job.
6. Assists students in developing their own evaluation plan.
7. Assists students in making occupational choices.
8. Assists students in being aware of the potential and duplication of community resources.
9. Solicits honest student feedback.
10. Utilizes honest student feedback.
11. Is able to typewrite.
12. Involves guidance personnel on the visitation of work stations.
13. Clarifies values.
14. Recognizes possible alternatives.
15. Encourages student self analysis.
16. Establishes personal goals - long and short term.
17. Builds human dignity.
18. Develops trust.
19. Develops self confidence.
20. Reinforces learning.
21. Shows enthusiasm for learning.
22. Accepts student feedback.
23. Fosters cooperation among students.
24. Accepts feelings and emotions of others.
25. Recognizes personal emotions.

Summary of Second Session

The second small group work session was oriented to a consideration of the category on the competencies survey instrument relating to where competencies should be obtained and to the development of more efficient methods of achieving and maintaining vocational teacher education competencies. The groups were instructed with regard to the first charge to consider only a first choice of where to obtain a given competency. This was done primarily to reduce the time required to complete the instrument.

If there was a common cause or view that permeated this session, it was one which reflected around the question of the "humanistic" versus the "mechanistic" approach to developing fine vocational teachers. While it was generally agreed that there is a need for making teacher competencies explicit, there was also much concern over the possibility of the teacher education curricula becoming too mechanistic. It was pointed out that we may dehumanize our teaching methods and our teachers by focusing strictly on competencies in terms of a beginning teacher's exit from the teacher education program. Some administrators present felt that current failures on the teaching job were related more to not getting along with others and to certain intangibles than to on the job teaching performance per se. There did not appear to be a majority expression for developing solely performance-based teacher education programs. On the other hand, there was a sense of urgency for learning more about teacher competencies and how they may relate to a curriculum.

There was general agreement that teacher educators are not up to date occupationally and that this has implications both for methods of teaching and for technical skills in the vocational field in which they at one time

had some expertise. In the case of the former there was considerable discussion of the problem of teacher educators who tend to repeat in various ways, "do as I say, not as I do." This is particularly true of the teaching methods they use, not only in methods courses but also in the manner in which the entire teacher education curriculum is presented.

More "need-to-know" courses were suggested in place of so many "nice-to-know" courses, e.g., courses in motivation and interpersonal relations rather than general philosophy and so much history of educational philosophy.

If teacher educators focus only on the "whats" (of competencies) and leave off the "hows", then the system may well be in another kind of trouble. It was generally agreed that the "hows" will be developed only after the "whats" are identified. The question is to which do we give primary importance? Lists of competencies stress "what", and are needed for planning teacher education curricula. In the actual training of vocational teachers, however, much more stress should be placed on the "how" than on the "what".

Since many competencies are obtained in subject areas and disciplines related to vocational education per se, it was strongly suggested that educators from these related areas be invited to participate in the occupational teacher education advisory councils, e.g., liberal arts faculty. This would tend to familiarize both groups to their common problems.

A final question addressed itself to the problem of when is competence obtained? It was felt that the context of the list of competencies should be one of introductory or beginning level teacher competency, for most teachers are not really competent until they have had considerable real on-the-job experience. If teacher competency becomes an integral part of teacher

certification, what should be the ratio of "preservice" to "internship" or "inservice" competency education prior to certification?

Another, or several, conferences of this type should be held within the next academic year with more vocational teachers and members of business and industry invited to participate. Additional time should be given, during the conference, to the work groups.

APPENDIX L

**SURVEY QUESTIONNAIRE – EVALUATION OF SELECTED
VOCATIONAL TEACHER COMPETENCIES**

EVALUATION OF SELECTED VOCATIONAL TEACHER COMPETENCIES*

Vocational teachers, at all levels and across all occupations surely must share a number of teaching competencies. You are being asked to evaluate a number of vocational teacher competencies in terms (1) of their importance (essential, desirable, nice-to-know, and not required), and (2) their place in either the educational preservice preparation or the on-the-job preparation of vocational teachers. That is, should they be taught or exposed to them through preservice courses in a specific occupational area, preservice "core" courses--across occupational areas, preservice internship, formal in-service education, or informally on-the-job. In considering where the competencies should be obtained, list only your first choice of where the competency should be obtained and disregard the 2nd and 3rd choice blanks for each competency.

As you complete this evaluation, please keep in mind that you are being asked "how things ought to be" rather than how they are or have been.

Identify yourself by:

- (1) The subject area in which you teach _____
- (2) The school level at which you teach _____

* Competencies numbered 1 through 256 are those identified by Calvin J. Cotrell, et. al., "Model Curricula For Vocational and Technical Teacher Education: Report No. 1 -- Performance Requirements for Teachers." Columbus, Ohio: Center for Vocational and Technical Education, The Ohio State University. December 1971.

Competencies numbered 257 through 481 are those identified in "Summary Reports: Illinois Vocational Teacher Educators and Vocational Administrators Conferences On Competencies Development." Springfield, Illinois: Division of Vocational and Technical Education. April 1971.

Competencies numbered 384 and 454 are not actually competencies; competencies numbered 419 and 444 did not have a printed response column; competencies numbered 260a and 413a were renumbered as 500 and 600, respectively, in all analyses of data. Total competencies used in survey instrument were 477 instead of 481 as instrument would suggest.

N E E D

WHERE TO OBTAIN

- | | |
|-----------------|--|
| 1. ESSENTIAL | 1. PRESERVICE COURSE IN SPECIFIC OCCUPATIONAL AREA |
| 2. DESIRABLE | |
| 3. NICE TO KNOW | 2. PRESERVICE "CORE" COURSE (ACROSS OCCUPATIONAL AREAS |
| 4. NOT REQUIRED | 3. PRESERVICE INTERNSHIP |
| | 4. FORMAL INSERVICE COURSES |
| | 5. INFORMALLY ON-THE-JOB |

COORDINATION

	NEED	1st	2nd	3rd
1. Assist student-learners with job related problems.	__//__	__/_	__/_	__/_
2. Check student-learner progress with cooperating employer, on-the-job instructor and other personnel.	__//__	__/_	__/_	__/_
3. Develop policy on absenteeism, work schedules (hours), job transfer, and wages.	__//__	__/_	__/_	__/_
4. Develop procedures for job and program transfer.	__//__	__/_	__/_	__/_
5. Orient training station staff to objectives of the program.	__//__	__/_	__/_	__/_
6. Involve cooperating employer in the evaluation of student-learner's performance.	__//__	__/_	__/_	__/_
7. Conduct visitations to training stations.	__//__	__/_	__/_	__/_
8. Supervise individual student-learner's performance.	__//__	__/_	__/_	__/_
9. Develop a cooperative training agreement between student-learner, school and cooperating employer.	__//__	__/_	__/_	__/_
10. Maintain a current file of jobs and employers.	__//__	__/_	__/_	__/_
11. Develop and maintain a good working relationship with training station personnel.	__//__	__/_	__/_	__/_
12. Designate on-the-job learning experiences.	__//__	__/_	__/_	__/_
13. Develop a systematic training plan with a co-operating employer.	__//__	__/_	__/_	__/_
14. Sponsor employer-employee banquet.	__//__	__/_	__/_	__/_
15. Develop, administer and interpret evaluation forms for on-the-job training.	__//__	__/_	__/_	__/_
16. Involve students in evaluating cooperative work experience.	__//__	__/_	__/_	__/_
17. Become oriented to the training station.	__//__	__/_	__/_	__/_
18. Correlate related and technical instruction with student-learner's on-the-job training.	__//__	__/_	__/_	__/_
19. Assist student-learners in job orientation.	__//__	__/_	__/_	__/_
20. Develop a plan of student-learner supervision.	__//__	__/_	__/_	__/_
21. Develop and maintain student-learner progress reports.	__//__	__/_	__/_	__/_
22. Select training stations.	__//__	__/_	__/_	__/_
23. Participate in and/or conduct workshops and other programs to assist cooperating employers in understanding their role in the cooperative program.	__//__	__/_	__/_	__/_

NEED
1st
2nd
3rd

- 24. Obtain follow-up information from graduates and former student-learners. _//_/_/_/_
- 25. Develop procedure to insure student-learner's safety and protection. _//_/_/_/_
- 26. Discuss on-the-job training progress reports with students. _//_/_/_/_
- 27. Obtain suggestions for improvement and expansion of in-school related instruction. _//_/_/_/_
- 28. Arrange school and work schedules with student-learners, faculty and cooperating employers. _//_/_/_/_
- 29. Aid student-learner in obtaining work permits. _//_/_/_/_
- 30. Evaluate the facilities of prospective training stations. _//_/_/_/_
- 31. Secure advisory committee recommendations for training stations. _//_/_/_/_
- 32. Conduct or participate in a community survey. _//_/_/_/_
- 33. Conduct a training station development program. _//_/_/_/_

EVALUATION OF INSTRUCTION

- 34. Evaluate one's own techniques and methods of teaching. _//_/_/_/_
- 35. Evaluate student's progress in class, home and laboratory assignments. _//_/_/_/_
- 36. Direct student self-evaluation. _//_/_/_/_
- 37. Select measures appropriate to the evaluative criteria. _//_/_/_/_
- 38. Establish the evaluative criteria for lessons, units or courses. _//_/_/_/_
- 39. Determine if evaluative criteria exist. _//_/_/_/_
- 40. Interpret evaluation data for students and for parents. _//_/_/_/_
- 41. Establish criteria and methods for classroom or shop-laboratory performance. _//_/_/_/_



	NEED	1st	2nd	3rd
42. Devise laboratory performance tests.	_//_	_/_	_/_	_/_
43. Formulate a system of grading consistent with school policy.	_//_	_/_	_/_	_/_
44. Administer tests.	_//_	_/_	_/_	_/_
45. Establish criteria for student self-evaluation.	_//_	_/_	_/_	_/_
46. Base student performance standards on available equipment and supplies.	_//_	_/_	_/_	_/_
47. Formulate multiple-choice questions.	_//_	_/_	_/_	_/_
48. Devise case-study problems.	_//_	_/_	_/_	_/_
49. Evaluate text and reference materials to meet course objectives.	_//_	_/_	_/_	_/_
50. Evaluate student performance with standardized test.	_//_	_/_	_/_	_/_
51. Evaluate classroom facilities and equipment.	_//_	_/_	_/_	_/_
52. Evaluate available standardized tests.	_//_	_/_	_/_	_/_
53. Formulate essay test questions.	_//_	_/_	_/_	_/_
54. Formulate true-false test questions.	_//_	_/_	_/_	_/_
55. Formulate completion test items.	_//_	_/_	_/_	_/_
56. Formulate matching test items.	_//_	_/_	_/_	_/_

EXECUTION OF INSTRUCTION

57. Demonstrate a manipulative skill.	_//_	_/_	_/_	_/_
58. Recognize, interpret and utilize student actions and behavior (cues).	_//_	_/_	_/_	_/_
59. Provide individualized instruction for students.	_//_	_/_	_/_	_/_
60. Direct student laboratory experiences.	_//_	_/_	_/_	_/_
61. Present a concept or principle through a demonstration.	_//_	_/_	_/_	_/_
62. Reinforce learning.	_//_	_/_	_/_	_/_

	NEED	1st	2nd	3rd
63. Develop standards for student attainment.	__//__	__/_	__/_	__/_
64. Give an assignment for outside work.	__//__	__/_	__/_	__/_
65. Direct a group discussion.	__//__	__/_	__/_	__/_
66. Present information with the assistance of a resource person.	__//__	__/_	__/_	__/_
67. Introduce a lesson.	__//__	__/_	__/_	__/_
68. Present a lesson with the aid of a chalk board.	__//__	__/_	__/_	__/_
69. Conduct a field trip.	__//__	__/_	__/_	__/_
70. Present information using authentic models, materials and equipment.	__//__	__/_	__/_	__/_
71. Present a lesson with overhead projector and/or opaque projector.	__//__	__/_	__/_	__/_
72. Direct role playing.	__//__	__/_	__/_	__/_
73. Supervise student planning and presentation of instructional information.	__//__	__/_	__/_	__/_
74. Present a lesson with silent or sound motion picture film.	__//__	__/_	__/_	__/_
75. Set up display materials for instructional purposes.	__//__	__/_	__/_	__/_
76. Present an illustrated talk with 35mm film strip or slides.	__//__	__/_	__/_	__/_
77. Employ the technique of oral questioning.	__//__	__/_	__/_	__/_
78. Present information by the use of simulated experiences.	__//__	__/_	__/_	__/_
79. Utilize unplanned classroom or shop incident as a basis for presenting related information.	__//__	__/_	__/_	__/_
80. Present a lesson with audio tape, disc recording or radio receiver as resource.	__//__	__/_	__/_	__/_
81. Give a lecture.	__//__	__/_	__/_	__/_
82. Direct a student manipulative skill demonstration.	__//__	__/_	__/_	__/_
83. Present a lesson with the aid of a flannel board and/or flip chart.	__//__	__/_	__/_	__/_

	NEED	1st	2nd	3rd
84. Present information by the use of the project method	__	//	__	__
85. Present information using analogies.	__	//	__	__
86. Conduct visits to the student's home for instructional purposes.	__	//	__	__
87. Engage one's self in role playing.	__	//	__	__
88. Give an illustrated talk.	__	//	__	__
89. Present information by the use of the problem-solving method.	__	//	__	__
90. Present information by the use of the case study methods.	__	//	__	__
91. Present a lesson using a prepared slit (Standardized, teacher or pupil written).	__	//	__	__
92. Direct programmed instruction (teaching machine or text).	__	//	__	__
93. Obtain closure for a lesson.	__	//	__	__
94. Moderate a panel discussion.	__	//	__	__
95. Present a lesson by the developmental method.	__	//	__	__
96. Draw upon student experience in presenting instruction.	__	//	__	__
97. Orient students to the instructional phase of the course or program.	__	//	__	__
98. Present information with exhibits or displays.	__	//	__	__
99. Present a lesson with videotape recordings.	__	//	__	__
100. Present information through team teaching.	__	//	__	__
101. Present a lesson with closed circuit TV.	__	//	__	__
102. Present a lesson with 8mm single concept film (individualized instruction).	__	//	__	__
103. Reproduce instructional (hard copy and transparency) material with a thermo or photo copier (3M, xerox).	__	//	__	__

L-9
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- 104. Reproduce instructional material with a mimeograph machine. __//__/_/_/___
- 105. Reproduce instructional material with a spirit duplicator. __//__/_/_/___
- 106. Present study techniques. __//__/_/_/___

GENERAL SCHOOL ACTIVITIES

- 107. Orient and assist beginning teachers. __//__/_/_/___
- 108. Sponsor non-vocational clubs, societies and special interest groups. __//__/_/_/___
- 109. Supervise homeroom, study hall, and/or lunchroom. __//__/_/_/___
- 110. Supervise student teachers and cooperate with area colleges in providing opportunities for observation and demonstration. __//__/_/_/___
- 111. Collect money for various drives and sell tickets for school events. __//__/_/_/___
- 112. Serve as a member or chairman of a committee. __//__/_/_/___
- 113. Participate in non-instructional school duties (ticket collecting, chaperoning, P.T.A.). __//__/_/_/___

GUIDANCE

- 114. Assist students with personal and social problems. __//__/_/_/___
- 115. Conduct a counseling session. __//__/_/_/___
- 116. Assist students with scholastic problems. __//__/_/_/___
- 117. Assist students with problems associated with furthering their education. __//__/_/_/___

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- 118. Assist students in securing employment. __//__/_/_/___
- 119. Cooperate with guidance counselors. __//__/_/_/___
- 120. Conduct visits to the student's home for
counseling purposes. __//__/_/_/___
- 121. Select and assign students for the program. __//__/_/_/___
- 122. Interview students and parents. __//__/_/_/___
- 123. Establish an "open door" counseling policy. __//__/_/_/___
- 124. Develop student selection criteria. __//__/_/_/___
- 125. Present occupational information related to one's
area. __//__/_/_/___
- 126. Assist students to develop study habits. __//__/_/_/___
- 127. Arrange for and administer tests. __//__/_/_/___
- 128. Evaluate all data about the student for selection
purposes. __//__/_/_/___
- 129. Empathize with students concerning their problems. __//__/_/_/___
- 130. Maintain case study reports. __//__/_/_/___
- 131. Develop and administer an instrument to determine
individual's home background. __//__/_/_/___
- 132. Compile student selection data. __//__/_/_/___
- 133. Summarize, report and disseminate information
obtained from follow-up studies. __//__/_/_/___
- 134. Update, revise, and improve curriculum based upon
follow-up data. __//__/_/_/___
- 135. Determine individual employer needs for personnel. __//__/_/_/___
- 136. Determine student's academic and work experience. __//__/_/_/___
- 137. Write recommendations for students for permanent
employment. __//__/_/_/___
- 138. Collect relevant student follow-up data for
program evaluation. __//__/_/_/___
- 139. Refer students to qualified personnel agencies
for occupational and educational information. __//__/_/_/___



L-11

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- 140. Provide students with resource materials on occupational opportunities. __//__/_/_/___
- 141. Interpret cumulative student records. __//__/_/_/___
- 142. Assemble and display information on occupational data. __//__/_/_/___

MANAGEMENT

- 143. Establish acceptable standards of behavior. __//__/_/_/___
- 144. Provide approved disciplinary action when necessary. __//__/_/_/___
- 145. Maximize the use of student's time and of equipment (Scheduling). __//__/_/_/___
- 146. Develop and implement safety procedures. __//__/_/_/___
- 147. Establish detailed rules and regulations for laboratory participation. __//__/_/_/___
- 148. Group students according to individual differences. __//__/_/_/___
- 149. Develop and administer a system for cleaning and maintaining the laboratory. __//__/_/_/___
- 150. Arrange the mechanical details of the classroom and laboratory (materials and equipment). __//__/_/_/___
- 151. Establish "check out" procedures for tools, supplies, and equipment. __//__/_/_/___
- 152. Obtain needed school equipment and supplies as gifts or donations. __//__/_/_/___
- 153. Maintain equipment and tools. __//__/_/_/___
- 154. Prepare and submit proposals. __//__/_/_/___
- 155. Develop and maintain occupational opportunity files. __//__/_/_/___
- 156. Record and file student data (progress, performance, grades). __//__/_/_/___

	NEED	1st	2nd	3rd
157. Develop policy for use of facilities by other school personnel.	__	//	__	__
158. Prepare requisitions for supplies, tools and equipment needs.	__	//	__	__
159. Schedule student's work station and his storage space in the laboratory or shop.	__	//	__	__
160. Inform students of the rules and regulations of the program.	__	//	__	__
161. Control physical surroundings (light, ventilation, heat).	__	//	__	__
162. Prepare and submit state reports.	__	//	__	__
163. Maintain a running inventory of supplies and equipment.	__	//	__	__
164. Determine long and short range equipment needs and amortization.	__	//	__	__
165. Determine long and short range facility needs.	__	//	__	__
166. Write up and submit program evaluation reports.	__	//	__	__
167. Develop and maintain placement records.	__	//	__	__
168. Develop and maintain follow-up records.	__	//	__	__
169. Prepare and file reports for referral purposes (recommendations).	__	//	__	__
170. Prepare and file all financial records.	__	//	__	__
171. Record and file attendance reports on students.	__	//	__	__
172. Make financial arrangements for special banquets.	__	//	__	__
173. Plan financial arrangements for the adult program.	__	//	__	__
174. Determine and collect fees for consumable supplies.	__	//	__	__
175. Cooperate with the administration in planning a budget for one's vocational area.	__	//	__	__
176. Plan a budget for equipment and supplies (current and projected).	__	//	__	__
177. Plan a budget for resource materials (textbooks, library books).	__	//	__	__

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- 178. Develop procedures for handling cash receipts and a petty cash fund. _//_/_/
- 179. Prepare and submit a travel budget. _//_/_/
- 180. Provide first aid supplies. _//_/_/
- 181. Organize for cooperative buying. _//_/_/
- 182. Consult the advisory committee in planning for facilities and equipment needs. _//_/_/
- 183. Involve the advisory committee in the evaluation of physical facilities, equipment and supplies. _//_/_/
- 184. Arrange for storage of equipment and supplies. _//_/_/
- 185. Develop a cooperative plan for adult education use of facilities and equipment. _//_/_/
- 186. Determine long and short range supply needs. _//_/_/

PLANNING OF INSTRUCTION

- 187. Determine in-school learning experiences (classroom and/or lab). _//_/_/
- 188. Select teaching techniques and methods. _//_/_/
- 189. Select and develop instructional content for a course. _//_/_/
- 190. Determine instructional media and aids. _//_/_/
- 191. Determine student needs and goals. _//_/_/
- 192. Develop instructional material (information sheets, transparencies, bulletin board materials). _//_/_/
- 193. Determine need for and identify resource persons. _//_/_/
- 194. Select and develop instructional content for a lesson. _//_/_/
- 195. Identify out-of-school learning experiences. _//_/_/

	NEED	1st	2nd	3rd
196. Select tools and equipment.	__//__	__/_	__/_	__/_
197. Organize the sequence of learning tasks.	__//__	__/_	__/_	__/_
198. Plan the introduction of a lesson.	__//__	__/_	__/_	__/_
199. Determine appropriate library resources.	__//__	__/_	__/_	__/_
200. Determine instructional units.	__//__	__/_	__/_	__/_
201. Formulate objectives for lessons, units and/or courses.	__//__	__/_	__/_	__/_
202. Organize an advisory committee.	__//__	__/_	__/_	__/_
203. Analyze skills (operations, procedures) relevant to course planning.	__//__	__/_	__/_	__/_
204. Develop a system for recording and filing subject matter information.	__//__	__/_	__/_	__/_
205. Construct a lesson plan.	__//__	__/_	__/_	__/_
206. Make a task or activity analysis.	__//__	__/_	__/_	__/_
207. Consult the advisory committee for program planning information.	__//__	__/_	__/_	__/_
208. Make an occupational analysis.	__//__	__/_	__/_	__/_

PROFESSIONAL ROLE

209. Exhibit behavior appropriate to his professional role.	__//__	__/_	__/_	__/_
210. Maintain expertise in one's occupational specialty.	__//__	__/_	__/_	__/_
211. Serve as member and/or officer of a professional organization.	__//__	__/_	__/_	__/_
212. Keep credentials up-to-date.	__//__	__/_	__/_	__/_
213. Subscribe to and exhibit an understanding of the philosophy of vocational-technical education.	__//__	__/_	__/_	__/_
214. Engage in a planned personal program of continuing education.	__//__	__/_	__/_	__/_

- | | NEED | 1st | 2nd | 3rd |
|--|------|-----|-----|-----|
| 215. Participate in professional organization activities. | __ | // | __ | __ |
| 216. Secure and leave a professional position. | __ | // | __ | __ |
| 217. Participate in and/or plan in-service education programs. | __ | // | __ | __ |
| 218. Keep abreast of current and new professional and technical information. | __ | // | __ | __ |
| 219. Contribute to the professional literature. | __ | // | __ | __ |
| 220. Participate in research studies. | __ | // | __ | __ |

PUBLIC AND HUMAN RELATIONS

- | | | | | |
|---|----|----|----|----|
| 221. Establish and maintain rapport with students. | __ | // | __ | __ |
| 222. Develop good professional working relationships with the other teachers and the administration. | __ | // | __ | __ |
| 223. Maintain liaison with community members and professional, service, fraternal, social, and religious organizations. | __ | // | __ | __ |
| 224. Develop good working relationships with school staff (secretaries, custodians, cafeteria workers, and school nurse). | __ | // | __ | __ |
| 225. Interpret and promote vocational education within the school. | __ | // | __ | __ |
| 226. Develop good public relations with parents. | __ | // | __ | __ |
| 227. Promote and interpret school policy. | __ | // | __ | __ |
| 228. Maintain and develop liaison with craft unions, councils, committees businesses and professional associations. | __ | // | __ | __ |
| 229. Prepare and disseminate brochures and other descriptive materials in the community. | __ | // | __ | __ |
| 230. Maintain liaison with employment agencies. | __ | // | __ | __ |
| 231. Inform the community of new developments and trends in vocational education. | __ | // | __ | __ |

- | | NEED | 1st | 2nd | 3rd |
|--|----------|---------|---------|---------|
| 232. Develop good public relations with other schools. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 233. Prepare and present radio and TV programs promoting vocational education. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 234. Cooperate with community organizations in projects related to vocational education. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 235. Serve as a resource person to community agencies and organizations. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 236. Assist in planning and developing the overall educational objectives and goals of the total school program. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |

STUDENT VOCATIONAL ORGANIZATION

- | | | | | |
|--|----------|---------|---------|---------|
| 237. Sponsor and supervise student vocational organization activities. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 238. Stimulate participation in state, regional and national student vocational organization leadership meetings and contests. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 239. Advise state and national student vocational organization competition entries. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 240. Maintain the student vocational program as an integral part of instruction. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 241. Establish policy and procedure for managing money, supplies, merchandise and equipment for the student vocational organization. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 242. Assist in planning and organizing fund raising activities for the student vocational organization. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 243. Promote interest in a student vocational organization. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 244. Plan an organizational meeting for establishing a student vocational organization. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |
| 245. Prepare or assist in the preparation of state and national reports for the student vocational organization. | _//_/_/_ | _/_/_/_ | _/_/_/_ | _/_/_/_ |

NEED 1st 2nd 3rd

- 246. Assist in the preparation and release of news about the student vocational organization for local, state and national audiences.
- 247. Assist students in advancing within the available degrees in the student vocational organization.
- 248. Conduct leadership development seminars for student vocational organization members.
- 249. Assist in the election and installation of officers and organization members.
- 250. Assist in the development of a constitution and bylaws for student vocational organization members.
- 251. Affiliate with state and national organization.
- 252. Develop a yearly program of work for the student vocational organization.
- 253. Organize school and community support for a student vocational organization.
- 254. Secure approval from the school administration and/or state department for establishing a student vocational organization.
- 255. Evaluate the student vocational organization program.
- 256. Utilize the assistance of the state advisory committee and chapter parents.

PHILOSOPHY

- 257. Write or verbalize a philosophy of vocational education.
- 258. Develop an annual plan.
- 259. Explain current philosophy in terms of historical perspective.
- 260. Explain the impact of political, social and economic forces on vocational education.
- 260a Explain the impact of vocational education on political, social, and economic conditions.

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- 261. Justify a specialty area within vocational education. _//_/_/_/
- 262. Examine controversial positions, make a decision and justify the position taken. _//_/_/_/
- 263. Determine student selectivity criteria and work station selection in terms of the needs of the student and manpower requirements. _//_/_/_/
- 264. Explain the relationship of the vocational program to the total educational program. _//_/_/_/
- 265. Explain the interrelationships between the parts of the total vocational area (agriculture, personal and public services, health, etc.). _//_/_/_/
- 266. Identify self in his environment and be aware of the forces it has on him and he on it. _//_/_/_/
- 267. Assist his students in developing an understanding of themselves in terms of aptitudes and abilities as they relate to job requirements. _//_/_/_/
- 268. Make curriculum recommendations based on the implications of a highly mechanized-mobile-urban-suburban-rural population through the identification of basic elements that enter into vocational preparation that will enable the worker to adapt to a different job within an occupational area. _//_/_/_/
- 269. Recognize issues which divide educators. _//_/_/_/
- 270. Provide insights in leadership for vocational education. _//_/_/_/
- 271. Take a stand on issues based on a philosophy they have developed through a rational and critical process. _//_/_/_/

ORGANIZATION AND ADMINISTRATION

- 272. Knowledge of existing legislation and your potential based on existing laws. _//_/_/_/
- 273. The ability to communicate what is going on. To make visible. Business has a product which is easily observable. Do we? _//_/_/_/

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274. The ability to determine creative and innovative roles. Do we have instruments to identify creativity-non conformity, etc.? Once we have identified a creative individual how do we develop his talents? // / /
275. The ability to file claim forms to receive approval from state agencies. // / /
276. The ability to perceive the past, present and future and to be able to successfully deal with the present. // / /
277. Ability needed to anticipate the type of defense needed for presenting a proposal. Build into the proposal prior to submission. // / /
278. Ability to interact with people with different philosophies and backgrounds. // / /
279. To be knowledgeable of proposals. May not actually have written the proposal but can work with many people on proposals. // / /
280. Ability to identify disadvantaged and special need students for program planning. // / /
281. Skills needed to develop a local plan. // / /
282. The ability to see the relevancy of doing certain tasks. // / /
283. The ability to view records as a vehicle for change and planning. Use of the local plan. // / /
284. The ability to fill out, interpret, understand and compile records and reports. // / /
285. The ability to learn how to deal with worry. How to be concerned (without showing it). // / /
286. The ability to delegate responsibility. // / /
287. The ability to know what to keep for risks and what to keep for investments. // / /
288. The ability to create a climate where people are willing to use their expertise. // / /
289. The ability to establish avenues for the flow of information. // / /
290. The ability to retrieve data. // / /

- | | NOTED | 1st | 2nd | 3rd |
|---|-------|-----|-----|-----|
| 291. The ability to design, implement and modify an administrative system. | _/_ | _/_ | _/_ | _/_ |
| 292. The ability to develop appropriate systems for the tasks that must be performed. | _/_ | _/_ | _/_ | _/_ |
| 293. The ability to select among various systems for one that is most appropriate. | _/_ | _/_ | _/_ | _/_ |
| 294. The ability to abstract for specifics and finalize in a form. | _/_ | _/_ | _/_ | _/_ |
| 295. The ability to respond to existing legislation under the State Plan. | _/_ | _/_ | _/_ | _/_ |
| 296. The ability to effect legislation under the State Plan. | _/_ | _/_ | _/_ | _/_ |
| 297. The ability to understand how various departments impinge upon one another. | _/_ | _/_ | _/_ | _/_ |
| 298. The ability to orient new staff to the organization and administrative structure. | _/_ | _/_ | _/_ | _/_ |
| 299. The ability to profit from mistakes. | _/_ | _/_ | _/_ | _/_ |
| 300. The ability to develop and maintain personnel relationships. | _/_ | _/_ | _/_ | _/_ |
| 301. The ability to get the best out of people (ability to organize and manipulate). | _/_ | _/_ | _/_ | _/_ |
| 302. The ability to know the language of vocational education. | _/_ | _/_ | _/_ | _/_ |
| 303. The ability to know and respect where you are within the line and staff relationships. | _/_ | _/_ | _/_ | _/_ |
| 304. The ability to "technify" and reexamine occupations. | _/_ | _/_ | _/_ | _/_ |

EDUCATIONAL PROGRAMS AND LONG-RANGE PLANNING

- | | | | | |
|---|-----|-----|-----|-----|
| 305. Become knowledgeable and involved in long range planning--trends, etc. by keeping abreast of funds in education, social areas, economic areas, political areas and review of current literature. | _/_ | _/_ | _/_ | _/_ |
|---|-----|-----|-----|-----|

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|---|------|-----|-----|-----|
| 306. Must become knowledgeable about and able to work with target groups. | _//_ | _/_ | _/_ | _/_ |
| 307. To become knowledgeable about and able to use systems approach in program planning, implementation, and evaluation. | _//_ | _/_ | _/_ | _/_ |
| 308. Ability to help generate policy and to work effectively with Citizens Committees, Board of Education, Administrators, Department Heads, etc. | _//_ | _/_ | _/_ | _/_ |
| 309. Ability to rate program planning to Vocational-Technical philosophy. | _//_ | _/_ | _/_ | _/_ |
| 310. Ability to determine occupational needs, data gathering, within a given situation. | _//_ | _/_ | _/_ | _/_ |
| 311. Competence in using effective management procedures. | _//_ | _/_ | _/_ | _/_ |
| 312. Competence in developing and using evaluation techniques. | _//_ | _/_ | _/_ | _/_ |
| 313. Competence in analyzing financial structures. | _//_ | _/_ | _/_ | _/_ |
| 314. Ability to sell program. | _//_ | _/_ | _/_ | _/_ |
| 315. Ability to organize staff as to their given expertise. | _//_ | _/_ | _/_ | _/_ |

FINANCIAL RESOURCES

- | | | | | |
|---|------|-----|-----|-----|
| 316. Know types of equipment and cost of equipment for own specialized area. | _//_ | _/_ | _/_ | _/_ |
| 317. Know changes in area of a specialization concerning types of equipment, cost of equipment, limitation of equipment, etc. | _//_ | _/_ | _/_ | _/_ |
| 318. Know and continually update sources and availability of outside funding in terms of effect they may have on his area of specialization. | _//_ | _/_ | _/_ | _/_ |
| 319. Know how to determine realistic benefits as compared to idealistic benefits in order to determine budgeting, priorities, property and accountability factors as they relate to his particular program. | _//_ | _/_ | _/_ | _/_ |

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320. List terminal objectives, then establish priorities for students in terms of the terminal objectives. // / /
321. List terminal objectives, then establish priorities on equipment, personnel, etc. to accomplish the terminal objectives. // / /
322. Be prepared to verbalize and substantiate his own budgeting, priorities, property and accountability decisions. // / /
323. Know how to evaluate alternative instructional programs and terminal objectives in terms of benefits vs. budgeting, priorities, property and accountability concepts. // / /
324. Be a liaison person as well as management person (being able to control, coordinate, staff, etc.) // / /
325. Be knowledgeable of political economy as it affects his budgeting, priorities, etc. decisions. // / /
326. Develop evaluative criteria for benefit based on output (note! benefit does not mean cost) // / /
327. Basic terms of budgeting (basic economics). // / /
328. Know how to write specifications for bids, budget building, etc. // / /
329. Skilled in reorganizing specialized area as need changes arise, and be able to identify time for change in terms of budgeting, priorities, property, accountability factors. // / /
330. Be able to function effectively in simulated learning experience and transfer effectiveness to practical experiences. // / /
331. List terminal objectives for each vocational area, then establish priorities for personnel, equipment, etc. in terms of terminal objectives. // / /
332. Look at terminal objectives in terms of long range ultimate goals in relationship to budgeting, establishing priorities and accountability of instructors' terminal goals. // / /
333. Be prepared to substantiate total vocational education program. // / /
334. Be prepared to determine accountability for cost of obsolete staff, equipment, etc. // / /

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335. Identify competencies that staff personnel should have in order to effectively select personnel. __//__/_/_/___
336. Know sources and details of expenditures of money in accordance to legal requirements and other ramifications. __//__/_/_/___

STAFFING

337. To develop technical competencies required to teach a given occupational area -- this includes knowledge, understanding, and skills of an occupation. __//__/_/_/___
338. To develop competencies required to be a teacher manager. __//__/_/_/___
339. To develop competencies required to be a facilitator of the learning environment. __//__/_/_/___
340. To develop competencies required to identify learning outcomes desired based on characteristics of the students taught. __//__/_/_/___
341. To develop competencies required to locate and recruit specialists to assist in instruction. __//__/_/_/___
342. To develop competencies in teachers to fully understand and accept individual student potential capacity based on their needs and interests. __//__/_/_/___
343. To develop competencies to be able to diagnose individual student differences. __//__/_/_/___
344. To develop competencies of sensitivity to student differences. __//__/_/_/___
345. To develop competencies of commitment to teaching students as they are. __//__/_/_/___
346. To develop competencies to establish positive attitude toward all students. __//__/_/_/___
347. To develop competencies to be able to assess verbal behavior. __//__/_/_/___

NEED
1st
2nd
3rd

348. To develop competencies to be able to work with disadvantaged and handicapped students. __//__/_/_/___
349. To develop interdisciplinary competencies common for all occupational area. These items could be taught as general vocational education courses taught to all content areas. Example:
- a. cooperative education
 - b. preparing for an ever-changing world of work. (This was suggested rather than teaching within each discipline area.)

In addition to the above, administrators must possess the following competencies:

350. To effectively delegate responsibilities and effective utilization of talent. __//__/_/_/___
351. To develop competencies to recruit differentiated staff (this requires total program planning which identifies competencies required by individual staff members). __//__/_/_/___
352. To evaluate and plan total programs. __//__/_/_/___

PHYSICAL FACILITIES - EQUIPMENT

Assumption: that the program has been planned, the budget set and projections made. Competencies needed by administrators, department chairmen and supervisors and instructors.

A. Administration

353. Understanding of types of construction __//__/_/_/___
- Proficient in the use of management systems/PERT
354. Planned program check list __//__/_/_/___
355. Periodic review __//__/_/_/___
- General and specific advisory committees
356. Their use and function __//__/_/_/___

NEED
1st
2nd
3rd

357. Familiarity of areas from where they come __//__/_/_/___

Proficiency in interpreting blueprints

358. Planning __//__/_/_/___

359. Layout __//__/_/_/___

360. Knowledge of space requirements __//__/_/_/___

361. Familiar with the use of planning procedures and equipment layout. __//__/_/_/___

362. Knowledge of levels of heat, light and noise. Environmental factors concerning the learning process. __//__/_/_/___

363. Training teachers in the purchasing procedures of the system. __//__/_/_/___

364. Skill in writing unique specifications for equipment. __//__/_/_/___

B. Department Chairman and Supervisors, etc.

365. Identify department needs. __//__/_/_/___

366. Write specifications for equipment. __//__/_/_/___

367. Work in conjunction with equipment users. __//__/_/_/___

368. Ability to work with staff in writing specifications. __//__/_/_/___

369. Knowledge of heat, light, noise levels, etc. __//__/_/_/___

370. Use of building committees. __//__/_/_/___

371. Thorough knowledge of purchasing procedure. __//__/_/_/___

C. Instruction

372. Specification writing __//__/_/_/___

373. Community contact __//__/_/_/___

374. Contacts with suppliers. __//__/_/_/___

375. Good human relations. __//__/_/_/___

376. Area planning and layout skills. __//__/_/_/___

377. Skills in environmental planning. __//__/_/_/___

a. sound, light, air, noise, color, etc.

STUDENT PERSONNEL SERVICES - PLACEMENT AND FOLLOW-UP

The following are determined as being competencies needed by educators involved in student personnel service placement and follow-up.

	NEED	1st	2nd	3rd
378. Ability to administer and interpret appropriate test instruments.	__//__	__/_	__/_	__/_
379. To be familiar with various techniques of assessing student interests, abilities, aptitudes and to be aware of limitations of instruments.	__//__	__/_	__/_	__/_
380. Ability to develop procedures which will identify student interests and community needs.	__//__	__/_	__/_	__/_
381. To be familiar with procedures by which student interests and community needs may be identified.	__//__	__/_	__/_	__/_
382. To assist with identification of realistic selection criteria being used with student body.	__//__	__/_	__/_	__/_
383. To be able to utilize interview techniques with students which will aid in analyzing his interest, behavior pattern and motivation.	__//__	__/_	__/_	__/_
384. Career Information:				
385. Ability to assist students in assimilating, evaluating and understanding career information.	__//__	__/_	__/_	__/_
386. Ability to analyze career information concerning professional and personal requirements.	__//__	__/_	__/_	__/_
387. Ability to analyze career opportunities in terms of their social and economic characteristics.	__//__	__/_	__/_	__/_
388. Organize, classify and make accessible occupational information.	__//__	__/_	__/_	__/_
389. Familiarity with local occupational opportunities.	__//__	__/_	__/_	__/_
390. Capitalize on "first hand" career experience logged by various staff members in generating depth of understanding about careers.	__//__	__/_	__/_	__/_
391. Involve community workers to provide (practical?) information on careers.	__//__	__/_	__/_	__/_
392. Coordinate flow of occupational information from state, private and corporate agencies.	__//__	__/_	__/_	__/_

- | | NEED | 1st | 2nd | 3rd |
|--|------|-----|-----|-----|
| 393. Ability to interpret data from local and national labor market. | _//_ | _/_ | _/_ | _/_ |
| 394. Cooperate with other professional staff to enhance student utilization of career information. | _//_ | _/_ | _/_ | _/_ |
| 395. Ability to isolate and define those strategies affecting job entry and promotion that are operative in specific industries. | _//_ | _/_ | _/_ | _/_ |
| 396. Familiarity with data storage and retrieval systems pertaining to occupational information. (CV12) | _//_ | _/_ | _/_ | _/_ |

Counseling and Communication:

- | | | | | |
|--|------|-----|-----|-----|
| 397. To relate to students that guidance services are available to him from birth to death. | _//_ | _/_ | _/_ | _/_ |
| 398. To recognize appropriate group and technical counseling techniques. | _//_ | _/_ | _/_ | _/_ |
| 399. To select and demonstrate appropriate group dynamics techniques. | _//_ | _/_ | _/_ | _/_ |
| 400. To assess the relationship between group dynamics teaching technique and group counseling. | _//_ | _/_ | _/_ | _/_ |
| 401. To assist qualified counseling personnel in conducting group guidance activities on occupations, education and training for occupations and employment. | _//_ | _/_ | _/_ | _/_ |
| 402. To serve as a catalyst in developing a dialogue between and among students, parents, employers and school officials. | _//_ | _/_ | _/_ | _/_ |
| 403. To participate and cooperate as members of a K-14 occupational education team in assisting people preparing for the world of work. | _//_ | _/_ | _/_ | _/_ |

Placement:

- | | | | | |
|--|------|-----|-----|-----|
| 404. Serve as chief placement officer for persons leaving school. | _//_ | _/_ | _/_ | _/_ |
| 405. Interpret the area labor market and analyze future needs. | _//_ | _/_ | _/_ | _/_ |
| 406. Initiate contact with potential employer informing them of trained personnel available. | _//_ | _/_ | _/_ | _/_ |
| 407. Translate information on job opportunities to student. | _//_ | _/_ | _/_ | _/_ |

NED
1st
2nd
3rd

408. Assess student competencies in relation to the available job. __//__/_/_/___
409. Relate and communicate with other staff, representatives of agencies and employers. __//__/_/_/___
410. Inform students of current procedures in obtaining employment. __//__/_/_/___
411. Compile records of placement of students. __//__/_/_/___
412. Assist student in evaluating initial employment. __//__/_/_/___
413. Organize and make available to students and others a complete placement service. __//__/_/_/___

Continuous Evaluation:

- 413a. To recognize the necessity of including follow-up as a method of program evaluation. __//__/_/_/___
414. To be familiar with the tools and techniques of data collection. __//__/_/_/___
415. To develop and implement a system to accomplish the mechanics of a continuous follow-up. __//__/_/_/___
416. To justify the value of follow-up. __//__/_/_/___
417. To be able to analyze and interpret the follow-up findings and make recommendations for needed change. __//__/_/_/___
418. To be able to implement changes in the program based on follow-up findings. __//__/_/_/___
419. Develop and Maintain Appropriate Student and Employer Records Concerned with Vocational Education and Work Experience:
420. Be able to report accurately and systematically relevant information. __//__/_/_/___
421. Skill in developing an adequate record system. __//__/_/_/___
422. Learn appropriate means of obtaining needed information. __//__/_/_/___
423. Develop techniques to interpret and utilize information from student records. __//__/_/_/___
424. Instruct supportive staff in learning how to maintain records. __//__/_/_/___

- | | NEED | 1st | 2nd | 3rd |
|---|------------|-----|-----|-----|
| 425. Analyze and synthesize summary data to improve and expand the vocational program and to demonstrate effectiveness of the vocational program. | _//_/_/_/_ | | | |
| 426. To facilitate the development and maintenance of record-keeping procedures. | _//_/_/_/_ | | | |
| 427. To assist staff in the interpretation of records. | _//_/_/_/_ | | | |

COMMUNITY RELATIONS AND LEARNING RESOURCES

The competencies needed by vocational administrators related to community relations and learning resources are:

- | | |
|---|------------|
| 428. The ability to organize and work with advisory committees. | _//_/_/_/_ |
| 429. The ability to survey community needs as related to manpower needs and student needs. | _//_/_/_/_ |
| 430. The ability to determine the power structure of the community. | _//_/_/_/_ |
| 431. The ability to get people in the community involved in the total program. | _//_/_/_/_ |
| 432. The ability to organize the program utilizing the communities resources. | _//_/_/_/_ |
| 433. The ability to work with different racial and ethnic groups within a given community. | _//_/_/_/_ |
| 434. The ability to work with the local news media. | _//_/_/_/_ |
| 435. The ability to work with service groups. | _//_/_/_/_ |
| 436. The ability to organize and conduct open house. | _//_/_/_/_ |
| 437. The ability to write proposals. | _//_/_/_/_ |
| 438. The ability to get the support of the chief school administrators. | _//_/_/_/_ |
| 439. The ability to communicate with internal staff so that they can communicate with the public. | _//_/_/_/_ |

- | | NEED | 1st | 2nd | 3rd |
|---|------|-----|-----|-----|
| 440. The ability to prepare internal communications and set up an organization providing for open communication with the staff. | _//_ | _/_ | _/_ | _/_ |
| 441. The ability to delegate responsibility. | _//_ | _/_ | _/_ | _/_ |
| 442. The ability to evaluate the effectiveness of a community relations program. | _//_ | _/_ | _/_ | _/_ |
| 443. The ability to identify specific abilities within the staff. | _//_ | _/_ | _/_ | _/_ |
| 444. Competencies needed by instructional staff related to community relations. | | | | |
| 445. The ability to participate in the total public relations program. | _//_ | _/_ | _/_ | _/_ |
| 446. The ability to communicate enthusiastic feeling about the program. | _//_ | _/_ | _/_ | _/_ |
| 447. The ability to communicate with the administration. | _//_ | _/_ | _/_ | _/_ |
| 448. The ability to prepare inter and intra department memoes. | _//_ | _/_ | _/_ | _/_ |
| 449. The ability to prepare and write instructional objectives. | _//_ | _/_ | _/_ | _/_ |
| The competencies needed by ancillary staff including the ability to: | | | | |
| 450. Identify students that could benefit from occupational information. | _//_ | _/_ | _/_ | _/_ |
| 451. Identify community resources. | _//_ | _/_ | _/_ | _/_ |
| 452. Conduct follow-up studies. | _//_ | _/_ | _/_ | _/_ |
| 453. Communicate a commitment to the basic vocational education philosophy. | _//_ | _/_ | _/_ | _/_ |
| 454. Competencies needed by all staff related to physical facilities and human resources include the ability to: | | | | |
| 455. Select community resources that will best aid students in reaching desired behavioral objectives. | _//_ | _/_ | _/_ | _/_ |
| 456. Evaluate efficiency and effectiveness of resources. | _//_ | _/_ | _/_ | _/_ |
| 457. Break learning resources and activities down into smaller units to better meet needs. | _//_ | _/_ | _/_ | _/_ |

	NEED	1st	2nd	3rd
458. Utilize community resources on year around basis.	__//__	__/_	__/_	__/_
459. Analyze himself, resources, use of advisory committee to identify goals and effective community resources.	__//__	__/_	__/_	__/_
460. Modify community resources to help meet the needs of students.	__//__	__/_	__/_	__/_
461. Select training stations.	__//__	__/_	__/_	__/_
462. Work with training station employers.	__//__	__/_	__/_	__/_
463. Give some in-service training to training station employers.	__//__	__/_	__/_	__/_
464. Utilize up-to-date methods--media techniques.	__//__	__/_	__/_	__/_
465. Utilize expertise of various state universities for training of teachers.	__//__	__/_	__/_	__/_
466. Work as a part of a total vocational education staff.	__//__	__/_	__/_	__/_
467. Work with various agencies.	__//__	__/_	__/_	__/_
468. Involve volunteer help.	__//__	__/_	__/_	__/_
469. Select paraprofessionals.	__//__	__/_	__/_	__/_
470. Coordinate sharing of resources between schools.	__//__	__/_	__/_	__/_
471. Inventory learning resources before initiating programs.	__//__	__/_	__/_	__/_
472. Effectively use resources.	__//__	__/_	__/_	__/_
473. Individualize and package resources to meet individual needs.	__//__	__/_	__/_	__/_
474. Effectively establish priorities for use of funds available.	__//__	__/_	__/_	__/_
475. Make contacts and investigate what is available.	__//__	__/_	__/_	__/_
476. Communicate to others, work with paraprofessionals, organize work for paraprofessionals.	__//__	__/_	__/_	__/_
477. Plan ahead, be prepared with funds are available.	__//__	__/_	__/_	__/_
478. Select and use learning resources suitable for various groups--disadvantaged, etc.	__//__	__/_	__/_	__/_

NEED

1st

2nd

3rd

479. Effectively develop and use a learning resource center.

__//__/_/_/

480. Understand school law, code, liability, etc. as related to field trips and similar situations.

__//__/_/_/

481. Use field trips, films, tapes, etc. as an educational experience.

__//__/_/_/

APPENDIX M

**TEACHER COMPETENCIES CONSIDERED NECESSARY BY AT LEAST 50 PERCENT
OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE
FOR WHERE TO OBTAIN COMPETENCY**

The following table is a rank order listing of those competencies considered to be "necessary"^{1,2} by 50 percent³ or more of all Competencies Conference II respondents. In addition, the table reveals the respondents' choice of where each particular competency might best be obtained in the teacher education curriculum.⁴ The "place to obtain" response with the greatest frequency of response is underscored.

The following footnotes are also used in the table:

¹The "essential" (X11) and the "need-to-know" (X12) responses on the survey instrument taken together equal at least 50 percent.

²Competencies are numbered as they appeared in the survey instrument except as noted on page L-2 of Appendix L.

³N equals 60

⁴N equal 60 except where rows do not add to 100 percent, indicating that for those competencies no indication was made by some respondents as to where to obtain the competency.

X21: Preservice course in specific occupational area.
X22: Preservice core course (across occupational areas).
X23: Preservice internship.
X24: Formal inservice courses.
X25: Informally on-the-job.
X26: Other

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
60.	100.00	<u>45.00</u>	10.00	36.67	0.00	6.67	1.67
62.	100.00	23.33	<u>40.00</u>	25.00	3.33	5.00	3.33
210.	100.00	<u>30.00</u>	10.00	6.67	23.33	26.67	3.33
337.	100.00	<u>70.00</u>	6.67	1.67	6.67	5.00	10.00
418.	100.00	8.33	<u>31.67</u>	10.00	23.33	26.67	0.00
58.	98.34	20.00	<u>38.33</u>	25.00	1.67	11.67	3.33
61.	98.34	<u>46.67</u>	33.33	13.33	0.00	3.33	3.33
187.	98.34	<u>48.33</u>	25.00	15.00	3.33	3.33	3.33
189.	98.34	<u>61.67</u>	16.67	16.67	3.33	0.00	0.00
201.	98.34	<u>55.00</u>	33.33	6.67	1.67	1.67	1.67
1.	98.33	15.67	28.33	<u>31.67</u>	5.00	15.00	1.67
34.	98.33	28.33	<u>36.67</u>	15.00	8.33	11.67	0.00
41.	98.33	<u>60.00</u>	25.00	8.33	6.67	0.00	0.00
59.	98.33	<u>40.00</u>	30.00	20.00	3.33	6.67	0.00
188.	98.33	<u>41.67</u>	38.33	15.00	1.67	1.67	0.00
190.	98.33	35.00	<u>45.00</u>	15.00	1.67	1.67	0.00
194.	98.33	<u>55.00</u>	16.67	20.00	0.00	6.67	0.00
205.	98.33	30.00	<u>56.67</u>	10.00	1.67	1.67	0.00
221.	98.33	8.33	26.67	<u>46.67</u>	1.67	10.00	5.00
344.	98.33	18.33	<u>41.67</u>	23.33	6.67	8.33	1.67
57.	96.67	<u>56.67</u>	21.67	6.67	0.00	1.67	13.33
73.	96.67	30.00	23.33	<u>36.67</u>	5.00	5.00	0.00
96.	96.67	26.67	25.00	<u>36.67</u>	0.00	11.67	0.00
119.	96.67	5.00	26.67	28.33	8.33	<u>30.00</u>	0.00
134.	96.67	13.33	26.67	5.00	<u>35.00</u>	20.00	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
195.	96.67	<u>41.67</u>	26.67	15.00	1.67	13.33	0.00
200.	96.67	<u>61.67</u>	20.00	10.00	3.33	3.33	1.67
222.	96.67	3.33	21.67	26.67	1.67	<u>41.67</u>	3.33
267.	96.67	13.33	<u>35.00</u>	13.33	8.33	21.67	6.67
338.	96.67	31.67	<u>38.33</u>	3.33	13.33	10.00	1.67
346.	96.67	25.00	<u>41.67</u>	16.67	3.33	1.67	11.67
600.	96.67	13.33	<u>51.67</u>	5.00	15.00	11.67	1.67
433.	96.67	3.33	<u>25.00</u>	21.67	20.00	21.67	6.67
447.	96.67	3.33	21.67	21.67	11.67	<u>33.33</u>	5.00
451.	96.67	15.00	<u>31.67</u>	10.00	15.00	20.00	5.00
478.	96.67	13.33	<u>30.00</u>	13.33	<u>30.00</u>	13.33	0.00
146.	96.66	23.33	<u>28.33</u>	18.33	1.67	21.67	6.67
280.	96.66	15.00	<u>40.00</u>	18.33	21.33	0.00	3.33
348.	96.66	13.33	<u>55.00</u>	5.00	18.33	5.00	1.67
386.	96.66	11.67	<u>51.67</u>	6.67	20.00	3.33	5.00
197.	96.66	<u>53.33</u>	31.67	8.33	3.33	1.67	1.67
18.	95.00	<u>41.67</u>	20.00	13.33	6.67	15.00	0.00
35.	95.00	23.33	<u>31.67</u>	26.67	3.33	11.67	1.67
45.	95.00	30.00	<u>40.00</u>	18.33	3.33	6.67	1.67
67.	95.00	<u>41.67</u>	33.33	20.00	1.67	1.67	1.67
70.	95.00	<u>38.33</u>	33.33	18.33	1.67	1.67	6.67
125.	95.00	<u>56.67</u>	11.67	10.00	11.67	8.33	0.00
129.	95.00	10.00	23.33	<u>28.33</u>	1.67	26.67	6.67
176.	95.00	20.00	<u>25.00</u>	11.67	16.67	<u>25.00</u>	1.67
191.	95.00	35.00	<u>36.67</u>	15.00	1.67	8.33	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
196.	95.00	<u>60.00</u>	5.00	10.00	6.67	11.67	5.00
203.	95.00	36.67	<u>38.33</u>	10.00	8.33	3.33	0.00
218.	95.00	13.33	11.67	1.67	23.33	<u>45.00</u>	5.00
225.	95.00	1.67	28.33	11.67	11.67	<u>45.00</u>	0.00
226.	95.00	3.33	16.67	16.67	6.67	<u>51.67</u>	3.33
300.	95.00	6.67	18.33	6.67	11.67	26.67	<u>30.00</u>
340.	95.00	30.00	<u>50.00</u>	6.67	6.67	3.33	1.67
375.	95.00	11.67	<u>30.00</u>	8.33	10.00	15.00	25.00
385.	95.00	10.00	<u>46.67</u>	13.33	15.00	8.33	5.00
455.	95.00	11.67	<u>31.67</u>	10.00	16.67	30.00	0.00
49.	93.34	<u>43.33</u>	28.33	11.67	5.00	8.33	1.67
63.	93.34	36.67	<u>38.33</u>	13.33	1.67	8.33	1.67
160.	93.34	11.67	11.67	25.00	5.00	<u>40.00</u>	5.00
198.	93.34	41.67	<u>45.00</u>	11.67	0.00	0.00	1.67
206.	93.34	28.33	<u>60.00</u>	6.67	5.00	0.00	0.00
214.	93.34	3.33	15.00	5.00	<u>43.33</u>	26.67	5.00
264.	93.34	15.00	<u>58.33</u>	3.33	8.33	10.00	3.33
343.	93.34	21.67	<u>48.33</u>	10.00	10.00	6.67	1.67
345.	93.34	23.33	<u>46.67</u>	16.67	3.33	6.67	3.33
394.	93.34	5.00	20.00	8.33	23.33	<u>40.00</u>	3.33
432.	93.34	3.33	<u>28.33</u>	13.33	26.67	26.67	0.00
446.	93.34	1.67	23.33	13.33	6.67	<u>38.33</u>	13.33
472.	93.34	8.33	23.33	8.33	18.33	<u>36.67</u>	5.00
6.	93.33	15.00	<u>26.67</u>	23.33	8.33	16.67	0.00
22.	93.33	25.00	<u>26.67</u>	18.33	11.67	13.33	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) ³ PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
38.	93.33	<u>53.33</u>	35.00	3.33	1.67	5.00	1.67
40.	93.33	25.00	25.00	<u>30.00</u>	3.33	15.00	0.00
77.	93.33	26.67	<u>41.67</u>	21.67	3.33	5.00	0.00
156.	93.33	13.33	<u>33.33</u>	16.67	3.33	30.00	1.67
193.	93.33	30.00	<u>36.67</u>	13.33	3.33	13.33	1.67
224.	93.33	3.33	15.00	26.67	3.33	<u>46.67</u>	3.33
320.	93.33	30.00	<u>36.67</u>	6.67	15.00	10.00	0.00
417	93.33	5.00	<u>53.33</u>	6.67	20.00	15.00	0.00
473.	93.33	15.00	25.00	11.67	20.00	<u>26.67</u>	1.67
2.	93.33	10.00	25.00	<u>38.33</u>	6.67	11.67	0.00
339.	93.33	30.00	<u>46.67</u>	5.00	8.33	5.00	1.67
7.	91.67	20.00	15.00	<u>38.33</u>	5.00	13.33	1.67
11.	91.67	10.00	18.33	<u>30.00</u>	5.00	28.33	1.67
16.	91.67	23.33	16.67	<u>30.00</u>	8.33	16.67	0.00
42.	91.67	<u>55.00</u>	23.33	8.33	1.67	6.67	1.67
82.	91.67	<u>50.00</u>	11.67	31.67	1.67	1.67	1.67
89.	91.67	30.00	<u>50.00</u>	11.67	1.67	3.33	0.00
97.	91.67	25.00	26.67	<u>28.33</u>	1.67	13.33	0.00
118.	91.67	3.33	31.67	20.00	6.67	<u>36.67</u>	0.00
138.	91.67	6.67	<u>30.00</u>	11.67	21.67	<u>30.00</u>	0.00
202.	91.67	10.00	<u>46.67</u>	10.00	10.00	23.33	0.00
310.	91.67	11.67	<u>33.33</u>	8.33	<u>33.33</u>	11.67	1.67
321.	91.67	26.67	<u>30.00</u>	8.33	21.67	13.33	0.00
322.	91.67	21.67	11.67	8.33	21.67	<u>30.00</u>	3.33
347.	91.67	25.00	<u>51.67</u>	11.67	3.33	3.33	5.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
393.	91.67	10.00	<u>38.33</u>	5.00	28.33	16.67	1.67
410.	91.67	3.33	21.67	16.67	15.00	<u>41.67</u>	0.00
428.	91.67	6.67	<u>35.00</u>	16.67	20.00	18.33	1.67
438.	91.67	1.67	20.00	11.67	13.33	<u>45.00</u>	3.33
449.	91.67	20.00	<u>58.33</u>	1.67	13.33	1.67	1.67
456.	91.67	8.33	26.67	10.00	21.67	<u>28.33</u>	3.33
462.	91.67	18.33	16.67	<u>25.00</u>	13.33	21.67	1.67
24.	91.66	8.33	<u>40.00</u>	18.33	10.00	1.67	0.00
26.	91.66	10.00	15.00	<u>38.33</u>	3.33	30.00	1.67
36.	91.66	13.33	<u>43.33</u>	25.00	10.00	6.67	1.67
145.	91.66	23.33	25.00	20.00	1.67	<u>28.33</u>	0.00
166.	91.66	11.67	<u>33.33</u>	15.00	18.33	21.67	0.00
223.	91.66	5.00	13.33	21.67	3.33	<u>51.67</u>	1.67
312.	91.66	18.33	<u>46.67</u>	8.33	16.67	8.33	1.67
389.	91.66	6.67	18.33	11.67	11.67	<u>48.33</u>	1.67
453.	91.66	8.33	<u>41.67</u>	6.67	11.67	25.00	3.33
481.	91.66	13.33	<u>58.33</u>	11.67	10.00	6.67	0.00
9.	90.00	25.00	<u>35.00</u>	21.67	8.33	3.33	0.00
19.	90.00	26.67	13.33	<u>35.00</u>	3.33	15.00	1.67
37.	90.00	35.00	<u>41.67</u>	6.67	6.67	6.67	1.67
136.	90.00	6.67	26.67	20.00	6.67	<u>36.67</u>	3.33
140.	90.00	20.00	<u>31.67</u>	11.67	5.00	28.33	1.67
144.	90.00	5.00	28.33	<u>36.67</u>	5.00	23.33	0.00
168.	90.00	8.33	<u>31.67</u>	10.00	18.33	26.67	3.33
175.	90.00	15.00	25.00	10.00	20.00	<u>28.33</u>	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
177.	90.00	13.33	<u>30.00</u>	10.00	20.00	25.00	1.67
192.	90.00	35.00	<u>40.00</u>	13.33	3.33	5.00	1.67
228.	90.00	0.00	16.67	18.33	6.67	<u>53.33</u>	3.33
311.	90.00	6.67	<u>36.67</u>	6.67	25.00	21.67	1.67
379.	90.00	16.67	<u>63.33</u>	3.33	11.67	3.33	0.00
381.	90.00	15.00	<u>51.67</u>	11.67	11.67	6.67	1.67
383.	90.00	11.67	<u>41.67</u>	21.67	13.33	8.33	0.00
407.	90.00	6.67	21.67	15.00	15.00	<u>40.00</u>	0.00
408.	90.00	13.33	23.33	<u>26.67</u>	10.00	25.00	0.00
420.	90.00	5.00	<u>45.00</u>	3.33	18.33	20.00	5.00
421.	90.00	8.33	<u>38.33</u>	5.00	16.67	25.00	3.33
429.	90.00	3.33	<u>41.67</u>	13.33	23.33	15.00	1.67
450.	90.00	20.00	<u>35.00</u>	11.67	16.67	10.00	1.67
182.	88.34	8.33	26.67	13.33	11.67	<u>38.33</u>	1.67
208.	88.34	21.67	<u>56.67</u>	10.00	8.33	1.67	1.67
273.	88.34	13.33	<u>31.67</u>	6.67	10.00	18.33	15.00
302.	88.34	13.33	<u>60.00</u>	1.67	10.00	10.00	1.67
382.	88.34	15.00	<u>43.33</u>	10.00	16.67	11.67	0.00
387.	88.34	3.33	<u>58.33</u>	3.33	20.00	8.33	5.00
406.	88.34	8.33	10.00	6.67	13.33	<u>56.67</u>	0.00
5.	88.33	16.67	<u>28.33</u>	15.00	8.33	21.67	3.00
8.	88.33	23.33	20.00	<u>38.33</u>	6.67	6.67	0.00
20.	88.33	23.33	<u>41.67</u>	15.00	8.33	8.33	0.00
78.	88.33	33.33	<u>36.67</u>	18.33	0.00	3.33	5.00
139.	88.33	6.67	31.67	10.00	18.33	<u>33.33</u>	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT
OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO
OBTAIN COMPETENCY.

COMPETENCY	X1=(X11+X12)		PERCENT ON X2 ⁴				
NUMBER ²	PERCENT ³	X21	X22	X23	X24	X25	X26
153.	88.33	<u>31.67</u>	10.00	15.00	3.33	30.00	8.33
236.	88.33	5.00	23.33	13.33	25.00	<u>26.67</u>	0.00
266.	88.33	11.67	31.67	5.00	1.67	15.00	<u>33.33</u>
395.	88.33	11.67	<u>41.67</u>	5.00	16.67	23.33	1.67
459.	88.33	8.33	<u>30.00</u>	10.00	23.33	26.67	1.67
461.	88.33	20.00	28.33	8.33	10.00	<u>30.00</u>	0.00
464.	88.33	16.67	<u>43.33</u>	8.33	18.33	8.33	3.33
466.	88.33	5.00	16.67	18.33	15.00	<u>36.67</u>	6.67
474.	88.33	11.67	11.67	8.33	25.00	<u>40.00</u>	0.00
13.	86.67	<u>31.67</u>	16.67	20.00	8.33	11.67	0.00
21.	86.67	18.33	<u>40.00</u>	20.00	5.00	13.33	0.00
25.	86.67	20.00	<u>45.00</u>	11.67	3.33	13.33	3.33
65.	86.67	18.33	<u>50.00</u>	20.00	1.67	5.00	5.00
167.	86.67	11.67	<u>30.00</u>	11.67	13.33	29.33	3.33
286.	86.67	3.33	21.67	15.00	15.00	<u>31.67</u>	10.00
349.	86.67	3.33	<u>73.33</u>	0.00	15.00	3.33	0.00
401.	86.67	1.67	<u>31.67</u>	15.00	26.67	18.33	1.67
409.	86.67	3.33	18.33	6.67	15.00	<u>51.67</u>	1.67
423.	86.67	6.67	<u>36.67</u>	18.33	25.00	13.33	0.00
452.	86.67	1.67	<u>43.33</u>	13.33	18.33	18.33	1.67
457.	86.67	21.67	<u>38.33</u>	8.33	15.00	15.00	0.00
15.	86.66	26.67	<u>31.67</u>	18.33	11.67	6.67	0.00
27.	86.66	16.67	23.33	16.67	11.67	<u>26.67</u>	1.67
71.	86.66	21.67	<u>53.33</u>	21.67	0.00	0.00	3.33
143.	86.66	11.67	<u>35.00</u>	26.67	1.67	20.00	5.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
268.	86.66	16.67	<u>38.33</u>	3.33	20.00	13.33	3.33
288.	86.66	8.33	23.33	15.00	11.67	<u>30.00</u>	6.67
314.	86.66	11.67	31.67	8.33	8.33	<u>35.00</u>	1.67
380.	86.66	11.67	<u>50.00</u>	8.33	15.00	17.00	1.67
422.	86.66	10.00	<u>41.67</u>	5.00	16.67	16.67	6.67
12.	85.00	<u>40.00</u>	20.00	11.67	5.00	15.00	1.67
28.	85.00	5.00	23.33	28.33	3.33	<u>33.33</u>	1.67
43.	85.00	13.33	21.67	20.00	5.00	<u>35.00</u>	0.00
116.	85.00	8.33	<u>30.00</u>	26.67	8.33	23.33	1.67
117.	85.00	8.33	<u>36.67</u>	23.33	11.67	18.33	0.00
126.	85.00	8.33	<u>38.33</u>	30.00	5.00	15.00	3.33
158.	85.00	18.33	10.00	8.33	13.33	<u>45.00</u>	3.33
183.	85.00	5.00	30.00	13.33	13.33	<u>36.67</u>	1.67
199.	85.00	<u>38.33</u>	35.00	10.00	0.00	13.33	3.33
207.	85.00	10.00	25.00	16.67	5.00	<u>41.67</u>	0.00
213.	85.00	8.33	<u>56.67</u>	10.00	8.33	11.67	1.67
263.	85.00	28.33	<u>36.67</u>	8.33	6.67	18.33	0.00
272.	85.00	15.00	<u>58.33</u>	1.67	15.00	6.67	1.67
278.	85.00	3.33	<u>31.67</u>	13.33	6.67	15.00	28.33
281.	85.00	11.67	<u>40.00</u>	1.67	38.33	5.00	0.00
299.	85.00	8.33	10.00	8.33	8.33	25.00	<u>40.00</u>
316.	85.00	<u>55.00</u>	0.00	3.33	10.00	26.67	3.33
317.	85.00	<u>40.00</u>	6.67	3.33	18.33	30.00	1.67
356.	85.00	11.67	<u>51.67</u>	5.00	8.33	20.00	1.67
373.	85.00	5.00	23.33	11.67	15.00	<u>40.00</u>	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
388.	85.00	15.00	<u>43.33</u>	10.00	20.00	8.33	1.67
391.	85.00	8.33	15.00	15.00	6.67	<u>51.67</u>	1.67
403.	85.00	1.67	<u>38.33</u>	15.00	16.67	25.00	0.00
414.	85.00	11.67	<u>58.33</u>	1.67	20.00	5.00	1.67
477.	85.00	6.67	21.67	3.33	25.00	<u>38.33</u>	3.33
480.	85.00	8.33	<u>48.33</u>	5.00	28.33	10.00	0.00
307.	83.34	6.78	<u>54.24</u>	3.39	27.12	6.78	0.00
441.	83.34	5.00	20.00	10.00	11.67	<u>35.00</u>	11.67
30.	83.33	<u>33.33</u>	20.00	21.67	3.33	15.00	0.00
39.	83.33	<u>41.67</u>	33.33	8.33	5.00	6.67	1.67
44.	83.33	15.00	<u>43.33</u>	26.67	3.33	6.67	3.33
68.	83.33	35.00	<u>38.33</u>	18.33	1.67	3.33	1.67
114.	83.33	11.67	<u>33.33</u>	15.00	11.67	21.67	1.67
123.	83.33	6.67	25.00	13.33	8.33	<u>40.00</u>	0.00
133.	83.33	8.33	<u>35.00</u>	6.67	26.67	21.67	1.67
164.	83.33	18.33	18.33	8.33	16.67	<u>33.33</u>	3.33
186.	83.33	13.33	20.00	10.00	13.33	<u>40.00</u>	1.67
209.	83.33	5.00	<u>35.00</u>	23.33	1.67	20.00	11.67
258.	83.33	11.67	<u>55.00</u>	3.33	21.67	5.00	0.00
282.	83.33	<u>23.33</u>	21.67	8.33	5.00	13.33	21.67
341.	83.33	21.67	<u>35.00</u>	6.67	16.67	15.00	0.00
342.	83.33	15.00	<u>30.00</u>	18.33	16.67	10.00	0.00
405.	83.33	3.33	<u>36.67</u>	3.33	26.67	25.00	3.33
439.	83.33	1.67	18.33	13.33	16.67	<u>38.33</u>	5.00
463.	83.33	10.00	15.00	10.00	26.67	<u>30.00</u>	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY X1=(X11+X12)		PERCENT ON X2 ⁴					
NUMBER ²	PERCENT ³	X21	X22	X23	X24	X25	X26
465.	83.33	6.67	18.33	1.67	<u>35.00</u>	26.67	3.33
467.	83.33	1.67	10.00	15.00	16.67	<u>46.67</u>	5.00
69.	81.67	26.67	<u>31.67</u>	30.00	0.00	10.00	1.67
79.	81.67	<u>30.00</u>	18.33	21.67	3.33	23.33	1.67
147.	81.67	<u>38.33</u>	8.33	20.00	3.33	25.00	1.67
149.	81.67	28.33	8.33	16.67	6.67	<u>31.67</u>	6.67
159.	81.67	16.67	5.00	23.33	3.33	<u>48.33</u>	1.67
227.	81.67	1.67	11.67	15.00	15.00	<u>51.67</u>	1.67
234.	81.67	1.67	8.33	13.33	6.67	<u>65.00</u>	3.33
261.	81.67	<u>46.67</u>	30.00	3.33	1.67	13.33	3.33
301.	81.67	0.00	23.33	10.00	18.33	<u>30.00</u>	15.00
308.	81.67	1.67	21.67	6.67	30.00	<u>36.67</u>	0.00
330.	81.67	26.67	<u>28.33</u>	16.67	13.33	6.67	6.67
350.	81.67	1.67	23.33	6.67	23.33	<u>31.67</u>	1.67
402.	81.67	1.67	16.67	16.67	16.67	<u>40.00</u>	1.67
431.	81.67	3.33	16.67	13.33	18.33	<u>41.67</u>	3.33
137.	81.66	6.67	20.00	11.67	10.00	<u>51.67</u>	0.00
243.	81.66	15.00	13.33	11.67	5.00	<u>45.00</u>	8.33
323.	81.66	16.67	25.00	5.00	<u>30.00</u>	23.33	0.00
332.	81.66	20.00	<u>30.00</u>	5.00	25.00	13.33	0.00
366.	81.66	16.67	21.67	1.67	<u>28.33</u>	23.33	0.00
378.	81.66	11.67	<u>55.00</u>	1.67	15.00	6.67	1.67
412.	81.66	5.00	21.67	11.67	15.00	<u>41.67</u>	0.00
365.	81.66	11.67	11.67	5.00	23.33	<u>35.00</u>	0.00
66.	80.00	25.00	<u>33.33</u>	21.67	0.00	15.00	5.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
100.	80.00	15.00	<u>48.33</u>	21.67	8.33	6.67	0.00
106.	80.00	18.33	<u>43.33</u>	18.33	5.00	6.67	1.67
121.	80.00	16.67	<u>25.42</u>	15.25	6.78	23.73	0.00
128.	80.00	16.67	<u>28.33</u>	20.00	18.33	11.67	1.67
155.	80.00	5.00	25.00	10.00	11.67	<u>43.33</u>	3.33
170.	80.00	10.00	26.67	8.33	13.33	<u>36.67</u>	3.33
217.	80.00	1.67	15.00	5.00	<u>45.00</u>	28.33	0.00
231.	80.00	1.67	13.33	13.33	8.33	<u>58.33</u>	0.00
237.	80.00	16.67	23.33	<u>28.33</u>	1.67	<u>28.33</u>	0.00
257.	80.00	18.33	<u>65.00</u>	5.00	3.33	3.33	1.67
265.	80.00	8.33	<u>65.00</u>	3.33	10.00	8.33	3.33
276.	80.00	8.33	<u>43.33</u>	1.67	8.33	10.00	25.00
283.	80.00	11.67	<u>38.33</u>	6.67	23.33	13.33	3.33
284.	80.00	13.33	<u>31.67</u>	6.67	21.67	20.00	5.00
306.	80.00	3.33	30.00	11.67	<u>31.67</u>	18.33	1.67
352.	80.00	3.33	33.33	1.67	<u>35.00</u>	10.00	0.00
411.	80.00	6.67	21.67	10.00	16.67	<u>38.33</u>	1.67
415.	80.00	5.00	<u>46.67</u>	8.33	20.00	18.33	0.00
445.	80.00	1.67	26.67	11.67	13.33	<u>31.67</u>	6.67
471.	80.00	11.67	30.00	8.33	15.00	<u>31.67</u>	0.00
10.	78.34	10.00	28.33	15.00	0.00	<u>36.67</u>	3.33
75.	78.34	25.00	<u>50.00</u>	20.00	0.00	1.67	3.33
95.	78.34	35.00	<u>40.00</u>	15.00	3.33	1.67	1.67
124.	78.34	26.67	<u>30.00</u>	6.67	13.33	15.00	1.67
150.	78.34	30.00	10.00	11.67	3.33	<u>38.33</u>	5.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
184.	78.34	13.33	10.00	16.67	0.00	<u>51.67</u>	6.67
204.	78.34	16.67	<u>40.00</u>	8.33	6.67	23.33	5.00
215.	78.34	10.00	20.00	10.00	3.33	<u>46.67</u>	3.33
303.	78.34	8.33	<u>33.33</u>	13.33	10.00	30.00	1.67
390.	78.34	3.33	18.33	11.67	10.00	<u>48.33</u>	3.33
425.	78.34	5.00	25.00	3.33	<u>31.67</u>	30.00	0.00
458.	78.34	8.33	20.00	11.00	15.00	<u>36.67</u>	6.67
17.	78.33	25.00	3.33	<u>28.33</u>	5.00	26.67	1.67
76.	78.33	20.00	<u>50.00</u>	16.67	3.33	1.67	5.00
122.	78.33	3.33	20.34	<u>37.29</u>	6.78	25.42	0.00
132.	78.33	16.67	21.67	10.00	18.33	<u>23.33</u>	5.00
142.	78.33	16.67	<u>30.00</u>	16.67	10.00	18.33	6.67
240.	78.33	21.67	21.67	10.00	5.00	<u>38.33</u>	0.00
371.	78.33	3.33	18.33	3.33	28.33	<u>35.00</u>	0.00
398.	78.33	5.00	<u>50.00</u>	8.33	21.67	6.67	1.67
430.	78.33	1.67	16.67	11.67	20.00	<u>43.33</u>	1.67
31.	76.67	18.33	21.67	18.33	6.67	<u>26.67</u>	0.00
51.	76.67	<u>35.00</u>	15.00	20.00	3.33	16.67	1.67
88.	76.67	23.33	<u>45.00</u>	16.67	0.00	8.33	3.33
93.	76.67	26.67	<u>50.00</u>	13.33	1.67	5.00	0.00
98.	76.67	20.00	<u>40.00</u>	21.67	0.00	10.00	5.00
135.	76.67	6.67	21.67	11.67	11.67	<u>38.33</u>	3.33
163.	76.67	11.67	13.33	8.33	13.33	<u>46.67</u>	5.00
165.	76.67	18.33	16.67	6.67	16.67	<u>36.67</u>	1.67
169.	76.67	10.00	23.33	10.00	6.67	<u>46.67</u>	3.33

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
230.	76.67	1.67	13.33	11.67	11.67	<u>55.00</u>	1.67
235.	76.67	3.33	6.67	10.00	6.67	<u>65.00</u>	6.67
309.	76.67	6.67	<u>40.00</u>	6.67	21.67	23.33	0.00
327.	76.67	11.67	<u>51.67</u>	1.67	20.00	5.00	8.33
434.	76.67	3.33	<u>31.67</u>	6.67	15.00	<u>31.67</u>	5.00
476.	76.67	5.00	16.67	8.33	23.33	<u>45.00</u>	1.67
479.	76.67	10.00	<u>30.00</u>	15.00	21.67	16.67	1.67
46.	76.66	23.33	10.00	<u>30.00</u>	0.00	<u>30.00</u>	0.00
162.	76.66	11.67	<u>31.67</u>	5.00	23.33	23.33	1.67
270.	76.66	6.67	<u>43.33</u>	3.33	26.67	15.00	3.33
271.	76.66	15.00	<u>50.00</u>	3.33	10.00	16.67	5.00
290.	76.66	5.00	<u>38.33</u>	1.67	18.33	23.33	11.67
329.	76.66	<u>30.00</u>	11.67	1.67	23.33	28.33	0.00
443.	76.66	6.67	13.33	5.00	21.67	<u>33.33</u>	3.33
32.	75.00	15.00	<u>31.67</u>	26.67	8.33	10.00	1.67
33.	75.00	20.00	20.00	<u>21.67</u>	20.00	11.67	0.00
90.	75.00	23.33	<u>40.00</u>	23.33	3.33	5.00	0.00
151.	75.00	23.33	10.00	11.67	6.67	<u>40.00</u>	3.33
161.	75.00	3.33	11.67	21.67	1.67	<u>48.33</u>	6.67
274.	75.00	11.67	<u>28.33</u>	10.00	18.33	13.33	11.67
289.	75.00	5.00	<u>33.33</u>	13.33	13.33	30.00	1.67
305.	75.00	3.33	30.00	5.00	<u>35.00</u>	23.33	0.00
326.	75.00	10.00	<u>28.33</u>	3.33	<u>28.33</u>	25.00	0.00
331.	75.00	23.33	<u>36.67</u>	5.00	20.00	8.33	0.00
376.	75.00	20.00	<u>25.00</u>	5.00	23.33	23.33	0.00

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
416.	75.00	5.00	<u>46.67</u>	8.33	18.33	15.00	3.33
424.	75.00	3.33	18.33	3.33	31.67	<u>35.00</u>	0.00
435.	75.00	3.33	21.67	10.00	15.00	<u>43.33</u>	5.00
442.	75.00	5.00	23.33	10.00	21.67	<u>26.67</u>	3.33
475.	75.00	8.33	5.00	15.00	15.00	<u>43.33</u>	6.67
141.	73.34	13.33	<u>30.00</u>	15.00	16.67	20.00	0.00
293.	73.34	10.00	<u>26.67</u>	11.67	21.67	15.00	5.00
426.	73.34	5.00	<u>28.33</u>	3.33	<u>28.33</u>	26.67	3.33
3.	73.33	13.33	<u>35.00</u>	16.67	3.33	21.67	0.00
23.	73.33	10.00	21.67	16.67	<u>33.33</u>	13.33	0.00
74.	73.33	21.67	<u>51.67</u>	21.67	1.67	1.67	1.67
84.	73.33	<u>40.00</u>	30.00	21.67	3.33	1.67	0.00
94.	73.33	18.33	<u>43.33</u>	15.00	6.67	6.67	6.67
99.	73.33	18.33	<u>46.67</u>	16.67	3.33	10.00	3.33
324.	73.33	5.00	18.33	11.67	18.33	<u>41.67</u>	0.00
355.	73.33	5.00	25.00	5.00	20.00	<u>35.00</u>	0.00
368.	73.33	15.00	11.67	1.67	21.67	<u>41.67</u>	0.00
72.	71.67	26.67	<u>41.67</u>	21.67	5.00	1.67	0.00
85.	71.67	30.00	<u>41.67</u>	11.67	1.67	13.33	1.67
244.	71.67	11.67	15.00	15.00	5.00	<u>45.00</u>	5.00
500.	71.67	13.33	<u>63.33</u>	1.67	10.00	8.33	0.00
304.	71.67	13.33	<u>38.33</u>	1.67	20.00	18.33	0.00
318.	71.67	16.67	11.67	3.33	26.67	<u>36.67</u>	1.67
319.	71.67	15.00	15.00	8.33	15.00	<u>38.33</u>	5.00
427.	71.67	3.33	13.33	3.33	<u>35.00</u>	30.00	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY X1=(X11+X12)		PERCENT ON X2 ⁴					
NUMBER ²	PERCENT ³	X21	X22	X23	X24	X25	X26
260.	71.66	11.67	<u>60.00</u>	3.33	15.00	5.00	0.00
295.	71.66	10.00	31.67	1.67	<u>35.00</u>	18.33	0.00
372.	71.66	13.33	<u>31.67</u>	3.33	26.67	15.00	0.00
397.	71.66	3.33	<u>33.33</u>	15.00	15.00	18.33	1.67
80.	70.00	18.33	<u>51.67</u>	13.33	3.33	3.33	5.00
102.	70.00	23.33	<u>43.33</u>	20.00	1.67	3.33	3.33
115.	70.00	13.33	<u>41.67</u>	11.67	11.67	13.33	0.00
269.	70.00	11.67	<u>51.67</u>	10.00	15.00	5.00	3.33
315.	70.00	1.67	11.67	1.67	28.33	<u>43.33</u>	1.67
333.	70.00	8.33	<u>36.67</u>	3.33	23.33	16.67	1.67
357.	70.00	15.00	21.67	0.00	8.33	<u>41.67</u>	5.00
367.	70.00	15.00	11.67	0.00	13.33	<u>48.33</u>	0.00
399.	70.00	5.00	<u>40.00</u>	13.33	21.67	10.00	3.33
440.	70.00	1.67	23.33	11.67	21.67	<u>25.00</u>	3.33
29.	68.34	8.33	23.33	21.67	3.33	<u>25.00</u>	1.67
171.	68.34	3.33	20.00	13.33	10.00	<u>43.33</u>	8.33
413.	68.34	1.67	18.33	10.00	23.33	<u>33.33</u>	0.00
460.	68.34	6.67	11.67	10.00	16.67	<u>46.67</u>	0.00
48.	68.33	28.33	<u>46.67</u>	6.67	1.67	6.67	1.67
185.	68.33	6.67	16.67	15.00	16.67	<u>35.00</u>	0.00
448.	68.33	3.33	<u>30.00</u>	10.00	15.00	23.33	8.33
238.	66.67	16.67	13.33	16.67	3.33	<u>48.33</u>	0.00
262.	66.67	15.00	<u>45.00</u>	1.67	10.00	16.67	6.67
285.	66.67	3.33	18.33	6.67	5.00	25.00	<u>31.67</u>
313.	66.67	3.33	31.67	5.00	<u>33.33</u>	20.00	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
336.	66.67	5.00	<u>28.33</u>	3.33	26.67	21.67	0.00
360.	66.67	<u>28.33</u>	21.67	3.33	15.00	23.33	0.00
361.	66.67	<u>31.67</u>	26.67	1.67	20.00	13.33	0.00
392.	66.67	0.00	23.33	8.33	26.67	<u>38.33</u>	0.00
232.	66.66	1.67	11.67	11.67	5.00	<u>60.00</u>	1.67
254.	66.66	10.00	8.33	15.00	8.33	<u>50.00</u>	3.33
370.	66.66	5.00	20.00	3.33	16.67	<u>40.00</u>	1.67
396.	66.66	10.00	<u>48.33</u>	5.00	16.67	18.33	0.00
437.	66.66	3.33	28.33	3.33	<u>43.33</u>	13.33	0.00
468.	66.66	3.33	10.00	8.33	10.00	<u>58.33</u>	1.67
81.	65.00	21.67	<u>43.33</u>	16.67	0.00	6.67	6.67
154.	65.00	15.00	23.33	5.00	<u>28.33</u>	23.33	0.00
277.	65.00	1.67	26.67	3.33	<u>41.67</u>	15.00	3.33
279.	65.00	3.33	28.33	3.33	<u>35.00</u>	23.33	3.33
297.	65.00	6.67	<u>41.67</u>	8.33	10.00	28.33	1.67
328.	65.00	6.67	<u>35.00</u>	3.33	25.00	20.00	1.67
351.	65.00	0.00	21.67	1.67	<u>36.67</u>	20.00	0.00
358.	65.00	23.33	<u>28.33</u>	1.67	13.33	25.00	0.00
469.	65.00	1.67	11.67	5.00	28.33	<u>46.67</u>	0.00
101	63.34	18.33	<u>45.00</u>	13.33	8.33	6.67	3.33
292.	63.34	13.33	<u>33.33</u>	5.00	16.67	18.33	1.67
470.	63.34	1.67	15.00	5.00	25.00	<u>41.67</u>	1.67
92.	63.33	26.67	<u>40.00</u>	21.67	3.67	3.33	1.67
107.	63.33	3.33	10.00	11.67	<u>35.00</u>	<u>35.00</u>	0.00
127.	63.33	10.00	<u>45.00</u>	21.67	5.00	8.33	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
229.	63.33	6.67	15.00	11.67	15.00	<u>45.00</u>	1.67
255.	63.33	15.00	11.67	13.33	11.67	<u>41.67</u>	3.33
363.	63.33	8.33	13.33	6.67	23.33	<u>31.67</u>	0.00
404.	63.33	1.67	20.00	5.00	23.33	<u>33.33</u>	0.00
64.	61.67	<u>31.67</u>	21.67	26.67	1.67	6.67	3.33
103.	61.67	13.33	<u>53.33</u>	13.33	1.67	5.00	6.67
110.	61.67	5.00	6.67	8.33	<u>38.33</u>	36.67	0.00
298.	61.67	1.67	11.67	3.33	23.33	<u>50.00</u>	0.00
335.	61.67	3.33	15.00	1.67	<u>41.67</u>	20.00	1.67
354.	61.67	8.33	<u>30.00</u>	3.33	21.67	20.00	0.00
4.	61.66	16.67	<u>31.67</u>	15.00	5.00	18.33	0.00
180.	61.66	6.67	16.67	6.67	6.67	<u>35.00</u>	15.00
211.	61.66	8.33	8.33	3.33	5.00	<u>58.33</u>	5.00
53.	60.00	28.33	<u>46.67</u>	1.67	0.00	8.33	3.33
55.	60.00	28.33	<u>48.33</u>	1.67	0.00	5.00	3.33
241.	60.00	13.33	15.00	16.67	6.67	<u>43.33</u>	1.67
369.	60.00	11.67	<u>26.67</u>	3.33	20.00	23.33	3.33
400.	60.00	3.33	<u>46.67</u>	8.33	20.00	13.33	1.67
256.	60.00	6.67	11.67	18.33	8.33	<u>45.00</u>	5.00
47.	58.34	21.67	<u>51.67</u>	5.00	0.00	5.00	3.33
275.	58.34	3.33	18.33	8.33	<u>31.67</u>	25.00	0.00
83.	58.33	25.00	<u>43.33</u>	20.00	1.67	3.33	3.33
120.	58.33	11.67	13.33	<u>28.33</u>	3.33	<u>28.33</u>	0.00
364.	58.33	18.33	18.33	3.33	21.67	<u>28.33</u>	0.00
377.	58.33	13.33	<u>30.00</u>	5.00	21.67	21.67	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12)		PERCENT ON X2 ⁴				
	PERCENT ³	X21	X22	X23	X24	X25	X26
253.	56.67	5.00	10.00	21.67	6.67	<u>45.00</u>	6.67
334.	56.67	5.00	21.67	0.00	23.33	<u>36.67</u>	1.67
359.	56.67	<u>28.33</u>	25.00	1.67	15.00	18.33	0.00
374.	56.67	6.67	13.33	6.67	10.00	<u>60.00</u>	0.00
252.	56.66	18.33	10.00	10.00	3.33	<u>46.67</u>	5.00
87.	55.00	21.67	<u>41.67</u>	10.00	8.33	5.00	3.33
105.	55.00	10.00	<u>51.67</u>	15.00	0.00	10.00	5.00
112.	55.00	0.00	18.33	11.67	13.33	<u>33.33</u>	15.00
212.	55.00	1.67	20.00	5.00	10.00	<u>53.33</u>	1.67
246.	55.00	8.33	20.00	11.67	1.67	<u>50.00</u>	5.00
325.	55.00	1.67	28.33	1.67	25.00	<u>35.00</u>	5.00
250.	53.34	6.67	8.33	15.00	10.00	<u>46.67</u>	3.33
259.	53.34	16.67	<u>61.67</u>	3.33	10.00	1.67	0.00
353.	53.34	16.67	11.67	1.67	<u>30.00</u>	21.67	0.00
54.	53.33	26.67	<u>46.67</u>	3.33	0.00	5.00	3.33
56.	53.33	26.67	<u>48.33</u>	1.67	0.00	5.00	3.33
148.	53.33	11.67	<u>33.33</u>	8.33	1.67	21.67	1.67
157.	53.33	8.33	16.67	5.00	6.67	<u>53.33</u>	0.00
179.	53.33	6.67	15.00	8.33	6.67	<u>51.67</u>	5.00
249.	53.33	6.67	8.33	16.67	3.33	<u>55.00</u>	3.33
251.	53.33	11.67	10.00	5.00	6.67	<u>56.67</u>	3.33
294.	53.33	13.33	<u>21.67</u>	5.00	16.67	18.33	15.00
248.	51.67	11.67	13.33	16.67	15.00	<u>38.33</u>	1.67
216.	51.66	8.33	16.67	3.33	3.33	<u>45.00</u>	3.33
239.	51.66	15.00	10.00	15.00	5.00	<u>50.00</u>	1.67

TEACHER COMPETENCIES CONSIDERED NECESSARY¹ BY AT LEAST 50 PERCENT OF ALL CONFERENCE RESPONDENTS AND PERCENT RESPONSE FOR WHERE TO OBTAIN COMPETENCY.

COMPETENCY NUMBER ²	X1=(X11+X12) PERCENT ³	PERCENT ON X2 ⁴					
		X21	X22	X23	X24	X25	X26
174.	51.66	10.00	8.33	13.33	3.33	<u>45.00</u>	8.33
436.	50.00	1.70	23.73	5.09	11.86	<u>45.76</u>	0.00

APPENDIX N

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED.

COMPETENCY NUMBER ¹	VOCATIONAL GROUPS	
1	H.EC	
2	AD	
3	AD	
6	AD	
7	AD	
9	AD	
11	AD	
15	AD	
16	AD	
19	AD	
22	AC	
24	AD	
28	AD	
29	H.EC	KEY
30	AD	AD: Vocational administrators
33	AD	H.EC: Home economics educators & teachers
34	T&I	T&I: Trade & industrial educators and teachers
36	H.FC	AG: Agriculture educators & teachers
41	H.EC	BUS: Business educators & teachers
43	T&I	OTRS: Others
45	H.EC	

¹Missing competency numbers in the sequence are those for which there was less than a 50 percent response of all conference respondents regarding their "necessary" inclusion among the competencies.

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

COMPETENCY	VOCATIONAL GROUPS
NUMBER	
47	AG
49	AD
55	AG
59	H.EC
61	OTRS
66	H.EC
76	T&I
77	OTRS
81	T&I
82	OTRS
86	AG
90	BUS
93	AD
94	T&I
97	AD
98	AD
103	T&I
104	AG
112	AG
120	AG
126	AD

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

COMPETENCY NUMBER	VOCATIONAL GROUPS		
127	AG		
141	AD	BUS	H. EC
145	AD		
156	AD		
160	AD		
161	AD		
166	T&I		
172	AG		
173	AG		
175	AD		
177	AD		
178	AG		
179	H. EC		
184	AD		
196	BUS		
199	AD		
205	T&I		
207	BUS		
214	H. EC		
218	BUS		
222	AD		

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

COMPETENCY NUMBER	VOCATIONAL GROUPS
226	AD
242	H. EC
256	BUS
261	H. EC
275	AG H. EC
283	T&I
284	BUS
286	T&I
287	AG
289	BUS
299	BUS
312	AD
313	OTRS
323	AD
328	T&I
330	T&I
334	H. EC
340	T&I
346	BUS
358	T&I
367	AD

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

COMPETENCY NUMBER	VOCATIONAL GROUPS
368	AD
375	T&I
378	AD
379	AD
381	AD
383	AD
386	AD
388	AD
395	AD
401	AD
407	AD
408	AD
409	AD
410	AD
414	AD
415	AD
426	H.EC
429	AD
432	AD
433	AD
435	AD

VOCATIONAL GROUPS WHICH ARE SIGNIFICANTLY DIFFERENT
FROM ALL OTHER GROUPS COMBINED

COMPETENCY	VOCATIONAL GROUPS	
NUMBER		
440	AD	
441	AD	
442	AD	BUS
447	AD	
451	AD	
452	AD	
462	AD	
471	AD	
479	AD	

APPENDIX O

**"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL GROUPS
REPRESENTED AMONG SURVEY RESPONDENTS**

"NECESSARY"¹ COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
1	+	+	+	+	+	+
2	+	+	+	+	+	+
3	+	+	+	+	+	+
4		+	+	+	+	+
5	+	+	+	+	+	+
6	+	+	+	+	+	+
7	+	+	+	+	+	+
8	+	+	+	+	+	+
9	+	+	+	+	+	+
10	+	+	+	+	+	
11	+	+	+	+	+	+
12	+	+	+	+	+	+
13	+	+	+	+	+	+
14					+	
15	+	+	+	+	+	+
16	+	+	+	+	+	+
17	+	+	+	+	+	+
18	+	+	+	+	+	+
19	+	+	+	+	+	+
20	+	+	+	+	+	+
21	+	+	+	+	+	+
22	+	+	+	+	+	+
23	+	+	+	+	+	+
24	+	+	+	+	+	+
25	+	+	+	+	+	+

¹ Combined responses of "essential" and "need-to-know" categories equaled 50 percent or greater.

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
26	+	+	+	+	+	+
27	+	+	+	+	+	+
28	+	+	+	+	+	+
29	+	+	+	+	+	
30	+	+	+	+	+	+
31	+	+	+	+	+	+
32	+	+	+	+	+	+
33	+	+	+	+	+	+
34	+	+	+	+	+	+
35	+	+	+	+	+	+
36	+	+	+	+	+	+
37	+	+	+	+	+	+
38	+	+	+	+	+	+
39	+	+	+	+	+	+
40	+	+	+	+	+	+
41	+	+	+	+	+	+
42	+	+	+	+	+	+
43	+	+	+	+	+	+
44	+	+	+	+	+	+
45	+	+	+	+	+	+
46	+	+	+		+	+
47		+	+	+	+	
48	+	+	+		+	+
49	+	+	+	+	+	+
50	+	+	+			

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
51	+	+	+	+	+	+
52		+	+		+	
53		+	+	+	+	+
54		+	+		+	+
55		+	+	+	+	+
56		+	+	+	+	+
57	+	+	+	+	+	+
58	+	+	+	+	+	+
59	+	+	+	+	+	+
61	+	+	+	+	+	+
63	+	+	+	+	+	+
64	+	+	+	+	+	
65	+	+	+	+	+	+
66	+	+	+	+	+	+
67	+	+	+	+	+	+
68	+	+	+	+	+	+
69	+	+	+	+	+	+
70	+	+	+	+	+	+
71	+	+	+	+	+	+
72	+	+	+	+	+	+
73	+	+	+	+	+	+
74	+	+	+	+	+	+
75	+	+	+	+	+	+
76	+	+	+	+	+	+
77	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
78	+	+	+	+	+	+
79	+	+	+	+	+	+
80	+	+	+	+	+	+
81	+		+	+	+	+
82	+	+	+	+	+	+
83	+	+	+	+	+	+
84	+	+	+	+	+	+
85	+	+	+		+	+
86		+				+
87	+	+			+	+
88	+	+	+	+	+	+
89	+	+	+	+	+	+
90	+	+	+	+	+	+
91		+	+			+
92	+	+	+		+	+
93	+	+	+	+	+	+
94	+	+	+	+	+	+
95	+	+	+		+	+
96	+	+	+	+	+	+
97	+	+	+	+	+	+
98	+	+	+	+	+	+
99	+	+	+	+	+	+
100	+	+	+	+	+	+
101	+	+	+	+	+	+
102	+	+	+		+	+

'NECESSARY' COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
103		+	+	+	+	
104		+		+	+	
105		+	+	+	+	
106	+	+	+	+	+	+
107	+	+	+	+	+	+
108		+			+	
110		+	+	+		+
112		+	+			+
114	+	+	+	+	+	+
115	+	+	+	+	+	+
116	+	+	+	+	+	+
117	+	+	+	+	+	+
118	+	+	+	+	+	+
119	+	+	+	+	+	+
120	+	+	+			+
121	+	+	+	+	+	+
122	+	+	+	+	+	+
123	+	+	+	+	+	+
124	+	+	+	+	+	+
125	+	+	+	+	+	+
126	+	+	+	+	+	+
127	+	+	+	+		+
128	+	+	+	+	+	+
129	+	+	+	+	+	+
130			+		+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
131		+	+	+		
132	+	+	+	+	+	+
133	+	+	+	+	+	+
134	+	+	+	+	+	+
135	+	+	+	+	+	+
136	+	+	+	+	+	+
137	+	+	+	+	+	+
138	+	+	+	+	+	+
139	+	+	+	+	+	+
140	+	+	+	+	+	+
141	+	+	+	+	+	+
142	+	+	+	+	+	+
143	+	+	+	+	+	+
144	+	+	+	+	+	+
145	+	+	+	+	+	+
146	+	+	+	+	+	+
147	+	+	+	+	+	+
148		+	+		+	
149	+	+	+	+	+	+
150	+	+	+	+	+	+
151	+	+	+	+	+	+
152		+	+			+
153	+	+	+	+	+	+
154	+	+	+	+		
155	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
156	+	+	+	+	+	+
157		+	+	+	+	
158	+	+	+	+	+	+
159	+	+	+	+	+	+
160	+	+	+	+	+	+
161	+	+	+	+	+	+
162	+	+	+	+	+	+
163	+	+	+	+	+	+
164	+	+	+	+	+	+
165	+	+	+	+	+	+
166	+	+	+	+	+	+
167	+	+	+	+	+	+
168	+	+	+	+	+	+
169	+	+	+	+	+	+
170	+	+	+	+	+	+
171	+	+	+	+	+	+
172		+				
173		+		+		
174		+	+	+	+	
175	+	+	+	+	+	+
176	+	+	+	+	+	+
177	+	+	+	+	+	+
178		+		+	+	
179		+	+	+		
180	+	+		+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

CCMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
181	+					
182	+	+	+	+	+	+
183	+	+	+	+	+	+
184	+	+	+	+	+	+
185	+	+	+	+	+	+
186	+	+	+	+	+	+
187	+	+	+	+	+	+
188	+	+	+	+	+	+
189	+	+	+	+	+	+
190	+	+	+	+	+	+
191	+	+	+	+	+	+
192	+	+	+	+	+	+
193	+	+	+	+	+	+
194	+	+	+	+	+	+
195	+	+	+	+	+	+
196	+	+	+	+	+	+
197	+	+	+	+	+	+
198	+	+	+	+	+	+
199	+	+	+	+	+	+
200	+	+	+	+	+	+
201	+	+	+	+	+	+
202	+	+	+	+	+	+
203	+	+	+	+	+	+
204	+	+	+	+	+	+
205	+	+	+	+	+	+

209

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	TEI	OTRS
206	+	+	+	+	+	+
207	+	+	+	+	+	+
208	+	+	+	+	+	+
209	+	+	+	+	+	+
211	+	+	+	+	+	+
212	+	+	+	+		+
213	+	+	+	+	+	+
214	+	+	+	+	+	+
215	+	+	+	+	+	+
216		+		+	+	+
217	+	+	+	+	+	+
218	+	+	+	+	+	+
219		+	+	+		
220		+	+			
221	+	+	+	+	+	+
222	+	+	+	+	+	+
223	+	+	+	+	+	+
224	+	+	+	+	+	+
225	+	+	+	+	+	+
226	+	+	+	+	+	+
227	+	+	+	+	+	+
228	+	+	+	+	+	+
229	+	+	+	+	+	+
230	+	+	+	+	+	+
231	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
232	+	+	+	+	+	+
233	+	+		+	+	
234	+	+	+	+	+	+
235	+	+	+	+	+	+
236	+	+	+	+	+	+
237	+	+	+	+	+	+
238		+	+	+	+	+
239		+	+	+		
240	+	+	+	+	+	+
241	+	+	+	+		+
242		+	+	+		
243	+	+	+	+	+	+
244	+	+	+	+	+	+
245		+	+	+		
246		+	+	+	+	
247		+	+	+	+	
248		+		+	+	+
249		+	+	+	+	+
250		+	+	+		
251		+	+	+	+	
252		+	+	+	+	
253		+	+	+	+	
254	+	+	+	+	+	
255		+	+	+	+	+
256		+	+	+	+	

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
257	+	+	+	+	+	+
258	+	+	+	+	+	+
259		+	+		+	+
260	+	+	+		+	+
261	+	+	+	+	+	+
262	+	+	+		+	+
263	+	+	+	+	+	+
264	+	+	+	+	+	+
265	+	+	+	+	+	+
266	+	+	+	+	+	+
267	+	+	+	+	+	+
268	+	+	+	+	+	+
269	+	+	+	+	+	+
270	+	+	+	+	+	+
271	+	+	+	+	+	+
272	+	+	+	+	+	+
273	+	+	+	+	+	+
274	+	+	+	+	+	
275		+	+	+		+
276	+	+	+	+	+	+
277	+	+	+	+	+	
278	+	+	+	+	+	+
279	+	+	+	+		+
280	+	+	+	+	+	+
281	+	+	+	+	+	

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
282	+	+	+	+	+	+
283	+	+	+	+	+	+
284	+	+	+	+	+	+
285	+	+	+	+	+	+
286	+	+	+	+	+	+
287		+	+			
288	+	+	+	+	+	+
289	+	+	+	+	+	+
290	+	+	+	+	+	+
291		+	+			
292	+	+	+		+	+
293	+	+	+	+	+	+
294	+	+	+			+
295	+	+	+	+	+	+
296		+		+		
297	+	+	+		+	+
298	+	+	+	+	+	+
299	+	+	+	+	+	+
300	+	+	+	+	+	+
301	+	+	+	+	+	+
302	+	+	+	+	+	+
303	+	+	+	+	+	+
304	+	+	+	+	+	+
305	+	+	+	+	+	+
306	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
307	+	+	+	+	+	+
308	+	+	+	+	+	+
309	+	+	+	+	+	+
310	+	+	+	+	+	+
311	+	+	+	+	+	+
312	+	+	+	+	+	+
313		+	+	+	+	+
314	+	+	+	+	+	+
315	+	+	+	+	+	+
316	+	+	+	+	+	+
317	+	+	+	+	+	+
318	+	+	+	+	+	+
319	+	+	+	+	+	+
320	+	+	+	+	+	+
321	+	+	+	+	+	+
322	+	+	+	+	+	+
323	+	+	+	+	+	+
324	+	+	+	+	+	+
325	+			+	+	+
326	+	+	+	+	+	+
327	+	+	+	+	+	+
328	+	+	+		+	+
329	+	+	+	+	+	+
330	+	+	+	+	+	+
331	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued-

CCMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
332	+	+	+	+	+	+
333	+	+	+	+	+	+
334		+		+	+	+
335	+	+	+	+	+	+
336	+	+	+	+	+	+
338	+	+	+	+	+	+
339	+	+	+	+	+	+
340	+	+	+	+	+	+
341	+	+	+	+	+	+
342	+	+	+	+	+	+
343	+	+	+	+	+	+
344	+	+	+	+	+	+
345	+	+	+	+	+	+
346	+	+	+	+	+	+
347	+	+	+	+	+	+
348	+	+	+	+	+	+
349	+	+	+	+	+	+
350	+	+	+	+	+	+
351	+	+	+	+	+	+
352	+	+	+	+	+	+
353	+	+		+	+	+
354	+	+		+	+	
355	+	+		+	+	
356	+	+	+	+	+	+
357	+	+	+		+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
358	+	+	+	+	+	
359	+	+	+	+	+	
360	+	+	+	+	+	+
361	+	+	+	+	+	+
362		+	+	+	+	+
363		+	+	+	+	+
364		+	+		+	+
365	+	+	+	+	+	+
366	+	+	+	+	+	+
367	+	+	+	+	+	+
368	+	+	+	+	+	+
369		+	+	+	+	+
370	+	+		+	+	
371	+	+	+	+	+	+
372	+	+	+	+	+	+
373	+	+	+	+	+	+
374	+	+	+		+	
375	+	+	+	+	+	+
376	+	+	+	+	+	+
377	+	+	+	+		+
378	+	+	+	+	+	+
379	+	+	+	+	+	+
380	+	+	+	+	+	+
381	+	+	+	+	+	+
382	+	+	+	+	+	+

216

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Cont inued

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
383	+	+	+	+	+	+
385	+	+	+	+	+	+
386	+	+	+	+	+	+
387	+	+	+	+	+	+
388	+	+	+	+	+	+
389	+	+	+	+	+	+
390	+	+	+	+	+	+
391	+	+	+	+	+	+
392		+	+	+	+	+
393	+	+	+	+	+	+
394	+	+	+	+	+	+
395	+	+	+	+	+	+
396	+	+	+	+	+	+
397	+	+	+	+	+	+
398	+	+	+	+	+	+
399	+	+	+	+	+	+
400		+	+	+	+	+
401	+	+	+	+	+	+
402	+	+	+	+	+	+
403	+	+	+	+	+	+
404	+	+	+		+	+
405	+	+	+	+	+	+
406	+	+	+	+	+	+
407	+	+	+	+	+	+
408	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued-

COMP. NO.	ADM	AG	BUS	H. EC	T&I	OTRS
409	+	+	+	+	+	+
410	+	+	+	+	+	+
411	+	+	+	+	+	+
412	+	+	+	+	+	+
413	+	+	+	+	+	+
414	+	+	+	+	+	+
415	+	+	+	+	+	+
416	+	+	+	+	+	+
417	+	+	+	+	+	+
420	+	+	+	+	+	+
421	+	+	+	+	+	+
422	+	+	+	+	+	+
423	+	+	+	+	+	+
424	+	+	+	+	+	+
425	+	+	+	+	+	+
426		+	+	+	+	+
427	+	+	+	+	+	+
428	+	+	+	+	+	+
429	+	+	+	+	+	+
430	+	+	+	+	+	+
431	+	+	+	+	+	+
432	+	+	+	+	+	+
433	+	+	+	+	+	+
434	+	+	+	+	+	+
435	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
436		+		+	+	+
437		+	+	+	+	+
438	+	+	+	+	+	+
439	+	+	+	+	+	+
440	+	+	+	+	+	+
441	+	+	+	+	+	+
442	+	+	+	+	+	+
443	+	+	+	+	+	+
445	+	+	+	+	+	+
446	+	+	+	+	+	+
447	+	+	+	+	+	+
448	+	+	+	+	+	+
449	+	+	+	+	+	+
450	+	+	+	+	+	+
451	+	+	+	+	+	+
452	+	+	+	+	+	+
453	+	+	+	+	+	+
455	+	+	+	+	+	+
456	+	+	+	+	+	+
457	+	+	+	+	+	+
458	+	+	+	+	+	+
459	+	+	+	+	+	+
460	+	+	+		+	+
461	+	+	+	+	+	+
462	+	+	+	+	+	+

"NECESSARY" COMPETENCIES COMMON TO VOCATIONAL
GROUPS REPRESENTED AMONG SURVEY RESPONDENTS

-Continued

COMP. NO.	ADM	AG	BUS	H.EC	T&I	OTRS
463	+	+	+	+	+	+
464	+	+	+	+	+	+
465	+	+	+	+	+	+
466	+	+	+	+	+	+
467	+	+	+	+	+	+
468	+	+	+	+	+	+
469		+	+	+	+	+
470		+	+	+	+	+
471	+	+	+	+	+	+
472	+	+	+	+	+	+
473	+	+	+	+	+	+
474	+	+	+	+	+	+
475	+	+	+	+	+	+
476	+	+	+	+	+	+
477	+	+	+	+	+	+
478	+	+	+	+	+	+
479	+	+	+	+	+	+
480	+	+	+	+	+	+
481	+	+	+	+	+	+
482	+	+	+		+	+
483	+	+	+	+	+	+