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ABSTRACT

This two-phase study was conducted to content validate through professional consensus the competencies for use in training and certifying prospective public school teachers in Connecticut. In phase one, a two round modified Delphi approach was used to bring a panel of outstanding Connecticut educators to consensus as to which competencies were important measures of teaching effectiveness. In phase two, a state-wide survey of a random sample of 2743 Connecticut teachers and administrators was conducted to determine whether they perceived the competencies identified by the Delphi panel as important measures of teaching effectiveness. As a result of this study, 85 generic teaching competencies were identified which teachers and administrators agreed were important, were not grade specific, and were not subject matter specific. Also, teachers and administrators agreed that the behaviors described by 45 of the 85 competencies were directly observable by an evaluator. Finally, the construct validity of these competencies was supported through factor analysis, assuring that there is a link betwen Connecticut teaching competencies and the literature on teacher effectiveness. (Author)

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Abstract

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The Validation of Beginning Teacher Competencies in Connecticut

Connecticut is among the several states which have recognized the need for educational reform. A Professional Development Council consisting of outstanding educational leaders in Connecticut was formed in 1981 to review the status of education in Connecticut and to recommend directions for improvement. In April 1982, the Connecticut State Board of Education adopted the recommendations of this Council for ensuring professional competence. An action plan for implementing these recommendations was developed by the Connecticut State Department of Education (CSDE) in November 1983 and presented in the report -- Connecticut's Challenge: An Agenda for Educational Equity and Excellence (CSDE, 1983). A critical aspect of this mission of ensuring professional competence was to improve the quality of new teachers entering the profession. The first step toward this goal was to define the competencies of effective teaching which would guide the processes of teacher preparation and certification in Connecticut. The Connecticut State Department of Education compiled a draft list of beginning teacher competencies in cooperation with two committees of leading educators concerned with the quality preparation of teachers, the Teacher Certification Advisory Council and the Committee on the Revision of Procedures and Standards for Connecticut Teacher Preparation Programs.

This research study validated through professional consensus, the competencies contained in the CSDE document -- Connecticut Teaching Competencies and Their Indicators for Assessing Teachers (CSDE, 1983). Some of the additional research questions addressed in this study were as follows:

1. Do teachers believe the competencies are subject area specific?
2. Do teachers believe the competencies are grade level specific?
3. Are the behaviors described by the competencies directly observable by an evaluator?
4. Is there agreement between teachers and administrators as to whether (a) they believe the competencies are important measures of teacher effectiveness and (b) the behaviors described by the competencies are directly observable by an evaluator?
5. Can the list of competencies identified be clustered, reduced in number, and still reflect the relevant constructs presented in the literature on teacher effectiveness?

Background

Research on teacher effectiveness over the past half century has provided some guidance for teacher training, but has yet to identify the domain of characteristics which comprise effective teaching. Barr (1950) provided an initial framework for the study of teacher effectiveness. Through a review of prior studies, he identified four categories of behavior for examination in studies of teacher effectiveness -- the teacher as a (1) director of learning, (2) counselor and friend of people, (3) member of the profession,

and (4) member of the community. A decade later, Ryans (1960) conducted a major study for the American Council on Education focusing on the characteristics of teacher effectiveness. His nation wide study identified ten characteristics or pairs of behaviors for use in future research on teacher effectiveness. Sullivan (1962, pp. 17-18) summarized these characteritics as follows:

1. Friendly vs. aloof to pupils.
2. Orderly, well prepared, systematic vs. disorderly and poorly prepared.
3. Imaginative vs. routine.
4. Favorably vs. unfavorably inclined toward pupils.
5. Favorably vs. unfavorably inclined toward democratic classroom procedures.
6. Favorably vs. unfavorably inclined toward colleagues.
7. Learning-centered vs. child-centered in viewpoint.
8. Superior vs. poor in verbal ability.
9. Stable vs. unstable emotionally.
10. Not likely to select only socially acceptable responses vs. likely to do so.

While the works of Barr and Ryans were significant as initial large scale attempts to identify the characteristics of effective teaching, they did not identify those characteristics which distinguished more effective from less effective teachers.

This early research on teacher effectiveness gave way to the more current process-product studies. While many early studies of teacher effectiveness employed the critical incident technique where subjects were asked to identify the characteristics they associated with more and less effective teaching, process-product studies have attempted to identify those teacher behaviors which correlate highly with improved student achievement. Through their review of the prior research on teacher effectiveness, Rosenshine and Furst (1973) identified nine teacher behaviors as having promise in subsequent process-product studies. Among these teacher behaviors were clarity, variability, enthusiasm, task orientation, use of criticism, and teacher indirectedness. Such behaviors have received considerable attention in subsequent process-product studies, especially the behavior of teacher directedness. Also, many of these teacher behaviors have been incorporated into the Florida (Wilson, 1980) and Georgia (Capie, 1980) lists of teaching competencies. More recent reviews of the literature have indicated that some of these behaviors may be more important than others, depending on factors such as the subject and grade level being taught.

Regarding the subject area specificity of teacher behavior, Smith (1970) found significant differences in the nature and type of pupil-teacher interactions for high school English, mathematics, social studies, and science teachers. A subsequent study by Brophy and Evertson (1976) at the junior high school level provided striking evidence that effective English and mathematics teachers clearly employed different instructional strategies. The findings of these and other studies led Peterson and Walberg (1979)

to conclude that a content specific definition of teaching is required for a better understanding of teacher effectiveness.

Process-product studies have indicated that the behaviors exhibited by effective teachers may vary by grade level. Medley (1977) conducted a comprehensive review of the teacher effectiveness research with a focus on student performance in reading and mathematics at grades 1-8. He found that teachers at the lower grades who employed more direct instruction produced higher student achievement gains in both reading and mathematics. Also, these same teachers fostered the development of more positive attitudes toward school as well as improved student self-concept. This relationship between direct instruction and higher basic skill achievement gains at the earlier grade levels is consistent with the position of Brophy and Evertson (1976). They have suggested that indirect teaching behaviors are inappropriate at the early elementary grades, but become more important at higher grade levels. Fedigan (1979) noted that indirect teaching behaviors become more important at the higher grade levels since they are more congruent with the structure of the subject matter taught.

The descriptive-correlational-experimental loop presented by Rosenshine and Furst (1973) is a useful paradigm for placing this research on teacher effectiveness in proper perspective. The three elements of this paradigm are defined below.

1. development of procedures for describing teaching in a quantitative manner;
2. correlational studies in which the descriptive variables are related to measures of student growth;

3. experimental studies in wnich the significant variables obtained in correlational studies are tested in a more controlled situation (Rosenshine and Furst, 1973, p. 122).

To date the emphasis of the research on teacher effectiveness has been on describing teacher performance and on correlational process - product studies designed to identify variables related significantly to student growth. More emphasis has not been devoted to experimental studies, because school organizations cannot accommodate the rigorous controls required of such research. Because this research on teacher effectiveness has been largely correlational, does not necessarily mean it is weak. A high correlation between a specific teacher behavior and student achievement gain is quite useful in making informed decisions about the instructional process, provided a strong logical argument can be made for the causal relationship between the two variables. The early research linking cigarette smoking to cancer is an illustration of this point. The weakness of some process-product studies is not their correlational designs, but rather, the inclination of the investigator to use a rather low correlation coefficient as empirical justification of a strong logical argument for the relationship between two variables.

In assessing the impact of teacher effectiveness research to date, some may conclude that it has not had an affect on teacher education. This may be because the intent and outcomes of such research have not been placed into proper perspective. The current intent of teacher effectiveness research has not been to identify the characteristics or competencies of effective teaching. Effective teaching is too complex a construct and too value laden to be confirmed through systematic empirical inquiry

alone. The intent of the current research on teacher effectiveness has been to identify critical teacher variables which affect student achievement in the classroom. Hopefully, as our understanding regarding such variables increases, this information will be taken into consideration as teacher training institutions or states devise those competencies they believe comprise effective teaching.

It was in this manner that the teacher effectiveness research influenced the development of the Connecticut teaching competencies. The initial list of competencies which served as the basis of this validation study was derived by the Connecticut State Department of Education (1983) through a review of the teaching competencies employed in other states while taking into consideration the current teacher effectiveness research. Furthermore, the validation study was designed to determine whether the resultant teaching competencies were perceived by educators as subject matter or grade level specific as some teacher effectiveness studies have suggested.

METHODOLOGY

This validation study was conducted in two phases. In phase one, the list of beginning teaching competencies drafted by the Connecticut State Department of Education (1983) was submitted to a Delphi panel of 28 Connecticut educators. These leading educators were serving on the two CSDE committees that participated in the initial development of the competencies, the Committee on the Revision of Procedures and Standards for Connecticut Teacher Preparation Programs and the Teacher Certification Advisory Council. The content validity of the teaching competencies was established by employing a two round modified Delphi approach to bring

the panel to consensus as to which competencies were important measures of teacher effectiveness.

In round one, panelists were asked to complete a questionnaire by rating each competency on a scale from 4 (very desirable) to 1 (very undesirable). Panelists were encouraged to record any comments they felt would clarify their response or to reword any competency, if they wished. After rating the competencies, the panelists were asked to add any other competencies they felt were important, but were not included on the list.

The responses from round one were used to compile the round two questionnaire. In the round two questionnaire, each competency was presented followed by the mean, interquartile range, and frequency distribution based on round one ratings of that competency. Also, any comments pertaining to that competency from round one were listed. Panelists were asked to rate each competency again after reviewing the information provided from the initial round. If the new rating was outside the interquartile range, panelists were instructed to provide the rationale for their response.

The formats used in presenting the competencies to the panelists in the round one and round two questionnaires are illustrated in Figure 1. A final section of the round two questionnaire contained seven additional competencies suggested by panelists which were not included in the original list. Panelists were asked to rate the desirability of these competencies on a four point scale and to suggest possible indicators for each competency.

Figure 1

Formats for the Delphi Panel Round One and Round Two Questionnaires and the State-Wide Survey of Connecticut Educators

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Round One Questionnaire

Competencies:

How desirable is each item as a measure of teacher effectiveness?
4-Very desirable 2-Undesirable
3-Desirable 1-Very undesirable

A Teacher:

2.0 Demonstrates knowledge of human growth and development as it relates to the teaching/learning process 4 3 2 1

Comments:

Round Two Questionnaire

4.0 Demonstrates qualities that nurture self-esteem
Mean (Average) = 3.662 Frequency: 4's=26 3's=2 2's=1 1's=0

xxxxxx
4....½....3....½....2....½....1

Comments: (Round 1)
These qualities, while difficult to describe and quantify, are essential.
Self esteem equals self confidence in teaching.
Sounds good - how does one demonstrate such qualities? What are the qualities?
student self-esteem (that's hard to measure, too).
How on earth can this be measured?
Vague. In students?
Super important!
I believe this is one of the most important if not the most.
explicitly?
Add: "in students".
Of whom? I assure of self and others.

Please re-rate the item. How desirable is this item as a measure of teacher effectiveness?
4-Very desirable 2-Undesirable 3-Desirable 1-Very undesirable
Comments: (Round 2)

State-Wide Survey

Competencies. A Teacher:	HOW IMPORTANT IS THIS COMPETENCY AS A MEASURE OF TEACHER EFFECTIVENESS? (5) Very Important (4) Of considerable importance (3) Somewhat important (2) Of little importance (1) Not needed	IS THE BEHAVIOR DESCRIBED IN THIS COMPETENCY DIRECTLY OBSERVABLE BY THE EVALUATOR? (1) Yes (2) No
13.1 Establishes and maintains appropriate behavior standards for students in the learning environment	5 4 3 4 1	1 2

The round two questionnaire responses were compiled and discussed with Connecticut State Department of Education personnel. These discussions resulted in a list of teaching competencies for use in phase two of this validation study. Phase two consisted of a state-wide survey to obtain further information regarding the content validity of the teaching competencies. The state-wide survey was conducted using a Likert type questionnaire. Respondents were asked to answer two questions for each of the 85 competencies. First, they were asked to indicate on a five point scale (5 - very important to 1 - not needed) the importance of each competency as a measure of teacher effectiveness. Secondly, they were asked to indicate whether or not they believe the behavior described in the competency is directly observable by the evaluator. This second item was included since procedures would have to be developed later to assess teacher performance in light of these competencies if they were to serve as the basis for teacher training and certification. Whether or not educators believed the behavior described in each competency is directly observable by the evaluator would be important as assessment procedures are developed in the future. The format used in presenting the competencies to participants in the state-wide survey is illustrated in Figure 1.

The state-wide survey in phase two was conducted using a stratified proportional random sample of all Connecticut elementary (K-5), middle/ junior high (6-8), and high school (9-12) teachers and principals in Connecticut. The sample included only regular public school classroom teachers. In addition, a separate sample of secondary mathematics and English teachers was drawn to allow for examining whether the competencies were believed to be subject area specific. A total of 2743 surveys were mailed and 1733 useable surveys were returned, resulting in a return rate of 63.18%.

The procedures used to analyze the survey responses are summarized below by research question. All analyses were conducted using the Statistical Package for the Social Services (SPSS).

1. Do Connecticut educators believe all the competencies are important measures of teacher effectiveness? A competency was viewed as an important measure of teacher effectiveness if the mean response of educators was greater than 3.0 on a Likert scale ranging from 1.0 (not needed) to 5.0 (very important).
2. Do Connecticut educators believe the behaviors described in each competency are directly observable by the evaluator? A competency was viewed as directly observable by an evaluator if 75% or more of both teachers and administrators responded that they believed the competency was directly observable.
3. Do teachers and administrators agree on the importance they attribute to each teaching competency as a measure of teacher effectiveness?
4. Do elementary, middle, and high school teachers agree on the importance they attribute to each teaching competency as a measure of teacher effectiveness?
5. Do elementary, middle, and high school administrators agree on the importance they attribute to each teaching competency as a measure of teacher effectiveness?
6. Do English and Mathematics teachers agree on the importance they attribute to each of the teaching competencies as a measure of teacher effectiveness?

One-way analysis of variance was used to determine whether there was agreement between or among the groups noted in research questions 3 - 6 as to the importance of each competency as a measure of teacher effectiveness. F-ratios were evaluated at the .05 significance level. When a significant F was obtained for research questions 4 and 5, the Scheffe post hoc technique was applied to determine which between group differences contributed to the overall level of significance across the groups.

7. Do teachers and administrators agree that the behavior in each teaching competency is directly observable by the evaluator?
8. Do elementary, middle, and high school teachers agree that the behavior in each teaching competency is directly observable by the evaluator?
9. Do elementary, middle, and high school administrators agree that the behavior in each teaching competency is directly observable by the evaluator?

Chi-square analysis was employed to determine whether there was agreement between or among the groups noted in research questions 7-9 as to whether they believe the behavior in each competency is directly observable by an evaluator. Resultant χ^2 values were evaluated at the .05 significance level. When a significant chi-square was obtained for reserach questions 8-9, expected call frequencies and corresponding χ^2 values were calculated to determine which cells contributed to the difference among groups.

10. Can the list of teaching competencies identified be clustered reduced in number, and still reflect the relevant constructs presented in the literature on teacher effectiveness?

This research question evolved as the validation study progressed. The Connecticut State Department of Education intended to group the teaching competencies derived through this study into clusters. Each cluster would consist of a broad overriding competency followed by other more specific competencies which would serve as indicators of attainment of that competency. As efforts proceeded to accomplish this task through inspection, questions arose as to whether (a) the process could be guided empirically, (b) some overlapping competencies could be eliminated, and (c) the resulting clusters would be consistent with the literature on teacher effectiveness. As it became clear that the issue being addressed here was the construct validity of the resulting clusters of competencies, it was decided to factor analyze the responses to the state-wide survey of Connecticut educators conducted in phase two of this study. The survey responses were analyzed using principal components factor analysis with oblique rotation. The purposes of this factor analysis were to identify empirically (a) clusters of competencies and (b) potential competencies which could be eliminated from the list since they were not associated with these clusters. Furthermore, it was decided that the clusters of competencies resulting from the factor analysis would be examined in light of their relevance to the literature on teacher effectiveness.

A Perspective on the Quantitative Methodology Used to Analyze the Responses to the State-Wide Survey

In conducting the quantitative comparisons of the responses to the state-wide survey as they pertained to research questions 3-9, several

significant differences were identified between and among the groups examined. Although significant differences were detected, some difficulty was encountered in interpreting these differences. This problem is evident from the results presented below for the comparison of teacher and administrator responses for the following two competencies.

5.0 Plans instruction to achieve selected objectives.

6.0 Effectively implements instructional plans and uses appropriate instructional techniques.

How important is this competency as a measure of teacher effectiveness?

	Teachers		Administrators		
Competency	Mean	SD	Mean	SD	F-prob.
5.0	4.74	.51	4.82	.40	.00
6.0	4.54	.62	4.71	.53	.00

Is the behavior described in this competency directly observable by the evaluator?

	% Responding Yes		
Competency	Teachers	Administrators	χ^2-prob.
5.0	92	98	.00
6.0	91	97	.00

From the information presented, it is evident that teachers and administrators viewed both competencies as very important measures of teacher effectiveness. Also, the overwhelming majority of teachers and administrators believed the behaviors described in the competencies were directly observable by the evaluator. In comparing the responses of teachers and administrators, it is evident that they differed significantly ($p < .01$).

Administrators attached significantly greater importance to the competencies as measures of teacher effectiveness and a significantly greater percentage of administrators believed the behaviors described in the competencies were directly observable by the evaluator. Although these differences between teacher and administrator responses can be interpreted in this manner, it is important to question the practical significance of mean differences of .08 or .17 and percentage differences of 6 points.

Kerlinger (1973) notes that "in most cases very small differences, even though statistically significant, must be treated with skepticism" (p. 201). In deciding whether a statistically significant difference is of practical significance, he advises the investigator to use experienced and informed judgement, taking into consideration the size of the scale, the size of the sample, the nature of the variable, and the circumstances of the study. In applying these considerations to the statistically significant differences between and among groups resulting from the analyses pertaining to research questions 3-9, it was decided that the statistically significant differences obtained were not of sufficient magnitude to be of practical significance. Although statistically significant, the magnitude of the mean and percentage differences were not large enough to have an impact on policy decisions regarding the role of the teaching competencies in guiding teacher preparation and certification. Connecticut State Department of Education personnel concurred with this decision after reviewing the results of the analyses conducted for research questions 3-9. In presenting the results of this study, the focus will be on those findings having practical significance. Persons interested in reviewing the results of the statistical analyses conducted for research questions 3-9 may consult Streifer (1984).

Findings

Five major findings resulted from this study. First, the Connecticut teachers and administrators who participated in the state-wide survey agreed that all 85 competencies derived through the Delphi approach employed in phase one were important measures of teacher effectiveness. In examining the mean survey responses, 75 of the 85 competencies had means greater than 4.0, indicating the vast majority of the competencies were believed to be of considerable importance as measures of teacher effectiveness by teachers and administrators. The outcomes of the Delphi combined with the responses to the state-wide survey provide strong support for the content validity of the resultant 85 teaching competencies. These competencies as adopted by the Connecticut State Board of Education are presented in the Appendix.

Second, both teachers and administrators agreed that the behaviors described by 45 of the 85 competencies were directly observable by an evaluator. An asterisk (*) has been placed next to each of the 45 competencies in the Appendix which teachers and administrators agreed were directly observable. In validating their teaching competencies, other states have not addressed this issue of whether practicing educators believed the behaviors specified in the various competencies were directly observable by the evaluator. The findings of this study indicate that while all 85 competencies are important in guiding teacher training and certification, only 45 should be measured through direct observation. The remaining 40 competencies should be measured by alternative methods.

Third, major differences were not evident among elementary, middle, and high school teachers' perceptions of the importance of the 85 teaching competencies as measures of teacher effectiveness. This finding supports the conclusion that the competencies are not grade level specific and should be considered generic across grades K-12.

Fourth, major differences were not evident between English and mathematics teachers' perceptions of the importance of the 85 teaching competencies as measures of teacher effectiveness. These results indicate the competencies are not subject area specific.

Finally, the principal components factor analysis with oblique rotation of the responses to the state-wide survey resulted in 14 factors with eigenvalues greater than 1.0 which accounted for 60% of the total variance. Two factors were eliminated since they each contained single competencies which loaded moderately on a number of factors indicating they were poor discriminators. The factor intercorrelations for the remaining 12 meaningful factors ranged from .06 to .42 with an average factor intercorrelation of $\bar{r} = .21$. Through inspection of the competencies which loaded on each of the derived factors, the factors were named as noted in Table 1. Table 1 also contains the number of the major competency in the Appendix associated with each of the derived factors. For example, Factor III - Plans effective instruction, included the same basic grouping of competencies as found in the cluster of competencies associated with major competency 5.0 Plans instruction to achieve selected objectives.

The results of the factor analysis indicated that the list of teaching competencies can be reduced and still reflect the relevant constructs presented in the literature on teacher effectiveness. Only 57 of the original 85 competencies loaded on the twelve derived factors. In relating these factors to the literature (Rosenshine and Furst, 1973; Berliner and Tickunoff, 1976; Medley, 1977), all, but four (II, IV, VII, XII), were supported as constructs relevant to the study of teacher

Table 1

Names of the Factors Derived Through the Factor Analysis and Their Relationship to the Major Competencies Presented in the Appendix

	Derived Factor	Associated Major Competency
I.	Demonstrates humanism.	
II.	Demonstrates a knowledge of school law.	4.0
III.	Plans effective instruction.	5.0
IV.	Demonstrates support for the school and system.	14.0
V.	Prescribes appropriate programming using student evaluation	11.0 & 12.0
VI.	Uses a varied teaching style.	6.0
VII.	Maintains open parent/community communication.	15.0
VIII.	Maintains effective teacher/student interaction.	
IX.	Demonstrates knowledge of the subject matter.	2.0
X.	Maintains fair and consistent discipline.	13.0
XI.	Maintains an orderly, productive classroom environment.	10.0
XII.	Demonstrates knowledge of learning psychology applicable to school age children.	3.0

effectiveness. For the most part, the four factors not reflected in the literature on teacher effectiveness addressed aspects of teaching not associated directly with the instructional process, such as knowledge of school law and parent/community communication. One would not expect such constructs to be addressed in the process-product research on teacher effectiveness.

The factor analysis also provided considerable support for the manner in which the competencies have been clustered in the listing presented in the Appendix. As noted in Table 1, the derived factors correspond closely to the major competency clusters presented in the Appendix. The only competency clusters which did not correspond closely with the derived factors were those associated with major factors 7.0 to 9.0. These competencies were distributed across the two derived factors of I- Demonstrates humanism and VIII- Maintains effective teacher student interaction. It is interesting that the competency clusters associated with major competencies 11.0 Effectively assesses student needs and progress and 12.0 Effectively meets the needs of exceptional students were combined into one derived factor, V- Prescribes appropriate programming using student evaluation. This finding supports the conclusion that the teacher behaviors associated with major competencies 11.0 and 12.0 may be applicable to all students, and special reference does not need to be made to exceptional students in major competency 12.0. In summary, the results of the factor analysis provided support for the construct validity of the majority of the competency clusters in the Appendix.

For each major competency cluster in the Appendix, those competencies which have been boxed did not load on any of the 12 factors derived through the factor analysis. As procedures are developed to assess teacher performance regarding these competencies, the behaviors described in those competencies which did not load on any of the derived factors should be examined closely to determine whether they overlap with the behaviors described in those competencies included in the factor analysis. Also, the competencies not included in the factor analysis should be examined to determine whether they are critical to the teaching behavior described in the major competency under which they are clustered. Assessment procedures should be developed for a teaching comptency not included in the factor analysis only after it is clear that (a) the competency does not overlap with any of the other competencies included in the factor analysis and (b) the competency is critical to the tea. ' behavior described in the major competency under which it is grouped.

Concluding Summary

In terms of its contribution to the literature, this study provides valuable insights as to whether the 85 teaching competencies are perceived by practicing educators as important measures of teacher effectiveness, as well as whether they are grade level and subject area specific. In addition, this study has provided important information concerning the techniques by which the teaching competencies should be assessed. While all 85 competencies were viewed as important measures of teacher effectiveness, only 45 of these competencies should be assessed through direct observation. Finally, the construct validity of the competencies was supported through factor analysis assuring that there is a link between

the Connecticut teaching competencies and the literature on teacher effectiveness. Also, the factor analysis provided some direction for reducing the number of teaching competencies as assessment procedures are developed in the future. From a practical perspective, the methodology employed and the findings of this study are of value to states which have or are in the process of validating competencies for use in training and certifying teachers.

References

Barr, A. (1950). Teaching competencies. In W. Monroe (Ed.), Encyclopedia of educational research, Revised edition (pp. 1446-1454). New York: MacMillan Co.

Berliner, D. & Tikunoff, W. (1976). The California Beginning Teacher Evaluation Study: Overview of the ethnographic study. Journal of Teacher Education, 21 (1).

Brophy, J., & Evertson, C. (1976). Learning from teaching: A developmental perspective. Boston: Allyn and Bacon, Inc.

Capie, W. (1980). Teacher performance assessment instruments. Athens, Georgia.: Georgia Department of Education. (ERIC No. ED 161 956).

Connecticut State Department of Education. (1983). Connecticut teaching competencies and their indicators for assessing teachers (Sixth Draft). Hartford, CT: Author.

Connecticut State Department of Education. (1983). Connecticut's challenge: An agenda for educational equity and excellence. Hartford, CT: Author.

Fedigan, L. (1979). School board elements related to achievement: A review of the literature. (ERIC No. ED 181 043).

Kerlinger, F. N. (1973). Foundations of behavioral research (2nd edition). New York: Holt, Rinehart, and Winston, Inc.

Medley, D. (1979). Teacher competence and teacher effectiveness: A review of process-product research. Washington, D.C.: American Association of Colleges for Teacher Education. (Also ERIC No. ED 143 629).

Peterson, P. & Walberg, H. (1979). Research on teaching: Concepts, findings and implications. Berkely, CA.: McCutchan Publishing Co.

Rosenshine & Furst. (1973). The use of direct observations to study teaching. In R.M.W. Travers (Ed.), Second handbook of research on teaching, (pp. 122-183). Chicago, IL.: Rand McNally.

Ryans, D. (1960). Characteristics of teachers. Washington, D.C.: American Council on Education.

Smith, B. (1970). A study of the logic of teaching. Chicago, IL: University of Illinois Press.

Streifer, P. A. (1984). The validation of teaching competencies in Connecticut. Unpublished doctoral dissertation, The University of Connecticut. (University Microfilms No. 84-16110, 84101).

Sullivan, G. (1963). The image of the effective teacher. New York: Institute of Administrative Research, Teachers College, Columbia University.

Wilson, G. (1980). Bulletin I: Overview of the Florida Teacher Certification Examination. (ERIC No. ED 193 172).

APPENDIX

Standards and Procedures for Approval of Teacher Preparation Programs

NOTE: Competencies denoted with an asterisk (*) were rated as being directly observable by at least 75% of the teachers and administrators comprising the validation sample.

Boxed competencies are those which did not load on any of the factors derived through the factor analysis of the responses of the teachers and administrators comprising the validation sample.

Connecticut Teaching Competencies

A competent teacher understands growth and development, demonstrates knowledge of what is to be taught and facility in the basic skills and helps students to develop positive self-concepts. Such a teacher stimulates the independence of each student as a learner, effectively assesses student needs and progress, and plans instruction to achieve selected objectives, including those appropriate for exceptional students. These objectives are accomplished through effective communication with students, parents and colleagues and through the use of appropriate techniques and materials in a positive climate where time, space and equipment are effectively organized for instruction. In addition, the teacher meets professional responsibilities for continuing growth and fosters cooperative involvement with parents and the community.

Therefore, it is expected that:

- by the end of teacher preparation program coursework, the teacher will exhibit capability for all of the competencies with demonstrable competence in numbers 1-4 below;

- by the end of a teacher preparation program, including student teaching, the teacher will exhibit capability for all of the competencies, with demonstrable competence in numbers 1-8 below;

- by the end of a beginning teacher program, the teacher will exhibit demonstrable competence in all of the following competencies.

In line with these requirements, it is also expected that the programs and processes by which prospective teachers are prepared will address all of these competencies.

1. Demonstrates facility in the skills of reading, writing and mathematics

2. Demonstrates knowledge of the subject to be taught

*2.1 Knows and understands the major principles and concepts of the material to be taught

2.2 Possesses accurate and up-to-date knowledge of subject matter

*2.3 Understands the purpose and value of the material to be taught

*2.4 Is able to formulate meaningful questions about the subject matter

2.5 Knows appropriate sources of additional information about the material to be taught

3. Demonstrates knowledge of human growth and development as it relates to the teaching-learning process

3.1 Knows and understands the major theories of human development

3.2 Understands how physical, social, emotional and intellectual development relate to planning and organizing instruction

3.3 Knows about various teaching styles and learning styles and understands their interrelationship

3.4 Recognizes the conditions and needs of special students

4. Demonstrates a knowledge of the American public school system

4.1 Knows and understands the governance of schools from the local, state and federal levels

4.2 Understands how the organization of the district and school has an impact upon the individual teacher

4.3 Understands the rights and responsibilities of students, parents and teachers

5. Plans instruction to achieve selected objectives

*5.1 Identifies and sequences goals of instruction

*5.2 Identifies and sequences objectives for instruction

*5.3 Identifies teaching procedures and sequences learning activities

*5.4 Selects appropriate human resources, materials and media

*5.5 Plans instructional activities which provide for individual differences

6. Effectively implements instructional plans and uses appropriate instructional techniques

*6.1 Presents material at a level appropriate to the needs, interests, ability and background of students

*6.2 Conducts learning activities in a logical sequence which is flexible and developmentally appropriate

*6.3 Provides illustrations, examples and applications of the material

*6.4 Uses a variety of instructional materials and media

*6.5 Uses a variety of instructional methods and incorporates advancing technology

*6.6 Uses a balance of individual, small group and large group instructional arrangements

*6.7 Provides instructional activities that foster student involvement

*6.8 Matches teaching styles and methods with the learning situation and the learning styles of students

6.9 Revises instruction on the basis of student comments, questions and performance

7. Effectively communicates with students

*7.1 Provides directions and explanations in a clear, coherent and logical manner

*7.2 Uses acceptable written and oral expressions with students

*7.3 Provides for two-way communication with students throughout lessons

*7.4 Establishes rapport and fosters positive reinforcement through verbal and non-verbal communication

*7.5 Communicates personal enthusiasm and self-confidence

*7.6 Outlines expectations for students in a clear manner

*7.7 Communicates with students both individually and collectively about their needs and progress

8. Helps students develop positive self-concepts

8.1 Recognizes and understands the worth of all students and the opportunities that racial, cultural, sexual and religious diversity present in the classroom

*8.2 Demonstrates sensitivity to and respect for the needs and feelings of all students

*8.3 Demonstrates patience, empathy and enthusiasm

9. Facilitates the independence of the student as learner

9.1 Recognizes and encourages the special interests and abilities of individual students

9.2 Engages students in selecting their own learning objectives and activities

*9.3 Poses probing questions that stimulate students to recall, analyze, synthesize and evaluate

*9.4 Presents opportunities that foster thinking skills and problem-solving skills

9.5 Assists and encourages students to research issues and questions of concern to them

9.6 Promotes students' ability to communicate effectively with others about ideas and concerns

10. Effectively organizes time, space, materials and equipment for instruction

*10.1 Establishes and maintains classroom routines and procedures

*10.2 Uses instructional time effectively, paces instructional activities appropriately and maximizes students' time on task

*10.3 Provides a learning environment that is attractive and orderly

11. Effectively assesses student needs and progress

11.1 Selects appropriate materials and procedures for assessing student progress on objectives

11.2 Diagnoses entry-level skills and knowledge of students

11.3 Recognizes when students are deficient in the basic skills and provides or recommends corrective action

11.4 Uses information from system-wide standardized testing when appropriate to plan instruction

11.5 Creates or selects evaluation instruments or procedures to obtain information for monitoring student progress and effectiveness of instruction

*11.6 Develops and maintains systems for keeping group and individual records

11.7 Evaluates students on the basis of criteria that are aligned with instructional objectives

12. Effectively meets the needs of exceptional students

12.1 Obtains and uses information about students from available records

12.2 Identifies students who require the assistance of specialists

12.3 Obtains and uses information from colleagues to assist students with special needs

*12.4 Provides appropriate instruction to students with special needs

13. Establishes a positive learning environment

*13.1 Establishes and maintains appropriate behavior standards for students in the learning environment

13.2 Develops an atmosphere which fosters self-discipline

13.3 Promotes positive interpersonal relations based upon mutual respect

*13.4 Handles discipline fairly and consistently

14. Meets professional responsibilities

*14.1 Demonstrates responsibility for self-growth, professional improvement and ongoing self-evaluation

*14.2 Works cooperatively with colleagues and administrators

*14.3 Follows the policies, procedures and curricula of the school district

14.4 Demonstrates ethical behavior

15. Encourages and maintains the cooperative involvement and support of parents and the community

15.1 Establishes ongoing two-way communication with parents based on mutual respect

15.2 Provides opportunities for parent and community involvement

15.3 Obtains and uses information about students from parents

15.4 Communicates goals and objectives for both program and students to parents

15.5 Conducts effective parent-teacher conferences

15.6 Uses community resources in instruction