DOCUMENT RESUME

ED 341 684 SP 033 575

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TITLE Exploring Values Underlying the Assessment of Teaching Competence: An Application of Social Judgment Theory.
PUB DATE Nov 91
NOTE 24p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (Lexington, KY, November 15, 1991).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Competence; Cooperating Teachers; Elementary Secondary Education; *Evaluation Criteria; *Evaluation Problems; *Evaluation Research; Higher Education; *Individual Differences; *Judgment Analysis Technique; Student Teacher Evaluation; Student Teacher Supervisors; *Value Judgment
IDENTIFIERS *Fairness

ABSTRACT

This study was conducted to examine individual differences with respect to values underlying the assessment of teaching competence in order to enhance the effectiveness and fairness of assessment. Nine classroom teachers who were preparing to be mentors of beginning teachers and five teacher educators indicated the relative importance (expressed values) they attached to the following aspects of teaching: teacher/pupil relationships; preparation and management; curriculum content; classroom interaction; assessment and records; and self-evaluation. They then rated the competence of 50 hypothetical student teachers for whom scores were available. Relative weights (implemented values) applied to the aspects of teaching were computed for each participant by employing a regression model, utilizing scores as predictors and participants' overall ratings as criteria. Results found individual differences with respect to both expressed and implemented values, and several participants exhibited discrepancies between expressed values and implemented values. The latter result may reflect a lack of self-awareness and could adversely affect communication among assessors and between assessor and assessee. (Author/LL)

Exploring Values Underlying the Assessment of Teaching Competence: An Application of Social Judgment Theory

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Running Head: Exploring Values

Presented at the annual meeting of the Mid-South Educational Research Association, Lexington, KY, November 15, 1991. The authors wish to express their thanks to Ms. Oraphin Choochom for her assistance with the data analyses.

Abstract

This research examined individual differences with respect to values underlying the assessment of teaching competence. This is an important area of investigation because explication of such values should enhance the effectiveness and fairness of assessment.

Seven classroom teachers and five teacher educators indicated the relative importances (expressed values) they attached to six aspects of teaching and independently rated the overall competence of 50 hypothetical student teachers for whom scores on the six aspects were available. Relative weights (implemented values) applied to the six aspects were then computed for each participant from a regression model using scores on the six aspects as predictors and the participant's overall ratings as criterion.

Individual differences with respect to both expressed and implemented values were found; furthermore, several participants exhibited discrepancies between their expressed values and their own implemented values. This latter result may reflect a lack of self awareness and could adversely affect communication among assessors and between assessor and assessee.

Exploring Values Underlying the Assessment of Teaching Competence: An Application of Social Judgment Theory

The assessment of teaching competence requires the formation of global judgments based upon several variables. For example, the handbook provided for preservice teacher education students at a major British university suggests that the evaluation of their performance as student teachers by university teacher education faculty and classroom teachers supervising their student teaching occurs within a framework including six aspects of teaching: (1) Teacher/Pupil Relationships, (2) Preparation and Management, (3) Curriculum Content, (4) Classroom Interaction, (5) Assessment and Records, and (6) Self-Evaluation. An explanation of these aspects appears in Table 1. The handbook offers them as an aid for organizing evaluative discussions between students and those responsible for guiding their practice teaching.

According to Social Judgment Theory (Brehmer & Joyce, 1988b; Hammond, McClelland, & Mumpower, 1980), information about these aspects may be viewed as cues in Brunswik's (Brunswik, 1955) lens model. As shown in Figure 1, evaluative judgments are estimates of an unknowable distal variable and must necessarily be based upon information available in the cues (Hogge, Fellendorf, Moore, & Wuescher, 1979). Differential weighting (utilization) of the cues by a particular judge is likely as his or her values come into play.

An individual's judgment system (and, hence, values) may be modeled with multiple linear regression (Adelman, 1988; Hammond & Adelman, 1976), yielding the following equation:

$$\hat{Y} = \sum_{i=1}^{k} W_i X_i$$

In the above equation $\hat{Y}$ corresponds to an individual's judgments (estimates of the distal variable, professional competence), X_i is a particular cue (aspect of teaching), and W_i is the corresponding relative weight (Hoffman, 1960). Within this model the set of W_i also estimates the individual's implemented values with respect to

the judgment task.

Of course, these same individuals attempt to communicate their values in a direct manner during the supervision process. Conversations within the framework of the six aspects of teaching could reasonably be expected to include statements about which aspects of professional competence are considered most important, thus leading a student teacher to emphasize a subset of the aspects in his or her own efforts to receive a favorable evaluation.

Unfortunately, studies involving various populations dealing with a variety of variables have shown that individuals called upon to make global judgments on the basis of several variables (cues) typically report patterns of information usage differing from those exhibited in their ratings of real or hypothetical cases (Brehmer & Brehmer, 1988a). In other words, their expressed values (statements about the relative importances of cues) tend to differ from their implemented values (the relative weights computed from a regression model of their judgments).

Because such discrepancies could handicap communication between student teachers and their mentors, introduce an element of unfairness to the assessment process, and thus diminish the effectiveness of their preservice education, it seemed important to explore (1) whether there are, for particular supervisors of practice teaching, discrepancies between expressed and implemented values and (2) whether there are individual differences with respect to expressed and implemented values.

Method

Participants

The participants in this study were nine classroom teachers preparing to serve as school-based mentors of preservice teachers during their practice teaching and five teacher educators on the faculty of the major British university attended by the preservice teachers.

Procedure

Each participant was given definitions of the six aspects of

teaching competence and asked to apportion 100 points among the six aspects to indicate their relative importances (see Cook & Stewart, 1975). These relative weights were assumed to estimate the expressed values of the participants.

Next, each participant was asked to provide an overall rating of the professional competence of each of 50 hypothetical student teachers. The performance of each student teacher with respect to the six aspects of teaching competence was summarized on a separate sheet of paper in a randomly-generated (by the computer program POLICY PC, Executive Decision Services, 1988) profile like the example in Figure 2. The same rating scale (shown in Figure 2) was used for both the summary of the performance of each student teacher and for the overall rating supplied by each participant.

Results

As can be seen in Table 2, correlations among the cues (aspects of teaching competence) were generally quite low, as would be expected for randomly-generated variables. Correlations among the ratings by the classroom teachers (Table 3, median r = 0.73) and among the ratings by the university teacher educators (Table 4, median r = 0.65) were generally moderate to high and in the same range as the correlations between ratings by the same two groups (Table 5, median r = 0.70). In general, the between-groups rater agreement seems about as high as the agreement within either group.

The two groups were also approximately equivalent with respect to how well their ratings could be modeled with strictly linear multiple regression equations. Table 6 contains the squared multiple correlations (R-squares) of those equations. In the regression equation for each participant his or her ratings served as the criterion variable and scores on the six aspects of teaching competence were the predictors. The mean R-squares of the classroom teachers and the university faculty members were 0.79 and 0.74, respectively, and were not significantly different at the 0.05 level.

The relative weights (implemented values) computed from each participant's regression equation and the allocations of 100 points among the six aspects (expressed values) were less similar for the two groups. Although both groups tended to indicate, on

average, that they deemed the six aspects to be of roughly equal importance, the relative weights from the participants' regression equations produced aggregate importance profiles (Tables 7 and 8) that were not so nearly flat. Among the classroom teachers, Preparation and Management (mean implemented value, 20.8) and Classroom Interaction (21.7) were most emphasized, while Self-Evaluation (9.3) emerged as least important in actual ratings. In making their ratings, the university teacher educators tended to draw most heavily upon Curriculum Content (mean implemented value, 26.4) and Teacher/Pupil Relationship (22.6) while clearly de-emphasizing Assessment and Records (6.0). In both groups individual differences with respect to expressed values (reflected in standard deviations, minima, and maxima) tended to be less dramatic than individual differences with respect to implemented values.

Mean absolute differences between expressed and implemented values (Table 9) tended to be higher for the university teacher educators than for the classroom teachers (mean total discrepancies = 28.4 and 44.0, respectively; separate variances t = 2.26, $p < 0.08$), although severe inequality of sample variances (221.0 and 57.6, respectively; $F_{[4,8]} = 3.837$, $p \approx 0.05$) and the very small size of the sample of university teacher educators cloud the picture. Nevertheless, it is clear that the participants in this study exhibited a rather wide range (16 to 60) of discrepancies between expressed and implemented values.

Discussion

The present study provides two alternative descriptions of the assessment of professional competence that paint portraits of the same subject in differing detail. The first, and most traditional, is based upon the examination of rater agreement and suggests that although the general level of consensus is modest, the ratings of the classroom teachers and the university teacher educators who participated in this study are roughly equivalent. Unfortunately, if considered alone, rater agreement says nothing about the value systems underlying the ratings.

The second description focuses upon each rater's use of available information and offers a profile of his or her values (relative weights applied to aspects of professional competence) implemented in making judgments on a case-by-case basis. The same

description also includes a profile of values expressed prior to making case-by-case judgments. These expressed values would presumably be reflected in statements a rater might during supervision of a student's practice teaching and would be taken as indications of what the rater could be expected to emphasize in subsequent assessments of the student's performance. Discrepancies between the rater's expressed and implemented values would thus tend to disrupt communication between the rater and the student and contribute to dissatisfaction with the assessment process.

Although the results of this study suggest comparatively minor individual differences with respect to expressed values (the six aspects of teaching competence were typically characterized as being of roughly equal importance), there were comparatively large individual differences with respect to implemented values. In other words, a student teacher would probably hear rather similar statements about the relative importance of the six aspects from almost any of the participants in this study, but the same student could encounter widely differing patterns of implemented values at the time of performance assessment.

The range of total discrepancies between expressed and implemented values suggests that the student could also experience differing degrees of consistency, from rater to rater, between statements about the relative importance of the aspects and aspects actually emphasized in assessment of the student's performance. Increased self-insight on the part of the rater and more accurate communication of values could improve both supervision and assessment.

Future applications of the Social Judgment Theory paradigm to this line of research should investigate in more detail the consequences of various levels of discrepancy between expressed and implemented values and whether detailed cognitive feedback (Balzer, Doherty, & O'Connor, 1989; Cooksey & Freebody, 1986) can improve awareness of one's implemented values and reduce discrepancies between expressed and implemented values. Some (e.g., Fischhoff, 1991; Fischhoff, Slovic, & Lichtenstein, 1980) would suggest that it is primarily expressed values that are labile and therefore most likely to change, while others (e.g., Brehmer & Brehmer, 1988; Hammond & Grassia, 1985) would also expect changes in implemented values. But regardless of how they come about,

effective communication about values and consistency of word and deed in the assessment of professional competence are worthwhile goals to pursue.

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Figure 1: Evaluation of Teaching in Terms of Brunswik's Lens Model

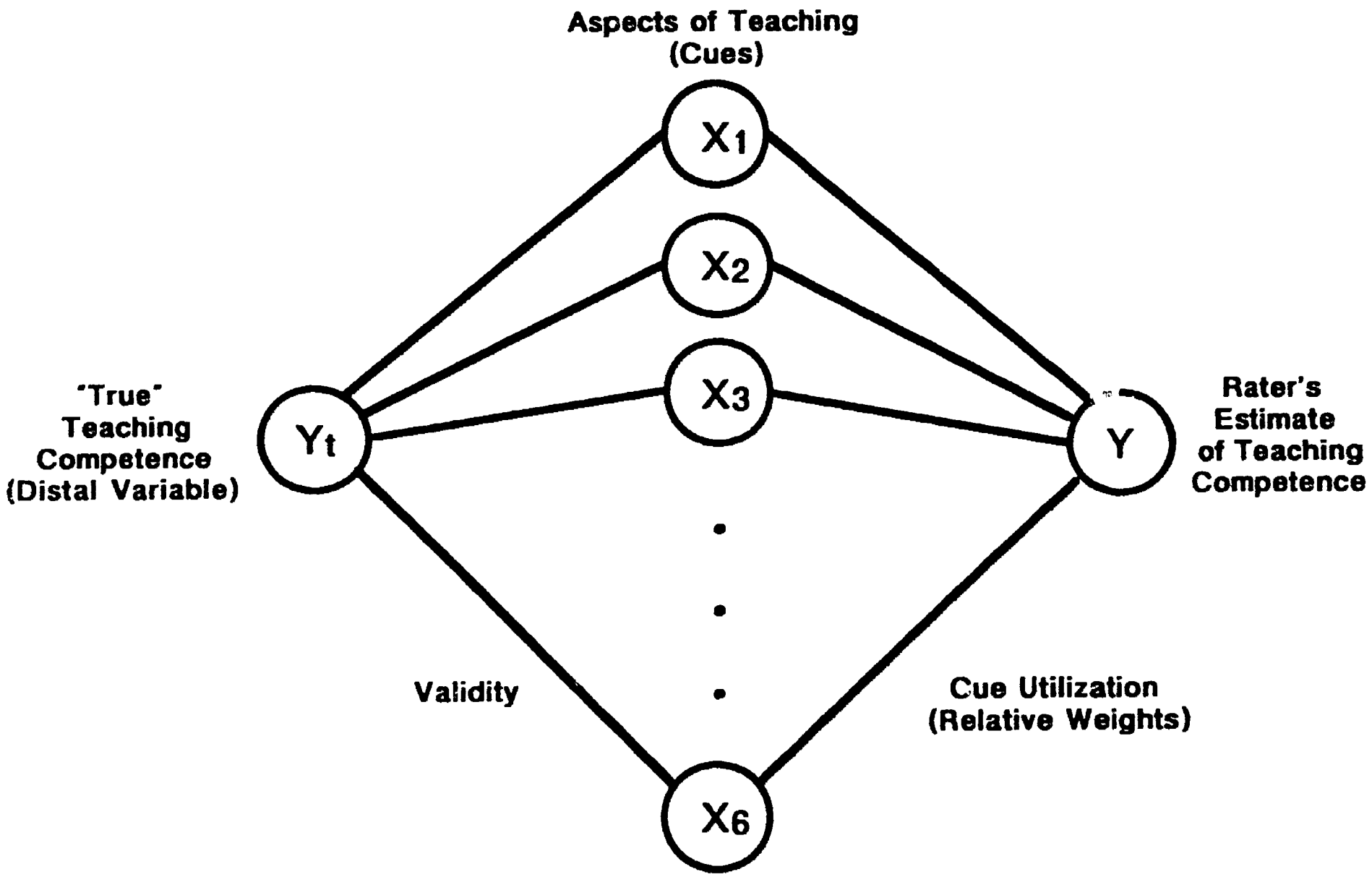

Figure 2: Profile of Performance of Hypothetical Student Teacher

STUDENT TEACHER NUMBER 1

Teacher/Pupil Relationships	5	Distinction
Preparation and Management	5	Distinction
Curriculum Content	2	Borderline
Classroom Interaction	3	Pass
Assessment and Record	4	Credit
Self-Evaluation	3	Pass

Overall Competence (Please circle your rating)	5	Distinction
	4	Credit
	3	Pass
	2	Borderline
	1	Fail

Table 1

Some Aspects of Teaching Competence

Aspect	Features
Teacher/Pupil Relationships	■ Manner toward pupils and their response. ■ Evidence of knowing pupils as individuals and the extent to which their concerns are understood. ■ Fostering appropriate behavior and self-discipline in children.
Preparation and Management	Ability to: ■ Specify intentions compatible with the school's curriculum guidelines and work flexibly toward them. ■ Plan and justify schemes of work and individual sessions appropriate to the abilities, experiences and concerns of pupils. ■ Match the activities to the children's learning. ■ Develop links across the curriculum, to show continuity and progression in the children's learning experiences. ■ Manage the grouping and movement of children appropriate to the activity. ■ Maximize use of time and space. ■ Organize work in specialist areas where particular attention should be paid to safety factors. ■ Manage resource materials and equipment. ■ Produce quality materials, e.g., worksheets, cards, transparencies. ■ Display and present children's work effectively. ■ Manage the movement of children around and outside the school.

(Continued on next page)

Table 1, Continued

Aspect	Features
Curriculum Content	■ Knowledge and understanding of the appropriate curriculum content. ■ Ability to select concepts, skills and procedures at an appropriate level for the pupils. ■ Appreciation of subject areas as part of the whole school curriculum. ■ Ability to justify the schemes of work and the choice of content for each session.
Classroom Interaction	Ability to: ■ Gain and hold attention, stimulating the motivation to learn. ■ Present ideas and information, together with appropriate explanations, demonstrations and feedback. ■ Manage discussion, the exchange and use of ideas and responses of pupils. ■ Use appropriate questioning techniques. ■ Use voice and gesture effectively. ■ Adopt a variety of teaching strategies. ■ Monitor pupils' responses and adjust teaching accordingly.
Assessment and Records	■ Assessment of pupils' progress within a session and over a longer period of time. ■ Attempts at individual diagnosis of the difficulties met by individual pupils. ■ Ability to record pupils' achievements and progress and to report effectively on these.
Self-Evaluation	Ability to: ■ Monitor and develop a reflective approach to one's own teaching performance and learn from experience. ■ Evaluate sessions in all curriculum areas and schemes of work. ■ Respond professionally to advice.

Table 2

Correlations Among Cues

	1	2	3	4	5	6
1. Teacher/Pupil Relationships	1.00	.14	-.05	.20	.29	.12
2. Preparation and Management	.14	1.00	-.02	-.04	.20	-.18
3. Curriculum Content	-.05	-.02	1.00	-.05	-.15	-.02
4. Classroom Interaction	.20	-.04	-.05	1.00	.11	-.00
5. Assessment and Records	.29	.20	-.15	.11	1.00	-.03
6. Self-Evaluation	.12	-.18	-.02	-.00	-.03	1.00

Note: Values for each cue were randomly-generated integers ranging from 1 to 5; 50 profiles of hypothetical student teachers were thus generated.

Table 3

Correlations Among Ratings by Classroom Teachers

	1	2	3	4	5	6	7	8	9
1	1.00	.77	.72	.81	.74	.78	.73	.62	.72
2	.77	1.00	.73	.86	.76	.81	.80	.73	.86
3	.72	.73	1.00	.77	.71	.71	.65	.54	.65
4	.81	.86	.77	1.00	.73	.81	.73	.72	.84
5	.74	.76	.71	.73	1.00	.77	.68	.67	.70
6	.78	.81	.71	.81	.77	1.00	.76	.73	.73
7	.73	.80	.65	.73	.68	.76	1.00	.78	.75
8	.62	.73	.54	.72	.67	.73	.78	1.00	.72
9	.72	.86	.65	.84	.70	.73	.75	.72	1.00

Note: n = 50 profiles of hypothetical student teachers;
for a = 0.05 (two-tailed), critical value of r = |0.276|.
Median r = 0.73.

Table 4

Correlations Among Ratings by University Teacher Educators

	1	2	3	4	5
1	1.00	.64	.82	.57	.70
2	.64	1.00	.59	.72	.77
3	.82	.59	1.00	.57	.64
4	.57	.72	.57	1.00	.66
5	.70	.77	.64	.66	1.00

Note: n = 50 profiles of hypothetical student teachers; for a = 0.05 (two-tailed), critical r = |0.276|. Median r = 0.65.

Table 5

Correlations Between Ratings by Classroom Teachers and Ratings by University Teacher Educators

	University Teacher Educators				
	1	2	3	4	5
Classroom Teacher 1	.75	.70	.81	.60	.66
Classroom Teacher 2	.91	.69	.76	.56	.73
Classroom Teacher 3	.70	.65	.68	.66	.66
Classroom Teacher 4	.81	.72	.77	.63	.76
Classroom Teacher 5	.70	.70	.68	.63	.63
Classroom Teacher 6	.80	.72	.70	.62	.77
Classroom Teacher 7	.78	.61	.74	.57	.68
Classroom Teacher 8	.69	.70	.72	.51	.65
Classroom Teacher 9	.79	.62	.72	.37	.60

Note: n = 50 profiles of hypothetical student teachers; for a = 0.05 (two-tailed), critical r = |0.276|. Median r = 0.70.

Table 6

Squared Multiple Correlations of Regression Equations Used to Model Ratings by Participants

Classroom Teacher	R-Square	
1	0.7293	
2	0.8566	
3	0.7598	
4	0.8308	
5	0.7412	
6	0.8734	
7	0.7464	
8	0.7001	
9	0.8503	Mean = 0.7875

Teacher Educator	R-Square	
1	0.8091	
2	0.7636	
3	0.7816	
4	0.7144	
5	0.6553	Mean = 0.7448

Note: For each participant, criterion = ratings of 50 hypothetical student teachers and predictors = six cues. All R-squares are significant at the a = 0.05 level; the difference between the means is nonsignificant.

Table 7

Expressed and Implemented Values of Classroom Teachers

	Expressed Values				Implemented Values			
	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
Teacher/Pupil Relationships	17.3	2.7	13	20	14.5	4.1	10	20
Preparation and Management	20.2	2.1	17	25	20.8	5.7	14	32
Curriculum Content	15.8	3.0	10	20	16.3	6.8	2	23
Classroom Interaction	17.9	3.7	13	25	21.7	6.8	8	32
Assessment and Records	14.3	2.0	10	17	12.9	4.3	6	18
Self-Evaluation	14.5	4.1	10	20	9.3	3.6	2	15

Note: Expressed values = allocation of 100 points among aspects; Implemented values = relative weights (scaled to total 100 points) from regression model of ratings of hypothetical student teachers' professional competence.

Table 8

Expressed and Implemented Values of University Teacher Educators

	Expressed Values				Implemented Values			
	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
Teacher/Pupil Relationships	23.0	4.5	20	30	22.6	9.4	12	33
Preparation and Management	20.8	2.3	19	25	15.0	8.2	2	22
Curriculum Content	17.8	4.8	13	25	26.4	14.0	12	45
Classroom Interaction	19.6	3.6	15	25	19.8	2.6	16	23
Assessment and Records	13.0	7.4	5	25	6.0	3.2	2	10
Self-Evaluation	15.8	7.5	5	25	10.6	5.2	3	17

Note: Expressed values = allocation of 100 points among aspects; Implemented values = relative weights (scaled to total 100 points) from regression model of ratings of hypothetical student teachers' professional competence.

Table 9

Discrepancies Between Expressed and Implemented Values

	Classroom Teachers				Teacher Educators			
	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
Teacher/Pupil Relationships	3.7	3.1	0	9	9.6	2.7	6	13
Preparation and Management	3.5	3.6	0	12	6.2	7.2	1	18
Curriculum Content	5.4	3.9	0	13	9.8	10.7	1	25
Classroom Interaction	6.7	5.3	1	17	4.2	2.4	0	6
Assessment and Records	4.0	3.0	1	9	9.0	6.5	2	19
Self-Evaluation	5.1	2.9	0	9	5.2	5.3	1	14
Total Discrepancy	28.4	7.6	16	38	44.0	14.9	27	60

Note: Discrepancy = absolute value of difference between corresponding expressed and implemented values. Groups = nine classroom teachers and five university teacher educators.