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ABSTRACT

This paper reports on the development and refinement of the Connecticut School Effectiveness Questionnaire (CSEQ) and the Connecticut School Effectiveness Interview (CSEI), the primary data collection tools used in the Connecticut State Department of Education School Effectiveness Project. The primary purpose of both the CSEI and the CSEQ is to determine the extent to which a school displays seven school effectiveness characteristics: safe and orderly environment, clear school mission, instructional leadership, high expectations, opportunity to learn and student time on task, frequent monitoring of student progress, and home-school relations. The CSEI is a 67-item instrument, with its items grouped by characteristic. Responses to each item are coded along a five-point descriptive continuum. The CSEQ is a 100-item instrument, with content parallel to the CSEI. It is a paper and pencil technique in which the respondents respond to each item along a Likert-type scale. Items are not grouped by construct, but are randomly dispersed throughout the instrument. Reliability and validity studies indicate that the current forms of the CSEQ and the CSEI do provide accurate and consistent data. Multitrait-multimethod analysis provides preliminary support for the identification of the seven school effectiveness characteristics as measurable constructs. (BW)

A COMPARISON OF INTERVIEW AND QUESTIONNAIRE TECHNIQUES USED IN THE CONNECTICUT SCHOOL EFFECTIVENESS PROJECT

A Report of Work in Progress

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A Comparison of Interview and Questionnaire Techniques
Used in the Connecticut School Effectiveness Project

A Report of Work in Progress

This paper reports on the development and refinement of The Connecticut School Effectiveness Questionnaire (CSEQ) and The Connecticut School Effectiveness Interview (CSEI). These two instruments are the primary data collection tools used in the Connecticut State Department of Education School Effectiveness Project. This Project involves both a model and a process through which the Connecticut State Department of Education assists schools in improving their effectiveness (Gauthier, 1983). Improvement efforts are focused on seven school-level, "alterable" characteristics that have been consistently associated with high levels of student achievement for all students. These characteristics are:

1. Safe and Orderly Environment. There is an orderly purposeful atmosphere which is free from the threat of physical harm. However, the atmosphere is not oppressive and is conducive to teaching and learning.

2. Clear School Mission. There is a clearly-articulated mission of the school through which the staff shares an understanding of and a commitment to instructional goals, priorities, assessment procedures and accountability.

3. Instructional Leadership. The principal acts as the instructional leader who effectively communicates the mission of the school to the staff, parents and students and who understands and applies the characteristics of instructional effectiveness in the management of the instructional program of the school.

4. High Expectations. The school displays a climate of expectation in which the staff believes and demonstrates that students can attain mastery of basic skills and that they (the staff) have the capability to help students achieve such mastery.

5. Opportunity to Learn and Student Time on Task. Teachers allocate a significant amount of classroom time to instruction in basic skill areas. For a high percentage of that allocated time students are engaged in planned learning activities.

6. Frequent Monitoring of Student Progress. Feedback on student academic progress is obtained frequently. Multiple assessment methods such as teacher-made tests, samples of student work, mastery skills checklists, and criterion-referenced tests are used. The results of testing are used to improve individual student performance and also to improve the instructional program.

7. Home-School Relations. Parents understand and support the basic mission of the school and are made to feel that they have an important role in achieving this mission.

The primary purpose of both CSEI and the CSEQ is to determine the extent to which a school displays the school effectiveness characteristics. A school faculty then uses data from the self-analysis to develop action plans for school improvement.

A secondary, but related purpose of these instruments, is to collect data necessary to transform the descriptive, qualitatively grounded characteristics into quantifiable operationally defined constructs. A complete description of the initial development, rationale, and research-base for these instruments is available in works by Villanova (1982) and NEREX (1981). This paper will describe briefly initial reliability and validity information on both the CSEI and the CSEQ. Also, a preliminary comparison of data collected with both instruments will be presented through a multitrait-multimethod (MTMM) analysis (Campbell & Fiske, 1959) and through a comparison of data collected at the

school level in 10 schools

INSTRUMENTS

The Connecticut Sch tiveness Interview is a 67 item instrument designed to be used by a tr interviewer. Items are grouped by characteristic and interviewees respond to each question. Interviewers are trained to code responses to each item along a five point descriptive continuum. Responses are summarized and profiled for each school.

A preliminary analysis consisted of determining the internal consistency of each of the scales and identifying poor items. Table I indicates the coefficient alphas (Hull & Nie, 1981) of the current form of the CSEI range from .66 to .93. Further item and scale revisions are presently taking place.

TABLE I

Reliability Estimates for The Connecticut School Effectiveness Interview

	Number of Items	Alpha Internal Reliabilities
Safe and Orderly Environment	5	.66
Clear School Mission	11	.93
Instructional Leadership	14	.81
Expectations	10	.69
Opportunity to Learn	9	.78
Monitoring Student Progress	8	.86
Home/School Relations	10	.66

Total N = 423

The Connecticut School Effectiveness Questionnaire is a 100 item instrument also designed to assess the extent to which the seven school effectiveness characteristics exist in a school. The content of the Questionnaire parallels that of the Interview. It is a paper and pencil technique in which the respondent responds to each item along a Likert-type scale. Items are not grouped

by construct, but are randomly dispersed throughout the instrument.

Preliminary analyses of the current form of the CSEQ have included determining the internal consistency of each scale as well as a measure of stability. Table II reports the results of the analyses.

TABLE II

Reliability Estimates for The Connecticut School Effectiveness Questionnaire

Categories	Number of Items	**Alpha Internal Reliabilities	*Test-Retest Reliabilities
Safe and Orderly Environment	15	.87	.85
Clear School Mission	14	.90	.90
Instructional Leadership	25	.93	.83
Expectations	12	.55	.69
Opportunity to Learn	12	.66	.74
Monitoring Student Progress	12	.77	.67
Home/School Relations	10	.89	.82

*Test-Retest N = 60, data collected in one school
**N = 423

Item and scale data are currently being used to revise, add, and delete items from the Expectations, Opportunity to Learn, and Monitoring scales.

In an effort to establish construct validity, factor analysis has been used in both an exploratory and confirmatory mode. The match between hypothesized, a priori factors and derived factors (Marsh, Smith, & Barnes, 1984) was strong (coefficient alphas > .85) for the categories: Clear School Mission, Safe and Orderly Environment, Instructional Leadership, and Home/School Relations. Results from these analyses will be reported in a future paper.

MULTITRAIT-MULTIMETHOD ANALYSIS

As the seven school effectiveness characteristics are assessed through two distinctly different methods, investigation of the construct validity of

each of the seven school effectiveness measures can be addressed through a multitrait-multimethod analysis (Campbell & Fiske, 1959; Marsh et al., 1984). School effectiveness is certainly a multifaceted concept. Evidence that the seven identified characteristics are in fact separate but interactive, constructs is derived primarily from the content validity established through a review of the literature and an initial content validation study (Villanova, 1982). Factor analytic studies may strengthen these findings. However, MTMM analysis can also demonstrate the multidimensionality of school effectiveness. Convergent and discriminant validity information on each hypothesized construct is the chief result of the MTMM analysis. Table III contains the data for such analysis.

Convergent validity refers to a confirmation on the meaning of a trait measured by different methods. The more distinct the methods, the more convergent validity is established instead of a measure of reliability (See Campbell & Fiske, 1959, p.84). "Discriminant validity refers to the distinctiveness of the various traits, and it is inferred from the relative lack of correlation among the different traits when compared to the convergence coefficients" (Marsh et al., 1984, p.335).

Campbell and Fiske (1959) and Marsh et al. (1984) suggest four specific criteria to be used to infer convergent and discriminant validity. In analyzing data presented in Table III the following inferences are made:

1. Convergent validities in the diagonal of the heterotrait/heteromethod square (underlined) are substantial. Evidence for convergent validity exists.

2. Convergent validities are generally higher than correlations obtained between that variable and any other variable having neither trait or method in common. Even the relatively low convergent validities are greater than other correlations in the same row or column. Monitoring Student

Multitrait-Multimethod Analysis: Seven School Effectiveness Variables Measured with the Connecticut School Effectiveness Questionnaire and The Connecticut School Effectiveness Interview

(N = 247)

		Questionnaire							Interview						
		A_1	B_1	C_1	D_1	E_1	F_1	G_1	A_2	B_2	C_2	D_2	E_2	F_2	G_2
estionnaire															
Safe and Orderly Environment	A_1	(.87)													
Clear School Mission	B_1	.67	(.90)												
Instructional Leadership	C_1	.51	.51	(.93)											
High Expectations	D_1	.44	.46	.35	(.55)										
Opportunity to Learn	E_1	.67	.65	.40	.49	(.66)									
Monitoring Student Progress	F_1	.54	.70	.45	.45	.62	(.77)								
Home/School Relations	G_1	.72	.66	.36	.58	.69	.57	(.89)							
terview															
Safe and Orderly Environment	A_2	.75	.56	.48	.38	.57	.47	.61	(.66)						
Clear School Mission	B_2	.37	.52	.28	.30	.46	.36	.39	.37	(.93)					
Instructional Leadership	C_2	.39	.47	.71	.30	.37	.38	.32	.44	.40	(.81)				
High Expectations	D_2	.43	.42	.28	.59	.42	.35	.50	.44	.47	.36	(.69)			
Opportunity to Learn	E_2	.53	.41	.25	.36	.56	.39	.52	.57	.47	.29	.54	(.78)		
Monitoring Student Progress	F_2	.29	.30	.21	.19	.32	.36	.32	.30	.47	.32	.38	.36	(.86)	
Home/School Relations	G_2	.58	.48	.26	.53	.56	.42	.77	.56	.47	.37	.60	.54	.41	(.66)

NOTE: Values in the main diagonal are coefficient alpha reliabilities (Hull & Nie, 1981). Underlined values are convergent validities relating responses on the CSEQ to responses on the CSEI.

Progress (F_1, F_2) is a notable exception.

3. Generally, greater correlations in the heterotrait, monomethod triangle (upper left) reveal more overlap and interrelatedness among the characteristics measured with the CSEQ. Although, more than 50% of the correlations in the upper left triangular submatrix are less than the four greatest convergent validities. A degree of discriminant validity seems to be established.

There is generally a higher correlation between two different methods measuring the same trait than with measures designed to assess different traits using the same method. Discriminant validity appears stronger when convergent validities are compared to the Interview heterotrait triangle (lower right).

4. The pattern of correlations among questionnaire and interview measures is similar in both monomethod triangles and the heteromethod block.

This preliminary analysis does provide significant support for both convergent and discriminant validity. Further analysis leads to inferences related to the interrelationship among the seven factors to be explored. For example, the consistently high correlation between Safe and Orderly Environment (A_1, A_2) and Home/School Relations (G_1, G_2) suggests the impact of the school and home together. Further studies following the next phase of instrument refinement will investigate the preliminary findings surfacing here.

SCHOOL LEVEL COMPARISONS OF CSEQ AND CSEI SUMMARIES

School Faculties participating in the School Effectiveness Project complete both the CSEI and the CSEQ. Summarized responses from both instruments at the school level provide the opportunity to compare and contrast

the data collected from both instruments.

For this analysis mean scores for each scale were created through assigning a number from 1 to 5 to each of the Likert-type response categories for both the Interview and Questionnaire. Categories or characteristics were then ranked from 1 to 7 for both instruments in each school. The Spearman rank-order correlation coefficient (r_s) was then used to determine the degree of relationship between the ranks on the two instruments. Given the importance of convergent validity for these measures, a positive and statistically significant relationship between the two data sets was expected. Table IV indicates that in six of ten schools the relationship between the CSEQ ranks and the CSEI ranks were significant.

TABLE IV

Spearman Rank Order Coefficients for CSEI and CSEQ for Ten Schools

School	r_s	School	r_s
School A	.68	School F	1.0 **
School B	.86*	School G	.70
School C	.73*	School H	.64
School D	.86*	School I	.82*
School E	.29	School J	.90**

*P< .05
**P< .001

In Appendex A means, standard deviation and rankings are displayed for each of the schools in this study. A low mean score in an area on both the Interview and Questionnaire for a given school is often one important element in a school faculty's decision to design an action plan in that area in the school improvement process. A review of Table V indicates that in each of

the 10 schools there is considerable overlap between the two highest priority areas as determined through a simple ranking of mean scores.

TABLE V

Characteristics with the Lowest Mean Scores on the CSEQ and the CSEI for Each School

School	Ranked 7th (CSEQ)	Ranked 7th (CSEI)	Ranked 6th (CSEQ)	Ranked 6th (CSEI)
A	Home/School	Home/School	Exp.	Lead.
B	Home/School	Lead.	Exp.	SO
C	Home/School	Lead.	Exp.	SO
D	Home/School	Home/School	Exp.	Lead.
E	Home/School	Home/School	Exp.	Lead.
F	Lead.	Lead.	SO	SO
G	Exp.	Lead.	Lead.	Exp.
H	Lead.	Lead.	Home/School	Exp.
I	Exp.	Lead.	Lead.	Exp.
J	Lead.	Lead.	Exp.	Exp.

The schools in which the Spearman rank order coefficient did not reveal a statistically significant relationship (Schools A, E, G, H) do appear to have considerable agreement in terms of characteristics most in need of improvement. This observation along with the significant rank order correlations in six of the schools does provide strong support for both the CSEQ and the CSEI as useful data collection instruments. Similar priority areas do emerge from both the Interview and the Questionnaire.

SUMMARY

This is presented as a report of work in progress. Reliability and validity studies indicate that the current forms of the CSEQ and the CSEI do provide accurate and consistent data. Further analyses do need to be

carried out as indicated. Revisions of both instruments with particular emphasis on "weaker" scales are necessary. MTMM analysis does provide preliminary support for the identification of the seven school effectiveness characteristics as measurable constructs. The review of comparative school level data also indicates that important and useful patterns do exist between data collected with the CSEQ and the CSEI. A more finalized report on these analyses and further developments (i.e., factor analytic study) is expected to be presented within the next year.

APPENDIX A

[Safe and Orderly Environment = SO; Clear School Mission = CSM; Instructional Leadership = LEAD: Expections = EXP; Opportunity to Learn = OPP; Frequent Monitoring of Student Progress = MON; Home/School Relations = H/S]

SCHOOL A

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	3.17	.73	5	3	3.66	.47
CSM	3.68	.47	1	2	3.96	.52
LEAD	3.22	.50	4	6	3.27	.62
EXP	3.02	.39	6	4	3.51	.49
OPP	3.29	.39	3	5	3.45	.51
MON	3.58	.36	2	1	4.11	.65
H/S	2.60	.47	7	7	3.03	.54

SCHOOL B

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	3.27	.74	4	3	3.43	.59
CSM	3.64	.39	1	2	3.51	.82
LEAD	3.05	.70	5	7	2.53	.59
EXP	2.92	.51	6	5	3.04	.44
OPP	3.40	.38	3	4	3.44	.53
MON	3.54	.41	2	1	3.53	.50
H/S	2.73	.55	7	6	2.96	.52

SCHOOL C

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	3.04	.75	5	4	3.35	.76
CSM	3.43	.69	1	2	3.89	.62
LEAD	3.08	.56	4	7	2.50	.71
EXP	2.84	.49	6	5	2.96	.53
OPP	3.30	.45	3	3	3.36	.55
MON	3.40	.58	2	1	3.96	.63
H/S	2.37	.58	7	6	2.54	.55

SCHOOL D

	CSE Questionnaire M	SD	Rank	CSE Interview Rank	M	SD
SO	3.31	.59	4	3	3.24	.51
CSM	3.70	.49	2	4	3.13	.71
LEAD	3.23	.71	5	6	2.50	.60
EXP	3.02	.39	6	5	2.97	.57
OPP	3.47	.44	3	2	3.46	.48
MON	3.74	.46	1	1	3.99	.47
H/S	2.67	.44	7	7	2.45	.36

SCHOOL E

	CSE Questionnaire M	SD	Rank	CSE Interview Rank	M	SD
SO	3.81	.53	5	1	4.02	.37
CSM	3.99	.43	1	4	3.33	.52
LEAD	3.93	.54	3	6	3.26	.56
EXP	3.24	.57	6	5	3.32	.42
OPP	3.82	.47	4	2	3.67	.46
MON	3.99	.47	2	3	3.65	.55
H/S	3.03	.51	7	7	3.08	.40

SCHOOL F

	CSE Questionnaire M	SD	Rank	CSE Interview Rank	M	SD
SO	2.97	.71	6	6	3.30	.57
CSM	3.41	.58	3	3	3.35	1.01
LEAD	2.52	.63	7	7	2.46	.72
EXP	3.09	.35	5	5	3.26	.50
OPP	3.51	.39	2	2	3.44	.48
MON	3.58	.41	1	1	3.63	.61
H/S	3.18	.59	4	4	3.26	.40

SCHOOL G

	CSE Questionnaire M	SD	Rank	CSE Interview Rank	M	SD
SO	4.34	.38	2	5	4.31	.29
CSM	4.61	.39	1	1	4.90	.15
LEAD	3.71	.59	6	7	3.44	.56
EXP	3.68	.53	7	6	4.10	.50
OPP	4.11	.40	5	4	4.40	.39
MON	4.18	.48	4	2	4.57	.35
H/S	4.26	.41	3	3	4.48	.45

SCHOOL H

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	3.68	.38	3	3	3.95	.48
CSM	3.66	.31	4	1	4.37	.52
LEAD	3.25	.60	7	7	2.94	.67
EXP	3.34	.45	5	6	3.57	.42
OPP	4.08	.35	1	4	3.92	.50
MON	3.79	.32	2	2	4.29	.43
H/S	3.32	.42	6	5	3.87	.39

SCHOOL I

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	3.92	.41	2	2	3.93	.46
CSM	4.09	.51	1	3	3.84	.53
LEAD	3.23	.61	6	7	2.83	.53
EXP	3.14	.46	7	6	3.24	.42
OPP	3.74	.34	4	4	3.74	.41
MON	3.89	.58	3	1	4.02	.50
H/S	3.30	.33	5	5	3.44	.42

SCHOOL J

	CSE Questionnaire			CSE Interview		
	M	SD	Rank	Rank	M	SD
SO	4.36	.33	1	1	4.56	.29
CSM	4.26	.45	2	4	4.12	.56
LEAD	3.23	.53	7	7	2.69	.55
EXP	3.33	.38	6	6	3.77	.50
OPP	3.99	.35	4	3	4.16	.42
MON	4.05	.43	3	2	4.17	.48
H/S	3.84	.41	5	5	3.92	.47

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