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ABSTRACT

A faculty's commitment to continuous learning and improvement is a critical dimension in defining schools as high-performing learning communities. When planning an improvement effort, a school's staff needs a conceptual framework that outlines the dimensions of school improvement. The AEL Continuous School Improvement Questionnaire (CSIQ) is a self-report inventory that asks professional staff to rate their school on six major dimensions: learning culture; connections among school, family, and community; shared leadership; shared goals for learning; purposeful student assessment; and effective teaching. Extensive pilot and field testing have shown the CSIQ to be a reliable and valid measure of faculty commitment to continuous learning and improvement. This paper reports normative CSIQ data from 3,821 staff in 132 schools in Kentucky, Tennessee, Virginia, and West Virginia that took part in field testing. Within the sample was a subgroup of 11 schools identified as continuously improving or high-performing schools. These schools were labeled "Known" schools. Schools were categorized by grade level and by Johnson Code indicating rural/urban locale. CSIQ scores were highly reliable. School's grade-level had a slight to modest effect, with elementary schools and those containing elementary grades having higher total and subscale scores. CSIQ scores had no relationship to extent of rurality. Educators in "Known" schools almost always scored higher than their counterparts in schools of the same type. (Contains 15 statistical data tables.) (SV)

School Faculty as a High-Performing Learning Community: Normative Data from 132 Schools

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AEL is a catalyst for schools and communities to build lifelong learning systems that harness resources, research, and practical wisdom. AEL serves as the Regional Educational Laboratory for Kentucky, Tennessee, Virginia, and West Virginia. For these same four states, it operates the Eisenhower Regional Consortium for Mathematics and Science Education. The Region IV Comprehensive Center at AEL serves North and South Carolina in addition to these states. AEL also operates the ERIC Clearinghouse on Rural Education and Small Schools.

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INTRODUCTION

Ever since education has been recognized as a profession, attempts to improve schools have had an ebb-and-flow history. School reform and exemplary school programs have been implemented with various degrees of success. Many federal and state funding programs have directly or indirectly aimed to improve schools.

The staff of a school planning an improvement effort faces two major challenges: (1) "getting a handle on" how to begin and (2) keeping the improvement process going. To address the first challenge, a logical starting point is assessing the school on the "scale" of improvement. To do this, schools need a conceptual framework that outlines the dimensions of school improvement. The school's instructional program and the elements that impact it—such as home and community—include many interrelated items, some wholly or partially under the control of the school and others over which the school exercises no control. A conceptual framework needs to be workable; it cannot consist of a long "laundry list" of items yet it must have enough specificity to provide direction for action.

Although there may be ancillary goals, such as improved teacher morale, the ultimate goal of school improvement is improved student performance. This goal has received increased prominence due to recent emphasis on proficiency and performance testing.

Background of Instrument

AEL, in its role as a regional educational laboratory, has been committed to research on school improvement efforts since 1966. Among AEL's projects was Quest (1996-2000), a network of school communities located in Kentucky, Tennessee, Virginia, and West Virginia. Quest schools were dedicated to building learning communities that support high levels of student and adult performance. The Quest Network for Quality Learning Communities emphasized six components, or dimensions, essential for successful student learning—dimensions that evolved into the conceptual framework that supports the *AEL Continuous School Improvement Questionnaire* (AEL CSIQ). During their collaboration with AEL, Quest schools contributed to the AEL CSIQ research base and participated in the pilot test (Howley-Rowe, 2000a, 2000b, 2000c, 2000d).

AEL's basis for school improvement is embodied in its research-based framework. AEL's Framework for Transforming Low-Performing Schools into High-Performing Learning

Communities, shown in Figure 1, underlies the AEL CSIQ and other AEL products and services. The circle representing improved student performance sits in the middle, indicating that all school improvement efforts ultimately are directed to this goal. The dimensions of the framework are shared leadership, effective teaching, school/family/community connections, purposeful student assessment, shared goals for learning, and learning culture. The arrows outside the circle indicate the dynamic nature of this framework: the dimensions are interactive and require continuous action on the part of the school community.

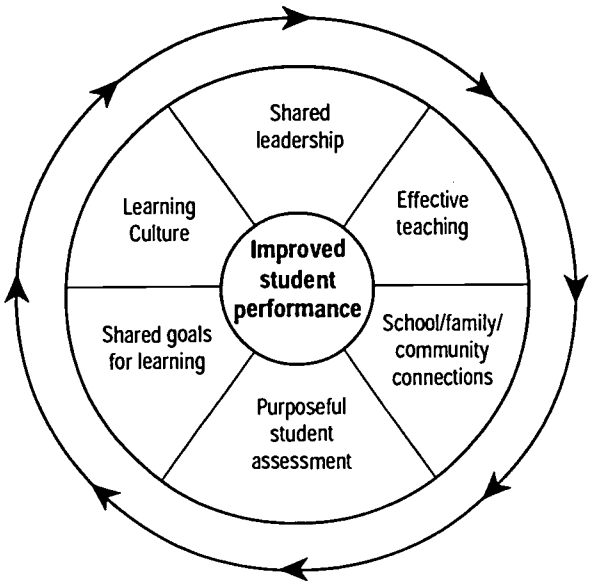

Figure 1. AEL's Framework for the AEL CSIQ

Purpose of Study

A faculty's commitment to continuous learning and improvement is seen as a critical dimension in defining schools as high-performing learning communities. The *AEL Continuous School Improvement Questionnaire* (AEL CSIQ), with satisfactory reliability and validity from several pilot and field tests, has been available for a short time, yet has been administered to the faculty in 132 schools. The purpose of this study is to report normative AEL CSIQ data for those 132 schools. These normative data are presented by type (level) of school, locale type (Johnson) codes, and schools nominated to be high performing.

METHODS

Instrument

The *AEL Continuous School Improvement Questionnaire* (AEL CSIQ) is a self-report inventory that asks the professional staff—principal(s), teachers, counselors, librarians, media specialists, and teacher aides—to provide their perceptions of how the school rates on six major dimensions. That is, the performance of the school on the AEL CSIQ is a function of the combined perceptions of the professional staff and is most useful when staff provide thoughtful replies to each item.

The AEL CSIQ includes 60 randomly ordered items that comprise six subscales of 10 items each. The symbols (e.g., S_1), names, and descriptions of the six subscales follow.

S_1: Learning Culture. This subscale reflects whether the culture of the school promotes learning by all—students, staff, and administration. It reflects the extent to which the school emphasizes learning rather than passive compliance, is a safe but exciting place to be, and encourages curiosity and exploration. In addition, it indicates the extent to which teachers have opportunities and encouragement to reflect on practice, work with others, and try new ways of teaching.

S_2: School/Family/Community Connections. This subscale assesses the degree to which parents and community members are involved in and feel part of the school. It reflects the degrees to which they are kept informed, meaningful partnerships exist, communication is open, and diverse points of view are honored and respected.

S_3: Shared Leadership. This subscale reflects the extent to which leadership is viewed as being shared. It assesses whether school administrators dominate decision making or if there are mechanisms for involving teachers, students, and parents. Opportunities for leadership development among the members of the school community are assessed, as are the degree to which information is shared and the extent to which school administrators listen to and solicit the input of others.

S_4: **Shared Goals for Learning.** This subscale assesses the extent to which the school has clear, focused goals that are understood by all members of the school community. In addition, it reflects whether shared goals affect what is taught and how teachers teach, drive decisions about resources, focus on results for students, and are developed and "owned" by many rather than a few.

S_5: **Purposeful Student Assessment.** This subscale reflects the extent to which student assessment data are viewed as meaningful; are used by teachers to guide instructional decisions; and are communicated to and understood by the greater school community, including teachers, parents, students, and other members of the community.

S_6: **Effective Teaching.** This subscale ascertains the extent to which teacher practice is aligned with research on effective teaching. It assesses whether teachers actively engage students in a variety of learning tasks, pose questions that encourage reflection and higher-order thinking, expect students to think critically, and use teaching strategies designed to motivate students.

Each item is scored on a 6-point rating scale. Response options range from 1, "Is not present," to 6, "Is present to a high degree." The scores of the items within a subscale are summed for a total subscale raw score. A total AEL CSIQ raw score is the sum of the six subscale scores.

The AEL CSIQ is a paper-and-pencil measure, printed to be compatible with optical scanning equipment. It is printed on both sides of one sheet of 11"x17" white paper that is folded and lightly perforated in the middle to yield two 8-½"x11" sheets. It is printed in three colors and includes room for basic school identification information (school name, district name, state) and the date to be provided by the respondent. The instrument also includes directions for completing it and a place on the last page for a unique code to be provided by AEL for office use only.

Extensive pilot and field testing (Meehan, Cowley, Wiersma, Orletsky, Sattes, & Walsh, 2002) has shown the AEL CSIQ to be reliable and valid measure of a faculty's commitment to continuous learning and improvement. The internal consistency reliability estimates (Cronbach alpha) were computed on the subscales and total scores of 3,821 educators in 132 schools in

AEL's four-state region of Kentucky, Tennessee, Virginia, and West Virginia. All of the internal consistency reliabilties were in the .90s; specifically, S_1 =.90, S_2 = .93, S_3 = .96, S_4 = .93, S_5 = .93, S_6 = .96, and total score = .98.

As a measure of the stability reliability of the AEL CSIQ, approximately 300 educators, a subgroup of the group named about, completed the instrument twice with about a three-week interval between the two administrations. These educators were located in 20 schools across AEL's four-state region, including seven elementary, three middle, six high, and four middle/high schools. The test-retest correlations ranged from .66 to .81; specifically, S_1 = .70, S_2 = .75, S_3 = .81, S_4 = .76, S_5 = .70, S_6 = .66, and total score = .80.

The correlation between the total score on the AEL CSIQ and the *School Climate Questionnaire* (SCQ; Manning, Curtis, & McMillen, 1996) was computed as a measure of concurrent validity of the former instrument. The SCQ contains 10 rating-scale items and these items relate to elements of school improvement. The SCQ was administered concurrently with the AEL CSIQ to 174 educators in the testing phase. The internal consistency reliability for that administration of the SCQ was .97, which is high. The correlation between the total score on the AEL CSIQ and the SCQ was .75, which is satisfactory.

Another measure of the construct validity of the AEL CSIQ was through factor analyses. Three factor analyses were computed, one each for elementary schools and high schools, and one for the two groups combined. The elementary group included scores for about 1,750 educators from 81 schools and the high school group included scores for about 680 educators from 17 schools. The factor analyses were principal axis, Varimax rotation factorings. From the three exploratory factor analyses, 17 factors with eigenvalues greater than 1.0 were extracted. The single exception was the sixth factor for the high school group, which had an eigenvalue of .924, which was retained because it was high and the factor fit the fifth subscale well. In the three factor analyses, there were occasional loadings greater than .30 for items from a subscale other than the one associated with a factor; however, these were relatively few and these loadings tended to be only slightly above .30. Thus, as reported in Meehan, Cowley, Wiersma, Orletsky, Sattes, & Walsh (2002), the trio of factor analyses on the AEL CSIQ were exceptionally "clear."

Sample

The AEL CSIQ was designed to be a general inventory that can be used with educators at any school level from kindergarten through 12th grade. The instrument, or more correctly, three variations of length of the original instrument, were tested by AEL staff three times—one pilot test and two field tests. The data for this study of normative characteristics of the AEL CSIQ were drawn from the two field tests. Therefore, to describe the sample of schools and educators in the normative database, it is important to describe each of the samples in the field tests. This is done in the following paragraphs.

The first field test of the 72-item version of the AEL CSIQ was administered in the fall of 2000 to educators, mostly teachers, in AEL's four-state region. AEL project staff, using contacts and networks of colleagues developed over the years, recruited volunteers to help get the instrument distributed and completed in schools. In essence then, school staff were "volunteered" to complete the instrument. Since one of the purposes of the field tests was to determine differences by school level, respondents' school information was sought. In the first field test, a total of 2,093 educators in 79 different schools participated. This same 72-iem version of the AEL CSIQ was administered to educators in 25 schools in Tennessee in the winter of 2000. Again, the school staff were "volunteered" by an AEL contact person to complete the instrument in exchange for school reports for use in a collaborative school improvement project. So, even though the timing of this administration of the instrument was several months after the first administration of the 72-item version, this was considered part of the first field test by virtue of the same number of items in the instrument.

Then, to make the AEL CSIQ more convenient to the respondent, but still retain satisfactory internal consistency reliabilities for the six subscales and the total score, the decision was made to reduce its length to 60 items, 10 per subscale. Also, the decision was made to place all items in random order, rather than grouped by subscale name, as in the pilot test and the first field test. This 60-item version of the AEL CSIQ was administered to the full faculties of 75 schools in Tennessee that were participating in a school improvement project with AEL staff. In effect, then, this second field test consisted of a convenience sample of educators.

Within the total of 132 shcools in the field tests, there was a special subgroup of schools that were nominated by either AEL or Tennessee Department of Education staff as being high-

performing schools *and* professional learning communities. These schools were identified as belonging in one of two categories:

1. Identified as continuously improving based on involvement with AEL in the four-year QUEST network of schools and other projects with AEL, and
2. Identified as high-performing schools by staff in the Tennessee Department of Education based on School Report Card data high on student achievement *and* the Tennessee Value Added Assessment system.

These schools, which are referred to hereafter as the "Known" schools, were viewed by the AEL research team as possessing positive characteristics relative to continuous improvement and student achievement. It is crucial to note that the "Known" schools were nominated to possess the characteristics of high-performing learning communities—there was no guarantee that they were, in fact, high-performing communities. Indeed, one of the purposes of this effort was to study the normative data from these "Known" schools. There were 11 Known schools for this normative study: five elementary, one middle, three high, and two middle/high schools.

Data Analyses

Various data analyses were conducted for this normative study of the AEL CSIQ. These analyses will be described in this subsection.

The data analyses began by combining all the field-test AEL CSIQ files together. This was necessary because some of the field-test administrations were with the 72-item version of the instrument, while the last administration was with the 60-item version. So, the first step in combining the files was to eliminate the same two items from the 72-item version file as were dropped to create the 60-item version. The second step before combining the field-test files was to drop those schools with less than ten AEL CSIQ respondents. Recall, some school staffs volunteered to complete the instrument, but there was no incentive or reward for doing so. Thus, completion of the instrument within school staffs varied. In some schools, only a few educators returned completed copies, while in other schools there was nearly total staff completion rates. After the file transformations were completed, the resulting database for the analyses included 3,821 cases in 132 schools.

The next step in data analyses was to compute various statistics on the full 132 school database. First, the schools were grouped by type (level). The schools were in numerous

configurations from high schools only to schools with grades Pre-K through 12. The schools in the full group were categorized into six types. These six types and the number of schools in each were: elementary - 81, middle – 19, high school – 17, middle/high – 10, PreK-12 – 3, and vocational – 2. Second, descriptive statistics were computed for each school type and for the full group on their AEL CSIQ scores. These statistics included the frequencies, means, and standard deviations for each subscale and the total score. Third, the internal consistency reliability estimates (Cronbach alpha) were computed for the same six school groups by the subscales and total score. Fourth, to supplement the average scores on the subscales and total score by the six groups, the minimum and maximum scores were computed for display purposes.

The third step in the normative study analyses was to cut the full group of schools by the type of locale in which they were located. The National Center for Education Statistics (2000) has developed and posted a type of locale classification for individual schools from most urban to most rural. Developed by Frank Johnson, these locale types often are called the "Johnson Codes." At the time of this study, there were seven Johnson Codes in the system. Since then, an eighth code—a second rural code—has been added. Each of the 132 schools was given its Johnson Code. The frequencies and means on the AEL CSIQ scores for the schools in each Johnson Code were computed; however, the frequencies for the subscales were not displayed to save space and also, because they were similar to those of the total score.

For the fourth major step in data analyses, Pearson product-moment correlation coefficients among the AEL CSIQ subscales were computed. Although the three factor analyses with orthogonal rotation generated six independent factors for each group, the research team felt that the subscales were positively related in the larger construct of continuous learning and improvement and they wanted to know just how much they were related.

Finally, the fourth major step in data analyses was to break out the Known schools from the full set of 132, leaving 121 schools, which will be referred to hereafter as the "Remaining" schools. Recall, the Known schools were *nominated* to be high-performing learning communities, but this nomination was done prior to the staff in these schools completing the AEL CSIQ. Indeed, one of the purposes of this norming study was to compare the scores of the educators in the Known schools to those of the Remaining schools. These comparisons were made by computing the frequencies and means for the respondents in the Known and Remaining schools on the six subscales and total score for elementary, middle, high, and middle/high school

groups. There were no PreK-12 or vocational schools nominated to be in the Known group. Comparison with inferential statistics (i.e., t-tests) were not computed because the schools were not selected randomly.

FINDINGS

Several types of normative data on the AEL CSIQ are presented in this section. First, normative data for the six different types (levels) of schools are presented, mostly in tables. Second, normative data by the schools' type of locale (Johnson Codes) are given. Third, the interrelationships among the six subscales and total score are given. Fourth, normative data for the eleven Known schools nominated to be high-performing learning communities compared to the Remaining schools are provided, again mostly in table format.

Normative Scores by Type of School

Tables 1 through 7 contain the AEL CSIQ normative statistics for the six school types and the entire group of 132 schools. These tables contain the frequencies, means, standard deviations, and Cronbach alpha internal consistency reliabilities for the six subscales and the total score. The frequencies column shows the number of respondents who completed all the items in the subscales and, for the Total, the number who completed all 60 items. Respondents occasionally omitted an item or two on a subscale and this accounts for the varying frequencies.

Normative data in Tables 1-7 stabilize as the number of scores from the schools and educators increases. This initial study of the norms for the AEL CSIQ provided substantial numbers for some school types, notably elementary, middle, high school, and, to a lesser extent, middle/high. The PreK-12 and vocational schools had very limited numbers but, due to their unique configurations, they were retained as separate groups.

All schools had at least 10 respondents completing the AEL CSIQ. The average number of respondents per school by school type was computed but not displayed in Tables 1-7. The average number of respondents (rounded) per school by school type were as follows:

Elementary	– 25
Middle	– 30
High	– 45
Middle/High	– 28
PreK-12	– 24
Vocational	– 18

These averages were expected; that is, high schools had, on average, the largest number of staff.

Table 1

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for Elementary School Group

Subscale	N	M	SD	Υ_α
S_1	2018	49.2	7.3	.89
S_2	2013	47.3	8.7	.93
S_3	1964	47.6	10.1	.96
S_4	1945	49.3	7.9	.93
S_5	1972	48.8	7.9	.93
S_6	2005	50.8	7.6	.96
Total	1758	292.9	41.0	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 2

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for Middle School Group

Subscale	N	M	SD	Υ_α
S_1	566	46.0	7.5	.89
S_2	564	43.7	9.4	.94
S_3	553	45.4	10.8	.96
S_4	551	44.7	9.1	.93
S_5	547	44.0	8.7	.93
S_6	570	47.6	7.8	.95
Total	502	270.2	43.7	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 3

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for High School Group

Subscale	N	M	SD	Υ_α
S_1	774	46.8	7.2	.89
S_2	765	44.4	8.6	.93
S_3	761	45.6	10.1	.96
S_4	754	45.4	8.3	.92
S_5	752	44.7	8.6	.93
S_6	773	47.8	7.8	.95
Total	683	274.4	42.4	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 4

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for Middle/High School Group

Subscale	N	M	SD	Υ_α
S_1	277	46.0	7.8	.90
S_2	277	43.2	10.1	.94
S_3	276	43.8	11.7	.96
S_4	268	43.4	9.2	.93
S_5	267	43.3	9.2	.93
S_6	275	48.1	8.0	.95
Total	249	266.9	45.3	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 5

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for PreK-12 School Group

Subscale	N	M	SD	Υ_α
S_1	73	47.6	7.2	.89
S_2	72	45.4	7.8	.90
S_3	72	47.3	10.8	.97
S_4	69	46.6	7.2	.89
S_5	68	47.0	8.1	.92
S_6	72	48.9	6.2	.91
Total	65	283.3	33.8	.96

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 6

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score for Vocational School Group

Subscale	N	M	SD	Υ_α
S_1	36	39.8	8.5	.86
S_2	38	37.0	9.7	.89
S_3	36	41.7	12.1	.95
S_4	36	39.6	10.7	.96
S_5	33	35.7	11.9	.96
S_6	39	43.7	9.8	.94
Total	28	239.2	57.5	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 7

Frequencies (N), Means (M), Standard Deviations (SD) and Cronbach Alpha Reliability Estimates (Υ_α) for AEL CSIQ Subscales and Total Score Across All School Groups

Subscale	N	M	SD	Υ_α
S_1	3744	47.9	7.5	.90
S_2	3729	45.7	9.1	.93
S_3	3662	46.5	10.5	.96
S_4	3623	47.2	8.6	.93
S_5	3639	46.7	8.7	.93
S_6	3734	49.4	7.8	.96
Total	3285	283.0	43.6	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Inspection of the AEL CSIQ descriptive statistics in Tables 1-7 show some interesting patterns. Most of the subscale means are in the 40s with the notable exceptions of one in the 50s (elementary group) and four in the 30s (all in the vocational group) out of the possible 60 points. Although the subscale means tend to be rather similar within a school group, they tend to vary across the school groups. For example, the mean scores for the elementary group are the highest, followed by the PreK-12 group, and then followed by the high school group (except for S_6 with the middle/high group). Then, the middle school group has higher means than the middle/high group (except for S_6 again). On all subscales, the vocational group has the lowest mean scores.

Looking at the total scores in Tables 1-7, out of a possible 360 points, they ranged from a high of 292.9 to a low of 239.2. The high mean was for the elementary group and the low mean was for the vocational group. In between those extremes were scores of the PreK-12 (283.3), high school (274.4), middle school (270.2), and middle/high school (266.9) groups.

Variability in the AEL CSIQ scores is displayed in the fourth column of each of the first seven tables. Standard deviations ranged from 6.2 (S_6 for PreK-12 group) to 12.1 (S_3 for vocational group). Generally, the two groups with elementary grades—elementary and PreK-12—had the smallest standard deviations. The standard deviations for the subscales in the middle and middle/high school groups were similar in that each group had one or two in the 7s, one in the 8s, 2 in the 9s, and one in the 10s. The vocational school group had the most variability in the subscale scores with one in the 8s, 2 in the 9s, one in the 10s, one in the 11s, and one in the 12s. With respect to the total score standard deviation, the PreK-12 had the smallest at 33.8 and the vocational school had the largest at 57.5.

The internal consistency reliability estimates (Cronbach alpha) for the AEL CSIQ subscale and total scores in Tables 1-7 are very high. The Cronbach alphas (column five) ranged from .86 (S_1 for the vocational group) to .98 (for six of the seven total scores). Across the groups, the middle/high group had all seven reliability estimates in the .90s and the elementary, middle, and high school groups had alphas in the .90s on six of the seven scores. Interestingly, the same subscale (S_1) yielded the most alpha reliabilities in the .80s, but it was .89 in each case except one, where it was .86.

Tables 8 and 9 present the minimum and maximum school means for the AEL CSIQ subscales and total score for the normative groups. These data are displayed in Table 8 for elementary, middle, and high schools and in Table 9 for middle/high, PreK-12, and vocational

schools. These data are presented as additional type-of-school results on the instrument. The numbers of schools in these groups vary greatly, from 81 in the elementary group to only 2 in the vocational group. While the first seven tables show the means for the subscales and total score for each group, these two tables show the extremes for the means and provide ranges for those means.

The ranges for the means in Tables 8 and 9 varied greatly across and within the school groups. Across all groups, the ranges of the subscale means were from a low of just 0.1 points (S_6 for vocational group) to 27.6 points (S_3 for elementary group). Across the six groups in both tables, there were seven subscale score ranges over 20 points and ten under five points. The elementary, middle, and middle/high school groups each had at least two pairs of subscale scores with ranges over 20 points. On the other extreme, all six AEL CSIQ subscale mean ranges for the vocational group were less than 5 points and four ranges were less than a single point. For the PreK-12 group, four of the subscale mean ranges were less than 5 points.

Table 8

Minimum and Maximum School Means for the AEL CSIQ Subscales and Total Score for Elementary, Middle, and High School Groups

	Elementary		Middle		High School	
Subscale	Min	Max	Min	Max	Min	Max
S_1	40.0	56.2	39.2	55.3	39.2	51.1
S_2	36.9	56.7	35.0	55.3	37.7	51.3
S_3	31.2	58.8	31.9	53.9	34.2	52.9
S_4	40.4	58.1	33.1	53.3	40.2	50.6
S_5	37.3	57.6	35.1	53.4	38.1	49.0
S_6	40.6	57.5	41.4	56.0	42.1	51.6
Total	235.2	340.0	223.7	324.6	239.9	305.0

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 9

Minimum and Maximum School Means for the AEL CSIQ Subscales and Total Score for Middle/High, PreK-12, and Vocational School Groups

	Middle/High		PreK-12		Vocational	
Subscale	Min	Max	Min	Max	Min	Max
S_1	40.9	53.4	46.4	48.2	39.7	40.0
S_2	30.6	52.9	43.2	50.0	36.7	37.1
S_3	27.6	51.4	33.8	52.3	40.9	43.2
S_4	36.8	48.9	45.4	47.3	39.5	39.7
S_5	36.4	49.2	46.9	47.4	34.1	38.2
S_6	44.1	54.1	47.8	49.6	43.6	43.7
Total	216.9	307.0	268.4	291.6	239.1	239.2

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Normative Scores by Johnson Codes

Schools where educators completed the AEL CSIQ were identified according to locale type (Johnson Codes), a classification system of seven categories of the most urban locale to the most rural. The Johnson Codes comprise a category system in which the first category (1) is the most urban and the seventh (7) is the most rural (NCES, 2000).

The AEL CSIQ means by Johnson Codes are given in Table 10. These means go across types of schools, and the frequency row (N) gives the number of respondents for the total scales. The frequencies for the subscales are not given but, for the most part, they were slightly greater than the frequencies for the total.

An inspection of the means in Table 10 shows that (1) overall, the means of the subscales varied little across the Johnson Codes, and (2) there was no linear pattern relating the size of the means to the extent of urbanity-rurality. The total scores had more variability simply because the total scale contains 60 items, six times the number of items in the individual subscales.

The means of the most rural classification (7) were positioned somewhat in the middle of the means on most subscales and the total. For no measures did it have either the greatest or smallest mean. The most urban classification (1) also had means positioned somewhat in the middle. For total score, it had the third highest mean. Locale Type Code 3 quite consistently had the greatest mean (the only exception being S_2), but this result likely was a function of the specific schools, rather than its position in the Johnson Codes. There is no evidence that scores on the AEL CSIQ subscales are related to the extent of urbanity-rurality of the school locale.

Table 10

Frequencies (N) and AEL CSIQ Subscale and Total Score Means by Johnson Locale Codes Across All School Types

	Johnson Locale Codes						
Scale	1	2	3	4	5	6	7
S_1	50.4	47.0	51.4	46.5	46.9	50.7	48.4
S_2	46.8	44.2	49.3	46.2	46.5	49.4	44.7
S_3	46.6	46.2	49.6	46.4	44.2	49.0	46.0
S_4	49.0	46.8	49.5	47.1	45.9	48.6	46.3
S_5	48.7	45.6	49.1	46.5	45.3	48.4	46.6
S_6	51.2	48.7	51.6	49.0	48.0	51.2	49.0
Total	293.2	278.1	297.9	282.3	274.5	296.7	280.6
N	370	1106	66	869	107	244	523

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Relationships Among the AEL CSIQ Subscales

Table 11 contains the correlation coefficients (Pearson product-moment) among the AEL CSIQ subscales and the total score. The 21 correlations range from a low of .42 to a high of .89; one in the .40s, two in the .50s, eight in the .60s, five in the .70s, and five in the .80s. The total score tends to correlate highly with all the subscale scores, in part because the total score consists of the sum of the subscale scores.

The following results were found in the patterns of the subscale correlations in Table 11.

1. All correlations were positive, as expected.

2. Overall, S_3, Shared Leadership, had the lowest correlations with the other scales. This may be because Shared Leadership is more administrative than instructional, which is how the other subscales would be viewed.

3. The highest subscale correlation (.79) was between S_4, Shared Goals for Learning, and S_5, Purposeful Student Assessment. Possibly as goals for learning are established, appropriate assessment is seen as a necessary corollary.

4. The lowest correlation (.42) was found between S_3, Shared Leadership, and S_6, Effective Teaching. Again, this low correlation may be because S_3 is viewed as administrative and S_6 is viewed as instructional.

5. In terms of shared variance among subscale scores, percentages range from about 18% to 62%

Table 11

Correlation Coefficients Among AEL CSIQ Subscales and Total Score

Subscale	S_2	S_3	S_4	S_5	S_6	Total
S_1	.68	.52	.63	.68	.72	.83
S_2		.61	.66	.70	.62	.85
S_3			.65	.58	.42	.78
S_4				.79	.62	.87
S_5					.71	.89
S_6						.80

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Normative Scores for Known and Remaining Schools

Within the full group of 132 schools, 11 schools were nominated as being high-performing learning communities because they appeared to possess positive characteristics relative to both student performance and a commitment to continuous learning and improvement on the part of the professional staff of the school. There were 11 Known schools: five elementary, one middle, three high, and two middle/high schools. Four of the school types had one or more schools in the Known group. However, the numbers of AEL CSIQ respondents in the Known schools were limited, even for the elementary and high school groups. The high school group had the largest number of respondents in the Known schools (about 155).

Tables 12 through 15 present the normative data on the AEL CSIQ for respondents in the four types of Known schools and for the Remaining schools. Shown are the frequencies and means for the six subscales and total score by respondents in the Known and Remaining schools.

The Known elementary school respondents (Table 12) consistently had higher AEL CSIQ mean scores than their counterparts in the Remaining schools. The mean for the Known total was more than 27 points greater than the total mean of the Remaining schools.

The pattern was very different for the middle school group (Table 13), which consisted of AEL CSIQ scores from a single school). Except for the means for S_1 and S_6, the means for respondents in the Known school were substantially lower than those in the Remaining schools. There were slightly more than 30 respondents for this Known school, so this does not comprise a large group for comparison. The scores of respondents in this Known school may have been more a function of the specific school than the fact that it was a middle school.

The high school group consistently had greater means for the Known schools than those of the Remaining schools (Table 14). The difference in the total score means was slightly more than 15, with the Known school respondents being greater.

The pattern for the middle/high school group was similar (Table 15). That is, respondents in the Known schools consistently had greater means than their counterparts in the Remaining schools. The difference between the total score means was almost 27 points. Again, the numbers of respondents in the Known schools were limited, those numbers being in the 50s.

Comparisons to the Known schools must be done with caution, largely due to the limited numbers of AEL CSIQ respondents in these schools. Discounting the middle school group, which had respondents in only one Known school, the patterns showed that respondents in the

Known schools had greater means than those in the Remaining schools. This result in part supports the assumption that educators in nominated continuously improving and high-performing schools will score higher on the AEL CSIQ than those in schools not so nominated. Also, those patterns support the validity of the AEL CSIQ in measuring factors that impact the staff's progress toward continuous learning and improvement.

Table 12

Frequencies (N) and Means (M) for AEL CSIQ Subscales and Total by Known and Remaining Schools for Elementary School Group

	Known		Remaining	
Subscale	N	M	N	M
S_1	134	54.0	1884	48.9
S_2	135	53.6	1878	46.8
S_3	125	50.7	1839	47.4
S_4	124	53.3	1821	49.0
S_5	130	53.2	1842	48.4
S_6	133	54.1	1872	50.6
Total	110	318.6	1648	291.2

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 13

Frequencies (N) and Means (M) for AEL CSIQ Subscales and Total by Known and Remaining Schools for Middle School Group

	Known		Remaining	
Subscale	N	M	N	M
S_1	34	47.3	532	46.0
S_2	34	40.9	530	43.9
S_3	29	31.9	524	46.1
S_4	30	38.2	521	45.1
S_5	31	39.2	516	44.3
S_6	34	47.8	536	47.6
Total	27	246.6	475	271.6

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 14

Frequencies (N) and Means (M) for AEL CSIQ Subscales and Total by Known and Remaining Schools for High School Group

	Known		Remaining	
Subscale	N	M	N	M
S_1	158	49.4	616	46.1
S_2	159	47.6	606	43.5
S_3	154	47.2	607	45.2
S_4	156	46.6	598	45.2
S_5	155	47.2	597	44.1
S_6	155	49.6	618	47.3
Total	142	286.5	541	271.3

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 15

Frequencies (N) and Means (M) for AEL CSIQ Subscales and Total by Known and Remaining Schools for Middle/High School Group

	Known		Remaining	
Subscale	N	M	N	M
S_1	57	51.3	220	44.6
S_2	57	47.7	220	42.0
S_3	55	44.8	221	43.6
S_4	56	46.5	212	42.6
S_5	54	47.1	213	42.4
S_6	56	52.9	219	46.9
Total	51	288.2	198	261.4

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

CONCLUSIONS AND RECOMMENDATIONS

This study presents normative data on the AEL CSIQ from educators in 132 K-12 schools. This section presents conclusions and recommendations drawn from the normative data.

Conclusions

The scores on the 60-item AEL CSIQ from the administrations in this study are highly reliable, including the six individual subscales and the total score.

The mean scores on the AEL CSIQ subscales are highly consistent and positioned about 70% of the distance from the minimum to maximum scores. The AEL CSIQ provides adequate measurement of the constructs they measure with good location on the scale of measurement. The relatively high scores may be a function of the self-report nature of the and the fact that none of the 60 items was reverse scored.

Type of school, that is level of school (elementary, high school), appears to have a slight to modest effect on the AEL CSIQ subscale and total score performance. Respondents in elementary schools and schools with elementary grades (PreK-12) had higher scores on the subscales and Total.

There is no evidence that the scores on the AEL CSIQ are related to the extent of rurality-urbanicity of the school locale. Overall, there is no definite pattern between the extent of rurality and performance. Also, there was a limited number of scores in the most urban code, and this may be more a reflection of the specific school or schools in this normative study than the extent of urbanicity.

Educators in schools nominated to be high-performing learning communities on the basis of their commitment to continuous learning and improvement almost always scored higher on the AEL CSIQ subscales and total score than their counterparts in Remaining schools of the same type. The most notable exception to that pattern was for the middle schools where the Remaining schools' scores were higher on four of the six subscales and the total score. However, there was only one Known middle school, so those scores may have been a function of the specific school than the fact that it was a middle school.

The patterns of scores showing the respondents in the nominated Known schools having greater AEL CSIQ subscale and total score means (except the middle school group, as noted above) than of respondents in the Remaining schools supports the AEL assumption that a faculty's commitment to continuous learning and improvement is the critical dimension in defining schools as high-performing learning communities.

The implication of the positive correlations among the AEL CSIQ subscale is that perceived learning and improvement in one area tends to coincide with learning and improvement in other areas. Conversely, a decrease in one area of learning and improvement would tend to go with reduced scores in the other areas. These correlation coefficients reflect the holistic nature of continuous school learning and improvement. Although certain areas may be stronger or weaker than others, continuous school learning and improvement tends to move forward (or decline) in a unified manner rather than as segmented parts.

Recommendations

The AEL CSIQ should continue to be administered to schools and the results of these administrations should be added to the norming database. It is recommended that only whole school faculty complete the instrument as opposed to the minimum of ten, as used in this study. Too, efforts should be made to seek schools of all types to add to the database; especially needed are more middle, PreK-12, and vocational schools. Further, schools in other regions of the United States, other than AEL's four states, should be recruited to complete the AEL-CSIQ.

Even as the above recommendation is being implemented, AEL researchers should make concerted efforts to seek nominations for schools to be added to those in the Known group. Schools thought to be high-performing learning communities should be solicited to have their professional staff complete the AEL CSIQ. Consistently high scores on the subscales of the AEL CSIQ will help to assess the extent to which the faculty is committed to continuous learning and improvement, as measured by AEL's instrument.

With a database of 132 schools having completed the AEL CSIQ, norms should be developed for the six subscales and, perhaps, the total score. These norms should be developed for two major groups of schools—Known and Remaining—by school types. Also, in preparing the AEL CSIQ norms for the Known group schools, AEL should take a hard look at the scores for the 11 Known schools in this study. Certainly, the lone Known middle school should not

qualify as a high-performing school based on its rather low scores on the AEL CSIQ subscales. Perhaps other nominated Known schools in this study do not provide enough evidence that their faculty is committed to continuous learning and improvement.

The value of computing and reporting the total AEL CSIQ score should be discussed by the AEL research team. It may not be useful to report to schools themselves, or anybody for that matter, on the total score for the instrument. Attending to school improvement efforts in any of the six AEL CSIQ constructs would be a major initiative itself and looking at the aggregation of all six of them in the total score would be daunting, at the least, and possibly overwhelming to practitioners.

Schools involved in this effort received several different types of AEL CSIQ feedback, depending on several factors such as contact person requests, promises in exchange for participation, and being involved in an AEL initiative. What is needed now is a uniform school report format for their AEL CSIQ results. AEL staff should develop several school report formats and provide them to school staff. Then, AEL staff should solicit practitioners' feedback regarding these AEL CSIQ school reports. A uniform format for the AEL CSIQ school report should be selected based on this feedback.

Last, AEL staff should prepare resources to support the use of the AEL CSIQ in the field. An administration or users manual would be convenient to those interested in implementing the AEL CSIQ. Also a technical report on the development, testing, and refinement of the AEL CSIQ could help present and preserve the history and the psychometric properties of the instrument. These two resources—users manual and technical report—might be combined into one document. A review of the literature for each of the six constructs in the AEL CSIQ should be included in one of the support resources named here.

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