

# Validity and Reliability of Advanced Surveys

2007 Edition



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## Introduction

This guide provides information about the development, reliability, and validity of three AdvancED survey series.

The ***Opinion Inventory Series*** (*web-based and paper-based*):

- Student (*Grades 5-12*)
- Elementary Student (*Grades 3-5*)
- Teacher
- Support Staff (*English and Spanish*)
- Parent (*English and Spanish*)
- Community
- Preschool Parent (English and Spanish)
- Preschool Teacher (English)

The opinion inventories share four common topics (subscales) and seven common statements (with the exception of the *Elementary Student, and Preschool Parent and Preschool Teacher Opinion Inventories*) that can be used to compare opinions among different report groups. The AdvancED National Pattern of User Response accompanies each analysis report.

The ***Technology Survey Series*** (*web-based only*):

- *Teacher Technology Survey*
- *Fifth Grade Student Technology Survey*
- *Eighth Grade Student Technology Survey*
- *Twelfth Grade Student Technology Survey*

These surveys measure student perceptions of computer proficiency in a number of areas.

The ***Indicators of Schools of Quality Series*** (*web-based and paper-based*):

- *Survey of Goals for Student Learning*
- *Survey of Instructional and Organizational Effectiveness*

These surveys measure goals for student learning as well as instructional and organizational indicators of schools.

# Opinion Inventory Series

(Paper-based and web-based)

## Overview

The development process for the 2003 edition of the AdvancED *Opinion Inventory Series* began with the 1995 edition. A review of the literature related to high-performing systems of teaching and learning was completed. In addition, focus groups were assembled to review the prior editions of the inventories and suggest changes. Based on the recommendations of the focus groups and the literature review, the inventories were field tested. A panel of experts used the field test results to compile the final items and survey topics.

In 2003, a committee of staff members at AdvancED reviewed the survey items from the 1995 edition of the Opinion Inventories for the purposes of shortening the survey and revising items with a view of current research and prior user input. Items were selected, revised if necessary, and pilot tested. Further revisions of items were made based on the corrected item-total correlation. Every item with a correlation of less than .50 was examined. The final revised surveys include seven common items that are identical to those from the 1995 versions (*except for the Elementary Student Opinion Inventory*).

## National Pattern of User Response (seven of the common items)

The *AdvancED National Pattern of User Response* report is created by accumulating data from the schools that have used the services of AdvancED. The National Pattern includes a year of survey data analyzed between July 1 and June 30 by AdvancED. These data are not intended to be “national” norms. The data should be interpreted as a profile of responses from schools in a variety of geographical regions, of different sizes, and at different levels (elementary, middle, and high school).

**Total number of respondents per year  
included in the National Pattern**

Year	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Community	12,432	13,261	5,571	7,901	4,126
Parent	79,590	83,163	53,628	61,295	45,646
Student	172,616	184,804	94,087	109,280	79,266
Elementary Student	Not available			28,950	23,476
Support Staff	Not available				4,837
Teacher	45,787	52,239	22,254	32,828	24,730

Chart 1

## Validity

The items for all of the *Opinion Inventories* are based on a review of the literature on high-performing schools. The items were reviewed by focus groups that represented individuals who worked in large city schools, suburban schools, and rural schools throughout the United States.

## Reliability

The reliability analysis used for all of the Opinion Inventories in determining the extent to which individual items in each topic (subscale) relate to each other is alpha (Cronbach’s). This model of internal consistency is based on the average inter-item correlation. Chart 2 (Page 4) contains the results of the National Pattern for the common items in 2005-06.

**2005-2006 AdvancED National Pattern of User Response  
Seven of the Common Items**

Items	Survey Type	Item Number on survey	Number of Respondents	Average	Standard Deviation	Strongly Agree (5) (%)	Agree (4) (%)	Neutral (3) (%)	Disagree (2) (%)	Strongly Disagree (1) (%)	Does Not Apply/ Do Not Know (0) (%)
The education offered to students at our school is of high quality.	Community	1	4126	4.25	0.85	(43.0%)	(40.1%)	(8.6%)	(3.1%)	(1.4%)	(3.9%)
	Parent	1	45646	4.27	0.77	(42.1%)	(45.9%)	(8.5%)	(2.4%)	(0.8%)	(0.5%)
	Student	1	79266	3.88	0.89	(23.7%)	(48.1%)	(20.4%)	(4.6%)	(1.9%)	(1.3%)
	Support Staff	1	4837	4.25	0.78	(38.5%)	(44.0%)	(8.8%)	(2.2%)	(0.7%)	(5.7%)
	Teacher	1	24730	4.39	0.71	(49.5%)	(42.6%)	(5.3%)	(1.8%)	(0.5%)	(0.3%)
Our school is preparing students to deal with issues and problems they will face in the future.	Community	6	4055	3.97	0.95	(29.3%)	(42.8%)	(14.7%)	(5.4%)	(2.2%)	(5.7%)
	Parent	11	45091	3.78	0.95	(20.8%)	(41.4%)	(21.6%)	(6.3%)	(2.3%)	(7.6%)
	Student	3	78982	3.64	1.05	(20.8%)	(39.1%)	(25.0%)	(9.8%)	(4.1%)	(1.3%)
	Support Staff	3	4803	3.91	0.92	(24.6%)	(46.0%)	(16.0%)	(6.1%)	(1.7%)	(5.6%)
	Teacher	12	24591	3.78	0.95	(20.7%)	(48.8%)	(18.2%)	(8.4%)	(2.4%)	(1.6%)
Students see a relationship between what they are studying and their everyday lives.	Community	7	4057	3.88	0.92	(23.4%)	(42.9%)	(18.6%)	(5.3%)	(1.8%)	(8.1%)
	Parent	12	45153	3.79	0.90	(19.6%)	(46.8%)	(21.9%)	(6.6%)	(1.6%)	(3.6%)
	Student	4	78844	3.27	1.03	(10.3%)	(32.4%)	(34.3%)	(15.1%)	(5.7%)	(2.2%)
	Support Staff	4	4777	3.77	0.87	(16.7%)	(44.5%)	(22.1%)	(6.2%)	(1.0%)	(9.4%)
	Teacher	13	24661	3.72	0.93	(17.2%)	(49.9%)	(20.1%)	(9.4%)	(1.9%)	(1.5%)
Teachers hold high expectations for student learning.	Community	8	4039	4.17	0.90	(39.5%)	(39.3%)	(10.7%)	(3.9%)	(1.5%)	(5.0%)
	Parent	16	45042	4.19	0.83	(38.5%)	(45.8%)	(10.4%)	(3.2%)	(1.1%)	(1.1%)
	Student	7	78815	3.92	0.96	(29.0%)	(42.2%)	(19.7%)	(5.3%)	(2.3%)	(1.4%)
	Support Staff	5	4790	4.10	0.83	(31.2%)	(44.7%)	(12.7%)	(3.4%)	(0.9%)	(7.1%)
	Teacher	17	24661	4.29	0.81	(45.9%)	(42.0%)	(7.4%)	(3.4%)	(0.9%)	(0.4%)
In our school, students have access to a variety of resources to help them succeed in learning, such as technology, media centers, and libraries.	Community	12	4050	4.25	0.80	(39.8%)	(43.9%)	(7.6%)	(2.5%)	(1.0%)	(5.1%)
	Parent	25	45064	4.21	0.80	(37.5%)	(48.9%)	(7.8%)	(2.8%)	(1.2%)	(1.7%)
	Student	18	78637	4.05	0.96	(35.4%)	(42.5%)	(13.8%)	(4.5%)	(2.7%)	(1.1%)
	Support Staff	11	4772	4.38	0.72	(47.2%)	(41.6%)	(5.3%)	(1.6%)	(0.6%)	(3.7%)
	Teacher	27	24635	4.33	0.81	(48.2%)	(41.8%)	(5.2%)	(3.5%)	(1.1%)	(0.3%)
Our school's facilities are adequate to support the students' learning needs.	Community	14	4045	4.06	0.92	(32.2%)	(45.1%)	(10.8%)	(5.2%)	(1.9%)	(4.8%)
	Parent	26	45022	4.10	0.87	(33.5%)	(49.8%)	(9.7%)	(4.4%)	(1.6%)	(1.0%)
	Student	21	78439	3.76	0.97	(20.8%)	(45.2%)	(22.4%)	(5.9%)	(3.4%)	(2.3%)
	Support Staff	13	4736	4.14	0.86	(34.5%)	(47.4%)	(8.2%)	(4.2%)	(1.6%)	(4.3%)
	Teacher	30	24615	4.00	1.04	(35.9%)	(42.5%)	(9.4%)	(8.7%)	(3.2%)	(0.3%)
Our school provides a safe and orderly environment for learning.	Community	21	4041	4.19	0.86	(37.9%)	(44.8%)	(8.8%)	(3.3%)	(1.5%)	(3.5%)
	Parent	36	44758	4.25	0.75	(38.6%)	(50.3%)	(7.6%)	(2.0%)	(0.8%)	(0.7%)
	Student	29	78387	3.81	0.98	(24.4%)	(44.6%)	(20.9%)	(5.7%)	(3.5%)	(0.9%)
	Support Staff	20	4777	4.19	0.81	(35.9%)	(48.1%)	(8.6%)	(3.0%)	(1.1%)	(3.2%)
	Teacher	37	24567	4.19	0.87	(39.9%)	(46.5%)	(7.8%)	(4.1%)	(1.6%)	(0.1%)

Chart 2

## Student Opinion Inventory

The *Student Opinion Inventory* can be used for grades 5 through 13+. It consists of 40 items including seven items that are identical to those from the 1995 version. It contains four topics (subscales):

- Quality of the Instructional Program (Items 1 to 9)
- Support for Student Learning (Items 10 to 22)
- School Climate/Environment for Learning (Items 23 to 33)
- Student/School Relationships (Items 34 to 40)

Response Categories for all 4 topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The “NA” response is included in the percent of respondents who selected each choice. The average or mean does not include responses to “NA,” but is based on the five point scale from SA=5 to SD=1.

**The alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (9 items, alpha=.87)
- Support for Student Learning (13 items, alpha=.89)
- School Climate/Environment for Learning (11 items, alpha=.89)
- Student/School Relationships (7 items, alpha=.82)
- Composite (40 items, alpha=.96)

The reliability coefficient calculations are based on a sample of 435 respondents.

## Elementary Student Opinion Inventory

The *Elementary Student Opinion Inventory* can be used for grades 3 through 5. It consists of 20 items and contains four topics (subscales):

- Quality of the Instructional Program (Items 1 to 6)
- Support for Student Learning (Items 7 to 10)
- School Climate and Environment for Learning (Items 11 to 15)
- Student/School Relationships (Items 16 to 20)

Response Categories for all 4 topics		
3	A	I agree
2	NS	I'm not sure
1	D	I don't agree

**The alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (6 items, alpha=.56)
- Support for Student Learning (4 items, alpha=.72)
- School Climate and Environment for Learning (5 items, alpha=.02)
- Student/School Relationships (5 items, alpha=.67)
- Composite (20 items, alpha=.77)

The reliability coefficient calculations are based on a sample of 41 respondents.

Correlation between Elementary Student and Student Opinion Inventory Items																					
		Item Numbers																			
Elementary Student		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Student		1	6	3	4	7	9	18	11	12	19	29	23	24	33	30	40	36	37	38	34

## Parent Opinion Inventory

The *Parent Opinion Inventory* consists of 50 items and contains five topics (subscales):

- Quality of the Instructional Program (Items 1 to 16)
- Support for Student Learning (Items 17 to 28)
- School Climate/Environment for Learning (Items 29 to 39)
- Parent/School Relationships (Items 40 to 45)
- Resource Management (Items 46 to 50)

Response Categories for all 5 topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The “NA” response is included in the percent of respondents who selected each choice. The average or mean does not include responses to “NA,” but is based on the five point scale from SA=5 to SD=1.

The **alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (16 items, alpha=.91)
- Support for Student Learning (12 items, alpha=.89)
- School Climate/Environment for Learning (11 items, alpha=.92)
- Parent/School Relationships (6 items, alpha=.89)
- Resource Management (5 items, alpha=.83)
- Composite (50 items, alpha=.98)

The reliability coefficient calculations are based on a small sample of respondents.

## Teacher Opinion Inventory

The *Teacher Opinion Inventory* consists of 50 items and contains four topics (subscales):

- Quality of the Instructional Program (Items 1 to 19)
- Support for Student Learning (Items 20 to 30)
- School Climate/Environment for Learning (Items 31 to 42)
- School Organization and Administration (Items 43 to 50)

Response Categories for all 4 topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The “NA” response is included in the percent of respondents who selected each choice. The average or mean does not include responses to “NA,” but is based on the five-point scale from SA=5 to SD=1.

The **alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (19 items, alpha=.89)
- Support for Student Learning (11 items, alpha=.85)
- School Climate/Environment for Learning (12 items, alpha=.92)
- School Organization and Administration (8 items, alpha=.90)
- Composite (50 items, alpha=.96)

The reliability coefficient calculations are based on a sample of 82 respondents.

## Support Staff Opinion Inventory

The *Support Staff Opinion Inventory* consists of 35 items and contains four topics (subscales):

- Quality of the Instructional Program (Items 1 to 6)
- Support for Student Learning (Items 7 to 13)
- School Climate/Environment for Learning (Items 14 to 25)
- School Organization and Administration (Items 26 to 35)

Response Categories for all 4 topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

### Reliability

The reliability analysis used to determine the extent to which individual items in a topic (subscale) and section relate to each other is alpha (Cronbach's). This model of internal consistency is based on the average inter-item correlation.

The **alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (6 items, alpha=.91)
- Support for Student Learning (7 items, alpha=.84)
- School Climate/Environment for Learning (12 items, alpha=.88)
- School Organization and Administration (10 items, alpha=.90)
- Composite (35 items, alpha=.96)

The reliability coefficients calculations are based on a sample of 507 respondents.

## Community Opinion Inventory

The *Community Opinion Inventory* consists of 40 items and contains five topics (subscales):

- Quality of the Instructional Program (Items 1 to 8)
- Support for Student Learning (Items 9 to 15)
- School Climate/Environment for Learning (Items 16 to 26)
- Community/School Relationships (Items 27 to 35)
- Resource Management (Items 36 to 40)

Response Categories for all 5 topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The “NA” response is included in the percent of respondents who selected a choice. The average or mean does not include responses to “NA,” but is based on the five-point scale from SA=5 to SD=1.

**Reliability**

The reliability analysis used to determine the extent to which individual items in a topic (subscale) and section relate to each other is alpha (Cronbach’s). This model of internal consistency is based on the average inter-item correlation.

**The alpha reliability coefficient** for each topic and the composite are:

- Quality of the Instructional Program (8 items, alpha=.94)
- Support for Student Learning (7 items, alpha=.81)
- School Climate/Environment for Learning (11 items, alpha=.93)
- Community/School Relationships (9 items, alpha=.94)
- Resource Management (5 items, alpha=.82)
- Composite (40 items, alpha=.98)

The reliability coefficients calculations are based on a sample of a small number of respondents.

**Preschool Parent Opinion Inventory (web based and paper based)**

The *Preschool Parent Opinion Inventory* consists of 44 items and contains seven topics (subscales):

- Curriculum (Items 1 to 10)
- Assessment of My Child’s Progress (Items 11 to 14)
- Family Involvement (Items 15 to 20)
- Facility, Health, and Safety (Items 21 to 29)
- Relationships (Items 30 to 33)
- Program Management and Leadership (Items 34 to 40)
- Community Partnerships (Items 41 to 44)

Response Categories for all 7 Topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The “NA” response is included in the percent of respondents who selected each choice. The average or mean does not include responses to “NA,” but is based on the five point scale from SA=5 to SD=1.

**The alpha reliability coefficient** for each topic and the composite are:

- Curriculum (10 items, alpha=.92)
- Assessment of My Child’s Progress (4 items, alpha=.82)
- Family Involvement (6 items, alpha=.88)
- Facility, Health, and Safety (9 items, alpha=.85)
- Relationships (4 items, alpha=.91)
- Program Management and Leadership (6 items, alpha=.83)
- Community Partnerships (4 items, alpha=.92)
- Composite (44 items, alpha=.97)

The reliability coefficient calculations are based on a small sample of respondents.

## Preschool Teacher Opinion Inventory (web-based only)

The *Preschool Teacher Opinion Inventory* consists of 41 items and contains seven topics (subscales):

- Curriculum (Items 1 to 5)
- Assessment of My Child's Progress (Items 6 to 9)
- Family Involvement (Items 10 to 13)
- Facility, Health, and Safety (Items 14 to 20)
- Relationships (Items 21 to 23)
- Program Management and Leadership (Items 24 to 38)
- Community Partnerships (Items 39 to 41)

Response Categories for all 8 Topics		
5	SA	Strongly Agree
4	A	Agree
3	N	Neutral
2	D	Disagree
1	SD	Strongly Disagree
	NA	Does Not Apply or Do Not Know

The "NA" response is included in the percent of respondents who selected each choice. The average or mean does not include responses to "NA," but is based on the five point scale from SA=5 to SD=1.

**The alpha reliability coefficient** for each topic and the composite are:

- Curriculum (5 items, alpha=.77)
- Assessment of My Child's Progress (4 items, alpha=.82)
- Family Involvement (4 items, alpha=.49)
- Facility, Health, and Safety (7 items, alpha=.89)
- Relationships (3 items, alpha=.84)
- Program Management and Leadership (15 items, alpha=.80)
- Community Partnerships (3 items, alpha=.80)
- Composite (41 items, alpha=.91)

The reliability coefficient calculations are based on a small sample of respondents.

## Technology Survey Series - Web-based

### Overview

The National Educational Technology standards and indicators for teachers (NETS for Teachers or NETS.T) were published by ISTE in 2000. These provided the basis for an assessment writing project in which several highly regarded educators from across the nation examined issues of assessment related to technology. In 2003, the International Society for Technology Initiative Self-Assessment was included in this publication with the purpose of providing a self-assessment of strengths and learning gaps in a teacher's technology skills. It was based on two guiding principles:

- the probability that the tasks or performance could be seen in a majority of schools, and
- a focus on the educational outcomes

A link was developed between the NETS assessment items and the performance indicators.

The AdvancED web-based Teacher Technology Survey utilizes this self-assessment (ISTE, 2003, p.103–105). They were reprinted with permission from National Education Technology Standards for Teachers: Resources for Assessment, © 2003, ISTE (International Society for Technology in Education) [www.iste.org](http://www.iste.org). All rights reserved. Permission does not constitute an endorsement by ISTE.

## Teacher Technology Survey (web-based)

The 2003 AdvancED web-based Teacher Technology Survey consists of 32 items and contains six standards (subscales):

- Technology Operations and Concepts (Items 1-9)
- Planning and Designing Learning Environments and Experiences (Items 10-14)
- Teaching, Learning and the Curriculum (Items 15-19)
- Assessment and Evaluation (Items 20-23)
- Productivity and Professional Practice (Items 24-27)
- Social, Ethical, Legal, and Human Issues (Items 28-32)

Response Categories for all Topics		
4	A	Able to teach others
3	C	Confidently
2	M	Minimally
1	N	Not at all
	NA	Not Applicable

The “NA” is included in the percent of respondents who selected each choice. The average or mean does not include responses to “NA,” but is based on the four point scale from A = 4 to N=1.

### Reliability

The reliability analysis used to determine the extent to which individual items in a topic (subscale) and section relate to each other is alpha (Cronbach’s). This model of internal consistency is based on the average inter-item correlation.

- Technology Operations and Concepts (9 items, alpha=.88)
- Planning and Designing Learning Environments and Experiences (5 items, alpha=.88)
- Teaching, Learning and the Curriculum (5 items, alpha=.86)
- Assessment and Evaluation (4 items, alpha=.83)
- Productivity and Professional Practice (4 items, alpha=.79)
- Social, Ethical, Legal, and Human Issues (5 items, alpha=.90)
- Composite (32 items, alpha=.97)

The reliability coefficient calculation is based on the responses of 135 teachers.

### Validity

The instrument has established content validity (ISTE, 2003). Adapted from the Teacher Technology Initiative Self-Assessment from “Resources for Assessment,” © 2003 International Society for Technology in Education (ISTE)

## Student Technology Surveys (web-based)

### Fifth Grade Student Technology Survey

#### Topic, Number of Items and Reliability

- Basic Operations and Concepts (22 items, alpha=.94)
- Social Ethical and Human Issues (6 items, alpha=.86)
- Technology Productivity Tools (3 items, alpha=.82)
- Technology Communication Tools (8 items, alpha=.87)
- Technology Research Tools (4 items, alpha=.83)
- Technology Problem-Solving and Decision Making Tools (4 items, alpha=.85)
- Composite (47 items, alpha=.97)

The reliability coefficient calculations are based on a sample of 315 respondents.

### Eighth Grade Student Technology Survey

#### Topic, Number of Items and Reliability

- Basic Operations and Concepts (22 items, alpha=.95)
- Social, Ethical, and Human Issues (9 items, alpha=.93)
- Technology Productivity Tools (5 items, alpha=.89)
- Technology Communications Tools (3 items alpha=.84 )
- Technology Research Tools (5 items, alpha=.88)
- Technology Problem-Solving and Decision Making Tools (5 items, alpha=.92)
- Composite (49 items, alpha=.98)

The reliability coefficient calculations are based on a sample of 241 respondents.

### Twelfth Grade Student Technology Survey

#### Topic, Number of Items and Reliability

- Basic Operations and Concepts (9 items, alpha=.89)
- Social Ethical and Human Issues (8 items, alpha=.93)
- Technology Productivity Tools (4 items, alpha=.85)
- Technology Communications Tools (3 items, alpha=.89)
- Technology Research Tools (5 items, alpha=.89)
- Technology Problem-Solving and Decision Making Tool (5 items, alpha=.91)
- Composite (34 items, alpha=.97)

The reliability coefficient calculations are based on a sample of 1170 respondents.

# Indicators of Schools of Quality Series

## Overview

### Development

The survey development process for AdvancED's *Survey of Goals for Student Learning* and the *Survey of Instructional and Organizational Effectiveness* began with a review of the literature related to the knowledge, skills and attitudes that students need to be successful. Researchers, scholars and educational leaders from across the United States in the field of education developed the indicators of schools of quality which were focused on school-wide learning goals. A more detailed description of the development of the indicators can be found in *Indicators of Schools of Quality* (AdvancED, 1998). Both surveys are directly related to these indicators.

### Validity

Specific research related to each indicator can be found in Appendix A.

## Survey of Goals for Student Learning (paper-based and web-based)

The *Survey of Goals for Student Learning* contains two parts:

Part 1—Level of Student Achievement

Part 2—Level of Priority for Improvement

Parts 1 and 2 each contain the same six topics:

- Learning-to-Learn Skills (Part 1: Items 1 to 3, Part 2: Item 20)
- Expanding and Integrating Knowledge (Part 1: Items 4 to 6, Part 2: Item 21)
- Communication Skills (Part 1: Items 7 to 9, Part 2: Item 22)
- Thinking and Reasoning Skills (Part 1: Items 10 to 12, Part 2: Item 23)
- Interpersonal Skills (Part 1: Items 13 to 15, Part 2: Item 24)
- Personal and Social Responsibility (Part 1: Items 16 to 19, Part 2: Item 25)

Response Categories			
Part 1		Part 2	
4	Exemplary Level of Achievement	4	Essential Priority
3	Fully Competent Level of Achievement	3	High Priority
2	Evidence of Progress, but Not Fully Competent	2	Medium Priority
1	Low Level of Achievement	1	Low Priority
0	No Evidence of Achievement	0	No Priority

### Reliability

The reliability analysis used to determine the extent to which individual items in each part of the survey relate to each other is alpha (Cronbach's). This model of internal consistency is based on the average inter-item correlation.

**The alpha reliability coefficient** for each part is:

Part 1—Level of Student Achievement (19 items, alpha=.96)

Part 2—Level of Priority for Improvement (6 items, alpha=.89)

The reliability coefficient calculations are based on a sample of 2543 respondents.

An exploratory factor analysis (principal component analysis) was utilized to determine the extent to which the items in each part of the survey (1 and 2) were clustered together. The results of these analyses are:

- Part 1—Level of Student Achievement (two component solution accounting for 67% of the variance). The first factor contained items from Learning-to-Learn, Expanding and Integrating Knowledge, Communication Skills (61% of the variance) and the second factor contained Interpersonal Skills and Personal/ Social Responsibility (6% of the variance).
- Part 2—Level of Priority for Improvement (one component solution accounting for 64% of the variance).

## Survey of Instructional and Organizational Effectiveness

(paper based and web-based)

The paper-based *Survey of Instructional and Organizational Effectiveness* contains seven topics:

Part A—Indicators of Quality Instructional Systems

- Curriculum (Items 1 to 3)
- Instructional Design (Items 4 to 7)
- Assessment (Items 8 to 12)

Part B—Indicators of Quality Organizational Systems

- Educational Agenda (Items 13-15)
- Leadership for School Improvement (Items 16-20)
- Community-Building (Items 21-22)
- Culture of Continuous Improvement and Learning (Items 23-24)

Response Categories for all 7 topics	
4	Exemplary Level
3	Fully Functioning and Operational
2	Evidence of Progress but Not Fully Operational
1	Low Level of Development and/or Implementation
0	No Evidence of the Indicators of Quality

### Reliability

The reliability analysis used to determine the extent to which individual items in each part of the survey relate to each other is alpha (Cronbach's). This model of internal consistency is based on the average inter-item correlation.

**The alpha reliability coefficient** for each part is:

Part A—Indicators of Quality Instructional Systems (12 items, alpha=.91)

Part B—Indicators of Quality Organizational Systems (12 items, alpha=.93)

The reliability coefficient calculations are based on a sample of 750 respondents.

An exploratory factor analysis (principal component analysis) was utilized to determine the extent to which the items in each part of the survey (A and B) and the entire survey were clustered together. The results of these analyses are:

- Part A—Indicators of Quality Instructional Systems (one component solution accounting for 52% of the variance).
- Part B—Indicators of Quality Organizational Systems (one component solution accounting for 58% of the variance).
- Part A and Part B—(Two-component solution using varimax rotation, the first component containing instructional systems items and the second component containing organizational systems items, together accounting for 55% of the variance).

## Appendix A

### Literature Review – Instructional and Organizational Effectiveness

#### Curriculum

##### Develops a Quality Curriculum

NCEA (2002) Clearly written curricular documents exist by grade level and subject.

##### Ensures Effective Implementation and Articulation of the Curriculum

Brophy (1991) All components of the curriculum are aligned to create a cohesive program for accomplishing instructional purposes and goals.

NCEA (2002) Principals and teachers know exactly what is to be taught and learned at each grade and in each subject.

WOPSI (2002) The curriculum and instruction are aligned with standards.

##### Evaluates and Renews Curriculum

NCEA (2002) Vertical teams of teachers revise and refine the curriculum.

#### Instructional Design

##### Aligns Instruction with the Goals and Expectations for Student Learning

Brophy (1991) Teachers can prepare students for learning by providing an initial structure to clarify intended outcomes and cue desired learning strategies.

Brophy (1991) The teacher establishes and follows up on setting appropriate expectation for learning outcomes.

Marzano (2001) The teacher sets objectives and encourages students to narrow their focus.

##### Employs Data-Driven Decision Making

Marzano (2001) The teacher provides students with feedback on the results of their learning.

NCEA (2001) Data use is an expectation for all decision making.

WOPSI (2002) There is frequent monitoring of teaching and learning and teaching is adjusted based on student progress.

##### Actively Engages Students in their Learning

Brophy (1991) Students learn more when most of the available time is allocated to curriculum-related activities and the classroom management system, which emphasizes their engagement in those activities.

Brophy (1991) Students learn best within cohesive and caring learning communities.

Brophy (1991) Content is explained clearly and developed with emphasis on its structure and connections.

Brophy (1991) Questions are planned to engage students in sustained discourse that is structured around powerful ideas.

Brophy (1991) Students need sufficient opportunities to practice and apply what they are learning, and to receive improvement-oriented feedback.

Marzano (2002) Teachers reinforce effort and provide recognition.

Rowan (2002) Active teaching has a positive effect on students' achievement.

## **Expands Instructional Support for Student Learning**

Brophy (1991) The teacher provides whatever assistance students need to enable them to engage in learning activities productively.

Marzano (2001) Teachers use nonlinguistic representations to help students see things from another perspective.

Marzano (2002) Homework and practice should have clear purposes that are explained to the students.

## **Assessment**

### Clearly Defines the Expectations for Student Learning to be Assessed

Brophy (1991) The teacher uses a variety of formal and informal assessment methods to monitor progress on goals.

### Establishes the Purpose of the Assessment

Roderick and Engel (2001)

Low performing students may be motivated by external high stakes tests, but generally performed better when they received teacher support and felt a collective responsibility for learning.

### Selects the Appropriate Method of Assessment

### Collects a Comprehensive and Representative Sample of Student Achievement

### Develops Fair Assessments and Avoids Bias and Distortion

## **Educational Agenda**

### Facilitates a Collaborative Process

WOPSI (2002) There are high levels of collaboration and communication.

### Shared Vision, Beliefs and Mission

Schlechty (1997) Sustaining change requires a compelling vision of what schools can be along with a set of well-articulated beliefs regarding the nature of schools.

WOPSI (2002) The focus is on a shared vision creating a consistent direction for all involved.

WOPSI (2002) Teachers and staff believe that all students can learn and meet high expectations.

### Measurable Goals

## **Leadership for School Improvement**

### Promotes Quality Instruction

JFK (2002) High performing schools have a driven principal and a committed team of faculty leaders.

NCEA (2002) There are strong instructional leaders and there is continual training and development of these leaders.

NCEA (2002) Personnel recruitment and selection is designed to improve instruction.

NCEA (2002) Programs are based on scientific evidence and the specific needs of learners.

#### Develops Schoolwide Plans for Improvement

JFK (2002) High performing schools develop and execute a clear plan for improvement.

NCEA (2001) School interventions and adjustments are made in response to intermittent data review.

#### Employs Effective Decision Making

Schlechy (1997) A quality focused decision-making process that is consistent with the beliefs that guide the system is an important quality in schools.

#### Monitors Progress

JFK (2002) Continuously assess progress and intervene immediately when students or teachers are struggling.

NCEA (2001) Assessment data are continually studied and disaggregated.

#### Provides Skillful Stewardship

### **Community Building**

#### Fosters Community-building

School leaders and teachers need to collaborate inside and outside the school.

#### Extends the School Community

Schlechy (1997) Relationships between and among agencies and groups that provide services to children and youth help to ensure that each child has the necessary support to be successful in school.

WOPSI (2002) A high performing school is connected to the community.

### **Culture of Continuous Improvement and Learning**

#### Commitment to Professional Development

JFK (2002) Schools invest in their teachers to deepen content knowledge and teaching skills.

NCEA (2002) Staff development time and resources provide time for teachers to meet collaboratively and are focused on academic goals.

WOPSI (2002) There are focused professional development opportunities. Support is aligned with priorities.

#### Supports Productive Change and Improvement

Armstrong and Anthes (2002) Reporting data changes teachers' attitudes about being able to impact the potential success of previously low performing students.

JFK (2002) High performing schools place students and student achievement first.

NCEA (2002) Budgets link to academic objectives and a continual commitment to using student data.

Schlechy (1997) There needs to be a shared understanding of the nature of the problems that give rise to school reform.

Schlechy (1997) There is a need to support innovative efforts as long they continue to produce the desired results.

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