Appendix 2-E: Pilot Development Partner Report: Pilot Phase 2 Prioritized Sample Characteristics and Student Demographics

Pilot Phase 2 Sampling Framework

Per TAC recommendations and NCSC state input, Pilot Phase 2 was intended to provide a large enough item pool with stable item difficulty estimates to support a stage-adaptive test in spring 2015. To meet a proposed 35-item mathematics stage-adaptive operational assessment and a 40-item ELA stage-adaptive operational form in the spring, the TAC proposed piloting 100 items per content area per grade. This number of items would provide a robust pool for spring 2015 selections. Thus, four forms per grade and content area for mathematics and reading, and two in ELA, would provide sufficient coverage to support an operational test blueprint. The forms were to mirror the proposed two-stage test design for the spring 2015 assessment by dividing the content into two sessions.

The minimum target sample size for each selected-response item was 100, and overage of 50 percent was added to the minimum targets. For Form 1, an overage of 100 percent was added. That is, for each reading and mathematics Form 1 at each grade, the target sample size was 200 and 150 for the remaining three forms. For the writing constructed-response items, a larger sample size was needed, thus the target sample size for all ELA forms was 250.

Sample size targets for the NCSC Pilot Phase 2 are provided by state in Exhibit 1. The numbers provided are based on the minimum number of students states were to recruit in order to ensure adequate data to build operational forms. It is important to note that these numbers are based on the assumption that each student was to be assessed in either ELA (reading and writing) or both mathematics and reading.

The estimates in Exhibit 1 were calculated using state submitted enrollment files in 2013, the total number of students participating in alternate assessment. A state proportion was calculated by dividing the number of students participating in alternate assessment in a given state by the total number of students across all states participating in alternate assessment (84,489). This proportion was then multiplied by the total target Pilot Phase 2 sample size of 7,700 to arrive at a state sample size target. The overall state targets can be found in the second column labelled “Overall Target N” and is the total number of students each state was to recruit. The number of students per grade was calculated by dividing the total state target by seven, which is the number of tested grades. The per-grade state targets are found in the last column, labelled “Per Grade Target N” in Exhibit 1.

Exhibit 1. State Sample Size Targets for NCSC Pilot Phase 2

State	Overall Target N	Per Grade Target N
ARIZONA	639	91
ARKANSAS	643	92
CALIFORNIA	3089	441
CONNECTICUT	345	49
DISTRICT OF COLUMBIA	96	14
IDAHO	154	22
INDIANA	627	90
MAINE	155	22
MARYLAND	405	58
MONTANA	73	10
NEW MEXICO	133	19
PAC-6	28	4
PENNSYLVANIA	150	21
RHODE ISLAND	84	12
SOUTH CAROLINA	313	45
SOUTH DAKOTA	80	11
TENNESSEE	679	91
VIRGIN ISLANDS	8	1
Totals:	**7700**	**1100**

The actual sample size and descriptive characteristics of the student sample included in the analysis (valid N=6119) are summarized below. All on-grade level students with at least one item response and a test submitted as completed were included in the analysis sample. A total of nineteen states participated in Pilot Phase 2. The actual item analysis sample size and descriptive statistics overall are shown below in Exhibits 2 and 3.

Exhibit 2: Actual Item Analysis Sample Size

Grade	N	N Reading	N Math	N ELA
3	865	504	493	355
4	973	553	542	411
5	781	468	463	297
6	783	497	488	281
7	878	550	541	323
8	948	507	511	429
11	891	495	496	384
Total	6119	3574	3534	2480

Exhibit 3: Student Sample Descriptive Statistics Overall

Variable	Category	N	%
Grade	3	865	14.14
	4	973	15.90
	5	781	12.76
	6	783	12.80
	7	878	14.35
	8	948	15.49
	11	891	14.56
State	AR	832	13.60
	AZ	355	5.80
	CA	1501	24.53
	CNMI	41	0.67
	CT	191	3.12
	DC	88	1.44
	GUAM	44	0.72
	ID	77	1.26
	IN	1327	21.69
	MD	319	5.21
	ME	88	1.44
	MT	45	0.74
	NM	204	3.33
	PA	106	1.73
	RI	141	2.30
	SC	291	4.76
	SD	88	1.44
	TN	375	6.13
	VI	6	0.10
Gender	Male	3906	63.93
	Female	2204	36.07
Ethnicity	White	3584	58.57
	Asian	272	4.45
	Hawaiian or Pacific Islander	102	1.67
	Indian or Alaska Native	200	3.27
	Hispanic	1572	25.69
	African American	1166	19.06

Prioritized Sample Characteristics

To ensure a representative sample, special recruitment efforts were made to ensure students are included in the sample who have pre-symbolic communication or who have a disability diagnosis of deaf, blind or dead/blind. States were encouraged to focus on prioritizing these low-frequency groups. In Exhibit 4, the first column is the subgroup, and the second column contains the categories within that subgroup. The third column contains the baseline percent of students. The last column is the target

number of students for each category. An overall target was calculated by multiplying the Phase 2 Pilot total target (7,700) by the baseline proportion. For example, in the first row of the Primary Disability category in Exhibit 4, the Baseline percent for Intellectual Disability is 56 percent. To arrive at the overall target N, 7,700 was multiplied by 0.56 for a target of 4,312.

Exhibit 4. LCI and Demographic Variable Sample Size Targets for NCSC Phase 2 Pilot

Subgroup	Category	Baseline %	Overall Target N
Gender	Male	60	4620
	Female	40	3080
Ethnicity	Hispanic or Latino	17.1	1317
Race	White	77.7	5983
	Black or African American	13.2	1016
	American Indian or Alaska Native	1.2	92
	Asian	5.3	408
	Native Hawaiian and Other Pacific Islander	0.2	15
	Two or More Races	2.4	185
EL Status	No	86	6622
	Yes	13	1001

Exhibit 4. LCI and Demographic Variable Sample Size Targets for NCSC Phase 2 Pilot (cont.)

Subgroup	Category	Baseline %	Overall Target N
Primary Disability	Intellectual Disability/Mental Retardation (includes Mild, Moderate, and Profound)	56	4312
	Other Health Impairment	3	231
	Orthopedic	1	77
	Deaf*	0	77
	Blind*	0	77
	Specific Learning Disability	0	77
	Multiple disabilities	9	693
	Autism	22	1694
	Speech/language Impairment	1	77
	Hearing Impairment*	1	77
	Visual Impairment*	0	77
	Traumatic Brain Injury	1	77
	Emotional Disability	1	77
	Deaf/Blind*	0	77
	Other	3	231
Classroom Setting	Special school	13	1001
	Regular school, self-contained special education classroom, some special inclusion (students go to art, music, PE) but return to their special education class for most of school day.	68	5236
	Regular school, primarily self-contained special education classroom, some academic inclusion (students go to some general education academic classes (reading, math, science, in addition to specials) but are in general education classes less than 40% of the school day).	10	770
	Regular school, resource room/general education class, students receive resource room services, but are in general education classes 40% or more of the school day.	5	385
	Regular school, general education class inclusive/collaborative (students based in general education classes, special education services are primarily delivered in the general education classes) – at least 80% of the school day is spent in general education classes.	3	231
Expressive Communication	Uses symbolic language to communicate: Student uses verbal or written words, signs, Braille, or language-based augmentative systems to request, initiate, and respond to questions, describe things or events, and express refusal.	69	5313
	Uses intentional communication, but not at a symbolic language level: Student uses understandable communication through such modes as gestures, pictures, objects/textures, points, etc., to clearly express a variety of intentions.	18	1386
	Student communicates primarily through cries, facial expressions, change in muscle tone, etc., but	10	770

	no clear use of objects/textures, regularized gestures, pictures, signs, etc., to communicate. (Pre-symbolic)*

Exhibit 4. LCI and Demographic Variable Sample Size Targets for NCSC Pilot Phase 2 (cont.)

Subgroup	Category	Baseline %	Overall Target N
Augmentative Communication System	No	74	5698
	Yes	16	1232
Receptive Language	Independently follows 1-2 step directions presented through words (e.g. words may be spoken, signed, printed, or any combination) and does NOT need additional cues.	49	3773
	Requires additional cues (e.g., gestures, pictures, objects, or demonstrations/models) to follow 1-2 step directions.	37	2849
	Alerts to sensory input from another person (auditory, visual, touch, movement) BUT requires actual physical assistance to follow simple directions.	9	693
	Uncertain response to sensory stimuli (e.g., sound/voice; sight/gesture; touch; movement; smell).	3	231
Vision	Vision within normal limits	70	5390
	Corrected vision within normal limits.	21	1617
	Low vision; uses vision for some activities of daily living.	4	308
	No functional use of vision for activities of daily living, or unable to determine functional use of vision.	3	231
Hearing	Hearing within normal limits.	92	7084
	Corrected hearing loss within normal limits.	2	154
	Hearing loss aided; but still with a significant loss.	1	77
	Profound loss, even with aids.	1	77
	Unable to determine functional use of hearing.	2	154
Motor	No significant motor dysfunction that requires adaptations.	81	6237
	Requires adaptations to support motor functioning (e.g., walker, adapted utensils, and/or keyboard).	6	462
	Uses wheelchair, positioning equipment, and/or assistive.	4	308
	Needs personal assistance for most/all motor activities.	7	539
Engagement	Initiates and sustains social interactions.	54	4158
	Responds with social interaction, but does not initiate or sustain social interactions.	32	2464
	Alerts to others.	9	693
	Does not alert to others.	2	154
Health	Attends at least 90% of school days.	84	6468
	Attends approximately 75% of school days; absences primarily due to health issues.	10	770
	Attends approximately 50% or less of school days; absences primarily due to health issues.	1	77
	Receives Homebound Instruction due to health issues.	1	77
	Highly irregular attendance or homebound instruction due to issues other than health.	2	154

Exhibit 4. LCI and Demographic Variable Sample Size Targets for NCSC Pilot Phase 2 (cont.)

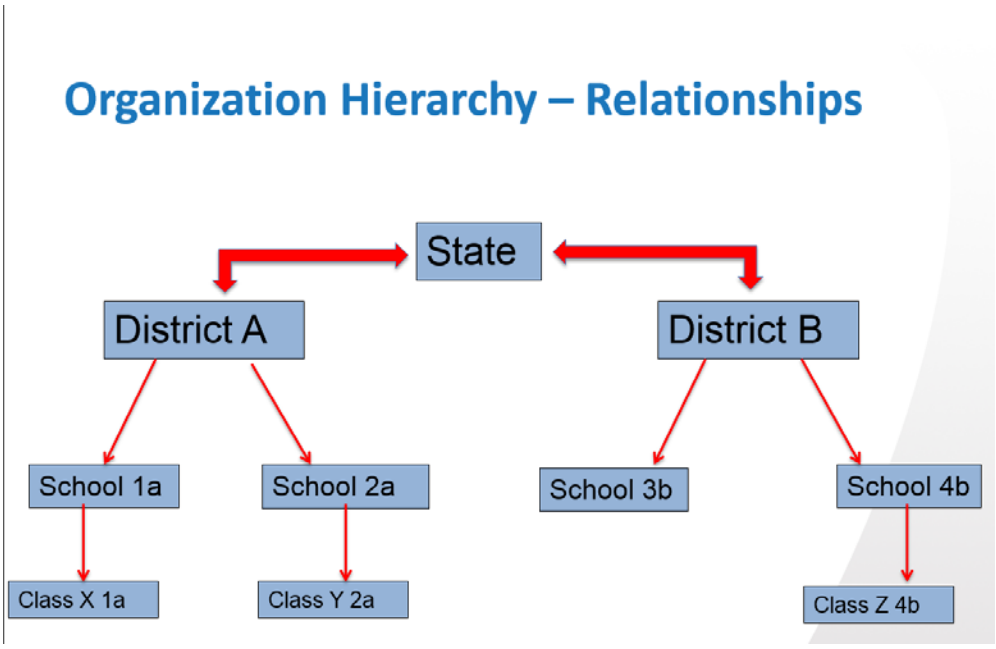
Subgroup	Category	Baseline %	Overall Target N
Reading	Reads fluently with critical understanding in print or Braille (e.g., to differentiate fact/opinion, point of view, emotional response, etc.).	4	308
	Reads fluently with basic (literal) understanding from paragraphs/short passages with narrative/informational texts in print or Braille.	22	1694
	Reads basic sight words, simple sentences, directions, bullets, and/or lists in print or Braille.	39	3003
	Aware of text/Braille, follows directionality, makes letter distinctions, or tells a story from the pictures that is not linked to the text.	17	1309
	No observable awareness of print or Braille.	16	1232
Math	Applies computational procedures to solve real-life or routine word problems from a variety of contexts.	6	462
	Does computational procedures with or without a calculator.	42	3234
	Counts with 1:1 correspondence to at least 10, and/or makes numbered sets of items.	26	2002
	Counts by rote to 5.	9	693
	No observable awareness or use of numbers.	15	1155

Note. *Indicates targeted groups for oversampling.

Organization Hierarchies

During NCSC Pilot Phase 2, an organization was defined as a state, a district, a school, or a classroom. A child organization was defined by the relationship a lower level organization has with its higher-level organization. For example, a class is considered a child organization of the School organization. A parent organization was the term used to indicate the relationship a higher-level organization has with its lower level organization. For example, a district is the parent organization to a school.

The following schematic shows the organizational hierarchy:



Spiraling Rules

Within a grade, test forms were randomly spiraled by school or classroom (when classroom information was available). Schools or classrooms were randomly assigned to take either an ELA test form or both a reading and mathematics test form. Pilot Phase 2 targets were 1150 students per grade.

The test development partner distributed the forms by stratified random sampling by state, in which all students within a classroom or school, when no classroom information was provided, received the same test form. As students took either ELA or mathematics and reading forms, the reading and mathematics forms were randomly assigned separately. The only exception to this rule was if a student required Form 1. If a student required Form 1, they received a different form from the rest of the class/school.

Population

Nineteen partner states and territories participated in Pilot Phase 2 and 6,110 students participated with their teachers. For Pilot Phase 2, the student sample was tested at off-grade levels in the fall of 2014. Students in grades 4, 5, 6, 7, 8, 9 and 12 were assessed on grades 3, 4, 5, 6, 7, 8, and 11 alternate achievement standards content. Within a grade, test forms were randomly spiraled by school or classroom (when classroom information was available). Schools or classrooms were randomly assigned to take either an ELA test form or both a reading and mathematics test form.

Descriptive characteristics of the student sample included in the analysis (valid N=6119) are summarized below. Students were included in the analysis sample if their test was submitted as completed, they had at least one valid response, and they were tested in the correct grade level (i.e., students in grade 3 last year took the grade 3 test form). For the overall descriptive statistics calculations, descriptive statistics were calculated based on unique students only; that is, if a student completed both a reading and a mathematics test they were included only once. For the content area calculations, descriptive statistics were calculated by including students who participated in both reading and mathematics twice; once in reading and once in mathematics. Exhibits 5 through 8 contain descriptive statistics for the sample overall. Tables 9 through 16 contain descriptive statistics by grade and content area.

Exhibits 6, 10 and 14 contain descriptive statistics based on items from the Learner Characteristics Inventory (LCI). Exhibits 7, 11 and 15 contain descriptive statistics based on questions answered by test administrators pertaining to a student's accommodation needs. Test administrators answered questions before the test was administered and after the test was administered. Prior to administration, test administrators were asked to select accommodations according to the following direction, "If the student needs this assessment feature, please select the box below." After the test administration, test administrators were asked to identify whether a student used a particular accommodation feature according to the following direction, "If the student used this assessment feature, please select the box below." Exhibits 8, 12 and 16 contain descriptive statistics based on questions pertaining to a student's ability to respond to items. Test administrators selected which response modes students would be using, such as responding verbally or using a touch screen. Students then had an opportunity to practice responding via that mode. The test administrator then selected whether the student was able to respond via that mode.

Overall descriptive statistics for demographic and LCI variables were similar to those for Pilot Phase 1. There was a slight to moderate increase in the percentage of students needing and using accommodations. This was especially pronounced for the scribe accommodation, with a 20% increase in the percentage of students reported as needing this accommodation. Likely due to the addition of the writing CR items in Pilot Phase 2.

Exhibit 5. Student Sample Descriptive Statistics Overall

Variable	Category	N	%
Grade	3	865	14.14
	4	973	15.90
	5	781	12.76
	6	783	12.80
	7	878	14.35
	8	948	15.49
	11	891	14.56
State	AR	832	13.60
	AZ	355	5.80
	CA	1501	24.53
	CNMI	41	0.67
	CT	191	3.12
	DC	88	1.44
	GUAM	44	0.72
	ID	77	1.26
	IN	1327	21.69
	MD	319	5.21
	ME	88	1.44
	MT	45	0.74
	NM	204	3.33
	PA	106	1.73
	RI	141	2.30
	SC	291	4.76
	SD	88	1.44
	TN	375	6.13
	VI	6	0.10
Gender	Male	3906	63.93
	Female	2204	36.07
Ethnicity	White	3584	58.57
	Asian	272	4.45
	Hawaiian or Pacific Islander	102	1.67
	Indian or Alaska Native	200	3.27
	Hispanic	1572	25.69
	African American	1166	19.06

Exhibit 6. Student Sample Learner Characteristic Inventory Descriptive Statistics Overall

Variable	Category	N	%
Primary Disability	Intellectual Disability/Mental Retardation (includes Mild, Moderate, and Profound)	2877	47.02
	Other Health Impairment	346	5.65
	Orthopedic	93	1.52
	Deaf	27	0.44
	Specific Learning Disability	276	4.51
	Multiple disabilities	629	10.28
	Autism	1554	25.40
	Speech/language Impairment	69	1.13
	Hearing Impairment	41	0.67
	Visual Impairment	30	0.49
	Traumatic Brain Injury	44	0.72
	Emotional Disability	58	0.95
	Deaf/Blind	5	0.08
	Other	70	1.14
EL Status	No	5147	84.29
	Yes	959	15.71
Classroom Setting	Special school	481	7.86
	Regular school, self-contained special education classroom, some special inclusion (students go to art, music, PE) but return to their special education class for most of school day.	4220	68.97
	Regular school, primarily self-contained special education classroom, some academic inclusion (students go to some general education academic classes (reading, math, science, in addition to specials) but are in general education classes less than 40% of the school day).	799	13.06
	Regular school, resource room/general education class, students receive resource room services, but are in general education classes 40% or more of the school day.	440	7.19
	Regular school, general education class inclusive/collaborative (students based in general education classes, special education services are primarily delivered in the general education classes) – at least 80% of the school day is spent in general education classes.	179	2.93

Exhibit 6. Student Sample Learner Characteristic Inventory Descriptive Statistics Overall (cont.)

Variable	Category	N	%
Expressive Communication	Uses symbolic language to communicate: Student uses verbal or written words, signs, Braille, or language-based augmentative systems to request, initiate, and respond to questions, describe things or events, and express refusal.	4739	77.45
	Uses intentional communication, but not at a symbolic language level: Student uses understandable communication through such modes as gestures, pictures, objects/textures, points, etc., to clearly express a variety of intentions.	1160	18.96
	Student communicates primarily through cries, facial expressions, change in muscle tone, etc., but no clear use of objects/textures, regularized gestures, pictures, signs, etc., to communicate.	220	3.60
Augmentative Communication System	No	5348	89.01
	Yes	660	10.99
Receptive Language	Independently follows 1-2 step directions presented through words (e.g. words may be spoken, signed, printed, or any combination) and does NOT need additional cues.	3311	54.11
	Requires additional cues (e.g., gestures, pictures, objects, or demonstrations/models) to follow 1-2 step directions.	2509	41.00
	Alerts to sensory input from another person (auditory, visual, touch, movement) BUT requires actual physical assistance to follow simple directions.	259	4.23
	Uncertain response to sensory stimuli (e.g., sound/voice; sight/gesture; touch; movement; smell).	40	0.65
Oral	No	1011	18.70
	Yes	4396	81.30
Braille	No	5464	99.53
	Yes	26	0.47
Vision	Vision within normal limits	4321	72.25
	Corrected vision within normal limits.	1421	23.76
	Low vision; uses vision for some activities of daily living.	147	2.46
	No functional use of vision for activities of daily living, or unable to determine functional use of vision.	92	1.54
Hearing	Hearing within normal limits.	5772	95.15
	Corrected hearing loss within normal limits.	65	1.07
	Hearing loss aided; but still with a significant loss.	89	1.47
	Profound loss, even with aids.	91	1.50
	Unable to determine functional use of hearing.	49	0.81
Motor	No significant motor dysfunction that requires adaptations.	5463	90.6
	Requires adaptations to support motor functioning (e.g., walker, adapted utensils, and/or keyboard).	283	4.69
	Uses wheelchair, positioning equipment, and/or assistive.	161	2.67
	Needs personal assistance for most/all motor activities.	123	2.04

Exhibit 6. Student Sample Learner Characteristic Inventory Descriptive Statistics Overall (cont.)

Variable	Category	N	%
Engagement	Initiates and sustains social interactions.	3859	63.92
	Responds with social interaction, but does not initiate or sustain social interactions.	1831	30.33
	Alerts to others.	292	4.84
	Does not alert to others.	55	0.91
Health	Attends at least 90% of school days.	5550	92.95
	Attends approximately 75% of school days; absences primarily due to health issues.	338	5.66
	Attends approximately 50% or less of school days; absences primarily due to health issues.	28	0.47
	Receives Homebound Instruction due to health issues.	9	0.15
	Highly irregular attendance or homebound instruction due to issues other than health.	46	0.77
Reading	Reads fluently with critical understanding in print or Braille (e.g., to differentiate fact/opinion, point of view, emotional response, etc.).	174	2.84
	Reads fluently with basic (literal) understanding from paragraphs/short passages with narrative/informational texts in print or Braille.	1466	23.96
	Reads basic sight words, simple sentences, directions, bullets, and/or lists in print or Braille.	2774	45.33
	Aware of text/Braille, follows directionality, makes letter distinctions, or tells a story from the pictures that is not linked to the text.	1175	19.20
	No observable awareness of print or Braille.	530	8.66
Math	Applies computational procedures to solve real-life or routine word problems from a variety of contexts.	274	4.48
	Does computational procedures with or without a calculator.	3089	50.48
	Counts with 1:1 correspondence to at least 10, and/or makes numbered sets of items.	1791	29.27
	Counts by rote to 5.	565	9.23
	No observable awareness or use of numbers.	400	6.54

Exhibit 7. Student Sample Accommodations Descriptive Statistics Overall

Variable	Category	N	%
Assistive Presentation	Needs	777	12.70
	Used	450	7.35
Assistive Response	Needs	801	13.09
	Used	303	4.95
Paper Version	Needs	1034	16.90
	Used	459	7.50
Scribe	Needs	2406	39.32
	Used	957	15.64
Sign Interpretation	Needs	196	3.20
	Used	91	1.49
No Accommodation Needed	Needs	3031	49.53
	Used	1648	26.93

Exhibit 8. Student Sample Student Response Check Descriptive Statistics Overall

Variable	Category	N	%
Student Uses Mouse and Computer	Will Use	4458	72.86
	Able to Use	4345	71.01
Student Provides Verbal Response	Will Use	1854	30.30
	Able to Use	1788	29.22
Student Circles the Correct Responses	Will Use	431	7.04
	Able to Use	403	6.59
Student Uses a Clock Scanner	Will Use	32	0.52
	Able to Use	18	0.29
Student Uses a Scanning Device	Will Use	32	0.52
	Able to Use	22	0.36
Other		188	3.07

Exhibit 9. Student Sample Descriptive Statistics by Grade in Mathematics

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
State	AR	69	14.00	79	14.58	73	15.77	82	16.80	76	14.05	80	15.66	78	15.73
	AZ	30	6.09	27	4.98	28	6.05	34	6.97	29	5.36	14	2.74	22	4.44
	CA	95	19.27	129	23.80	127	27.43	87	17.83	135	24.95	131	25.64	149	30.04
	CNMI	3	0.61	3	0.55	3	0.65	5	1.02	9	1.66	3	0.59	1	0.20
	CT	14	2.84	21	3.87	17	3.67	17	3.48	14	2.59	17	3.33	18	3.63
	DC	15	3.04	5	0.92	8	1.73	3	0.61	9	1.66	4	0.78	3	0.60
	GUAM			13	2.40	4	0.86					3	0.59	3	0.60
	ID	11	2.23	7	1.29	4	0.86	8	1.64	3	0.55	11	2.15	4	0.81
	IN	109	22.11	101	18.63	74	15.98	90	18.44	104	19.22	103	20.16	105	21.17
	MD	24	4.87	28	5.17	25	5.40	38	7.79	36	6.65	19	3.72	20	4.03
	ME	8	1.62	7	1.29	8	1.73	4	0.82	6	1.11	7	1.37	6	1.21
	MT	5	1.01	6	1.11	5	1.08	4	0.82	4	0.74	6	1.17	4	0.81
	NM	21	4.26	21	3.87	10	2.16	18	3.69	16	2.96	21	4.11	21	4.23
	PA	9	1.83	9	1.66	8	1.73	13	2.66	19	3.51	4	0.78	5	1.01
	RI	19	3.85	11	2.03	2	0.43	13	2.66	10	1.85	13	2.54	11	2.22
	SC	23	4.67	27	4.98	23	4.97	24	4.92	27	4.99	35	6.85	18	3.63
	SD	8	1.62	14	2.58	9	1.94	6	1.23	10	1.85	6	1.17	4	0.81
	TN	30	6.09	34	6.27	35	7.56	42	8.61	33	6.1	34	6.65	24	4.84
	VI	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Gender	Male	298	60.45	353	65.13	313	67.75	314	64.61	362	67.04	321	62.82	310	62.75
	Female	195	39.55	189	34.87	149	32.25	172	35.39	178	32.96	190	37.18	184	37.25
Ethnicity	White	307	62.27	323	59.59	272	58.75	308	63.11	294	54.34	310	60.67	308	62.10
	Asian	13	2.64	24	4.43	11	2.38	22	4.51	22	4.07	30	5.87	29	5.85
	Hawaiian or Pacific Islander	5	1.01	17	3.14	9	1.94	10	2.05	9	1.66	7	1.37	6	1.21
	Indian or Alaska Native	23	4.67	29	5.35	14	3.02	10	2.05	14	2.59	16	3.13	14	2.82
	Hispanic	121	24.54	147	27.12	121	26.13	120	24.59	139	25.69	109	21.33	130	26.21
	African American	93	18.86	86	15.87	91	19.65	97	19.88	114	21.07	104	20.35	65	13.10

* Only one student participated so all data are suppressed.

Exhibit 10. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Mathematics

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Primary Disability	Intellectual Disability/Mental Retardation (includes Mild, Moderate, and Profound)	232	47.06	232	42.80	234	50.54	236	48.36	258	47.69	241	47.16	255	51.41
	Other Health Impairment	26	5.27	33	6.09	25	5.40	28	5.74	32	5.91	34	6.65	26	5.24
	Orthopedic	3	0.61	8	1.48	5	1.08	4	0.82	11	2.03	14	2.74	8	1.61
	Deaf	2	0.41	7	1.29					2	0.37	2	0.39	1	0.2
	Specific Learning Disability	12	2.43	25	4.61	25	5.40	16	3.28	22	4.07	34	6.65	40	8.06
	Multiple disabilities	59	11.97	59	10.89	53	11.45	47	9.63	52	9.61	29	5.68	44	8.87
	Autism	134	27.18	146	26.94	106	22.89	136	27.87	145	26.8	134	26.22	96	19.35
	Speech/language Impairment	9	1.83	7	1.29	10	2.16	7	1.43	3	0.55	3	0.59	4	0.81
	Hearing Impairment	1	0.20	5	0.92	2	0.43	3	0.61	1	0.18	4	0.78	4	0.81
	Visual Impairment	4	0.81	1	0.18			1	0.20	1	0.18	4	0.78		
	Traumatic Brain Injury	3	0.61	4	0.74			1	0.20	3	0.55	5	0.98	4	0.81
	Emotional Disability	2	0.41	2	0.37	1	0.22	6	1.23	6	1.11	5	0.98	9	1.81
	Deaf/Blind									1	0.18				
	Other	6	1.22	13	2.40	2	0.43	3	0.61	4	0.74	2	0.39	5	1.01
EL Status	No	425	86.56	443	82.04	391	84.63	410	84.19	472	87.41	439	85.91	418	84.44
	Yes	66	13.44	97	17.96	71	15.37	77	15.81	68	12.59	72	14.09	77	15.56
Classroom Setting	Special school	24	4.87	43	7.93	24	5.18	39	7.99	40	7.39	48	9.39	26	5.24
	Regular school, self-contained special education classroom, some special inclusion (students go to art, music, PE) but return to their special education class for most of school day.	359	72.82	344	63.47	338	73.00	344	70.49	366	67.65	334	65.36	354	71.37
	Regular school, primarily self-contained special education classroom, some academic inclusion (students go to some general education academic classes (reading, math, science, in addition to specials) but are in general education classes less than 40% of the school day).	63	12.78	83	15.31	63	13.61	55	11.27	62	11.46	75	14.68	71	14.31
	Regular school, resource room/general education class, students receive resource room services, but are in general education classes 40% or more of the school day.	32	6.49	50	9.23	25	5.40	31	6.35	51	9.43	45	8.81	36	7.26
	Regular school, general education class inclusive/collaborative (students based in general education classes, special education services are primarily delivered in	15	3.04	22	4.06	13	2.81	19	3.89	22	4.07	9	1.76	9	1.81

the general education classes) – at least 80% of the school day is spent in general education classes.							

Exhibit 10. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Mathematics (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Expressive Communication	Uses symbolic language to communicate: Student uses verbal or written words, signs, Braille, or language-based augmentative systems to request, initiate, and respond to questions, describe things or events, and express refusal.	361	73.23	394	72.69	358	77.32	363	74.39	418	77.26	418	81.80	415	83.67
	Uses intentional communication, but not at a symbolic language level: Student uses understandable communication through such modes as gestures, pictures, objects/textures, points, etc., to clearly express a variety of intentions.	113	22.92	126	23.25	89	19.22	103	21.11	103	19.04	83	16.24	73	14.72
	Student communicates primarily through cries, facial expressions, change in muscle tone, etc., but no clear use of objects/textures, regularized gestures, pictures, signs, etc., to communicate.	19	3.85	22	4.06	16	3.46	22	4.51	20	3.70	10	1.96	8	1.61
Augmentative Communication System	No	415	86.46	479	89.53	416	90.83	421	87.89	467	88.11	469	93.06	448	91.43
	Yes	65	13.54	56	10.47	42	9.17	58	12.11	63	11.89	35	6.94	42	8.57
Receptive Language	Independently follows 1-2 step directions presented through words (e.g. words may be spoken, signed, printed, or any combination) and does NOT need additional cues.	230	46.65	262	48.34	228	49.24	248	50.82	283	52.31	329	64.38	320	64.52
	Requires additional cues (e.g., gestures, pictures, objects, or demonstrations/models) to follow 1-2 step directions.	219	44.42	250	46.13	216	46.65	220	45.08	240	44.36	161	31.51	159	32.06
	Alerts to sensory input from another person (auditory, visual, touch, movement) BUT requires actual physical assistance to follow simple directions.	39	7.91	23	4.24	15	3.24	17	3.48	17	3.14	21	4.11	16	3.23
	Uncertain response to sensory stimuli (e.g., sound/voice; sight/gesture; touch; movement; smell).	5	1.01	7	1.29	4	0.86	3	0.61	1	0.18	0	0.00	1	0.20
Oral	No	86	17.44	95	17.99	61	16.27	90	20.93	91	19.65	67	16.42	63	15.04
	Yes	407	82.56	433	82.01	314	83.73	340	79.07	372	80.35	341	83.58	356	84.96
Braille	No	481	99.59	523	100	390	100	434	100	474	99.58	433	99.54	424	99.53
	Yes	2	0.41	0	0.00	0	0.00	0	0.00	2	0.42	2	0.46	2	0.47
Vision	Vision within normal limits	324	67.64	384	72.73	342	75.00	342	71.55	383	72.68	345	69.42	336	69.14

Corrected vision within normal limits.	133	27.77	129	24.43	104	22.81	118	24.69	132	25.05	128	25.75	136	27.98
Low vision; uses vision for some activities of daily living.	9	1.88	12	2.27	7	1.54	10	2.09	7	1.33	16	3.22	12	2.47
No functional use of vision for activities of daily living, or unable to determine functional use of vision.	13	2.71	3	0.57	3	0.66	8	1.67	5	0.95	8	1.61	2	0.41

Exhibit 10. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Mathematics (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Hearing	Hearing within normal limits.	466	95.49	510	94.10	447	96.96	467	96.89	509	96.22	482	95.26	472	95.55
	Corrected hearing loss within normal limits.	6	1.23	8	1.48	3	0.65	2	0.41	3	0.57	6	1.19	6	1.21
	Hearing loss aided; but still with a significant loss.	7	1.43	10	1.85	7	1.52	4	0.83	5	0.95	6	1.19	5	1.01
	Profound loss, even with aids.	3	0.61	9	1.66	3	0.65	5	1.04	7	1.32	8	1.58	11	2.23
	Unable to determine functional use of hearing.	6	1.23	5	0.92	1	0.22	4	0.83	5	0.95	4	0.79	0	0.00
Motor	No significant motor dysfunction that requires adaptations.	436	90.08	479	88.87	413	89.98	438	91.25	496	94.12	468	93.23	457	93.08
	Requires adaptations to support motor functioning (e.g., walker, adapted utensils, and/or keyboard).	26	5.37	29	5.38	21	4.58	23	4.79	16	3.04	17	3.39	18	3.67
	Uses wheelchair, positioning equipment, and/or assistive.	9	1.86	22	4.08	16	3.49	11	2.29	12	2.28	7	1.39	10	2.04
	Needs personal assistance for most/all motor activities.	13	2.69	9	1.67	9	1.96	8	1.67	3	0.57	10	1.99	6	1.22
Engagement	Initiates and sustains social interactions.	286	59.21	325	60.52	267	58.17	293	60.91	348	65.91	340	67.33	357	72.71
	Responds with social interaction, but does not initiate or sustain social interactions.	158	32.71	179	33.33	169	36.82	152	31.60	154	29.17	144	28.51	114	23.22
	Alerts to others.	37	7.66	29	5.40	22	4.79	30	6.24	24	4.55	18	3.56	15	3.05
	Does not alert to others.	2	0.41	4	0.74	1	0.22	6	1.25	2	0.38	3	0.59	5	1.02
Health	Attends at least 90% of school days.	445	92.32	490	92.28	412	91.35	438	92.6	509	96.77	470	94.57	450	92.59
	Attends approximately 75% of school days; absences primarily due to health issues.	34	7.05	34	6.40	34	7.54	30	6.34	13	2.47	24	4.83	29	5.97
	Attends approximately 50% or less of school days; absences primarily due to health issues.			2	0.38	2	0.44	3	0.63	1	0.19	2	0.40	3	0.62
	Receives Homebound Instruction due to health issues.	1	0.21	1	0.19			1	0.21					1	0.21
	Highly irregular attendance or homebound instruction due to issues other than health.	2	0.41	4	0.75	3	0.67	1	0.21	3	0.57	1	0.20	3	0.62

Exhibit 10. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Mathematics (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Reading	Reads fluently with critical understanding in print or Braille (e.g., to differentiate fact/opinion, point of view, emotional response, etc.).	6	1.22	8	1.48	7	1.51	10	2.05	13	2.40	29	5.68	23	4.64
	Reads fluently with basic (literal) understanding from paragraphs/short passages with narrative/informational texts in print or Braille.	49	9.94	92	16.97	101	21.81	121	24.80	171	31.61	160	31.31	177	35.69
	Reads basic sight words, simple sentences, directions, bullets, and/or lists in print or Braille.	242	49.09	264	48.71	223	48.16	242	49.59	231	42.70	214	41.88	202	40.73
	Aware of text/Braille, follows directionality, makes letter distinctions, or tells a story from the pictures that is not linked to the text.	154	31.24	132	24.35	91	19.65	71	14.55	92	17.01	76	14.87	63	12.70
	No observable awareness of print or Braille.	42	8.52	46	8.49	41	8.86	44	9.02	34	6.28	32	6.26	31	6.25
Math	Applies computational procedures to solve real-life or routine word problems from a variety of contexts.	11	2.23	13	2.40	16	3.46	24	4.92	24	4.44	33	6.46	29	5.85
	Does computational procedures with or without a calculator.	167	33.87	237	43.73	225	48.60	261	53.48	301	55.64	315	61.64	322	64.92
	Counts with 1:1 correspondence to at least 10, and/or makes numbered sets of items.	211	42.80	198	36.53	148	31.97	134	27.46	147	27.17	104	20.35	96	19.35
	Counts by rote to 5.	67	13.59	56	10.33	52	11.23	38	7.79	45	8.32	38	7.44	26	5.24
	No observable awareness or use of numbers.	37	7.51	38	7.01	22	4.75	31	6.35	24	4.44	21	4.11	23	4.64

Exhibit 11. Student Sample Accommodations Descriptive Statistics by Grade in Mathematics

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Assistive Presentation	Needs	82	16.63	59	10.89	61	13.17	57	11.68	52	9.61	64	12.52	78	15.73
	Used	43	8.72	37	6.83	31	6.70	29	5.94	38	7.02	41	8.02	41	8.27
Assistive Response	Needs	87	17.65	65	11.99	58	12.53	65	13.32	63	11.65	43	8.41	62	12.5
	Used	36	7.30	12	2.21	22	4.75	18	3.69	16	2.96	16	3.13	13	2.62
Paper Version	Needs	112	22.72	77	14.21	75	16.20	82	16.80	77	14.23	63	12.33	77	15.52
	Used	47	9.53	32	5.90	17	3.67	35	7.17	26	4.81	21	4.11	22	4.44
Scribe	Needs	242	49.09	246	45.39	200	43.20	208	42.62	195	36.04	139	27.20	129	26.01
	Used	72	14.60	62	11.44	53	11.45	45	9.22	49	9.06	40	7.83	28	5.65
Sign Interpretation	Needs	25	5.07	22	4.06	8	1.73	11	2.25	13	2.40	9	1.76	13	2.62
	Used	11	2.23	6	1.11	1	0.22	5	1.02	6	1.11	6	1.17	7	1.41
No Accommodation Needed	Needs	197	39.96	242	44.65	211	45.57	236	48.36	288	53.23	311	60.86	295	59.48
	Used	130	26.37	154	28.41	140	30.24	157	32.17	179	33.09	184	36.01	169	34.07

Exhibit 12. Student Sample Student Response Check Descriptive Statistics by Grade in Mathematics

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Student Uses Mouse and Computer	Will Use	315	63.89	373	68.82	335	72.35	375	76.84	423	78.19	405	79.26	415	83.67
	Able to Use	308	62.47	364	67.16	324	69.98	360	73.77	415	76.71	400	78.28	409	82.46
Student Provides Verbal Response	Will Use	191	38.74	186	34.32	150	32.40	142	29.10	150	27.73	122	23.87	118	23.79
	Able to Use	181	36.71	177	32.66	148	31.97	136	27.87	139	25.69	120	23.48	117	23.59
Student Circles the Correct Responses	Will Use	47	9.53	35	6.46	31	6.70	30	6.15	38	7.02	26	5.09	38	7.66
	Able to Use	44	8.92	34	6.27	32	6.91	29	5.94	35	6.47	25	4.89	35	7.06
Student Uses a Clock Scanner	Will Use	2	0.41	1	0.18	0	0.00	1	0.20	0	0.00	6	1.17	14	2.82
	Able to Use	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	0.59	13	2.62
Student Uses a Scanning Device	Will Use	3	0.61	1	0.18	0	0.00	1	0.20	1	0.18	5	0.98	10	2.02
	Able to Use	1	0.20	1	0.18	0	0.00	0	0.00	1	0.18	3	0.59	10	2.02
Other		23	4.67	12	2.21	8	1.73	17	3.48	7	1.29	4	0.78	8	1.61

Exhibit 13. Student Sample Descriptive Statistics by Grade in Reading

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
State	AR	69	13.69	83	15.01	72	15.38	82	16.50	77	14	83	16.37	78	15.76
	AZ	29	5.75	27	4.88	30	6.41	35	7.04	28	5.09	15	2.96	23	4.65
	CA	99	19.64	131	23.69	126	26.92	92	18.51	139	25.27	131	25.84	150	30.30
	CNMI	4	0.79	4	0.72	3	0.64	5	1.01	9	1.64	3	0.59	1	0.20
	CT	14	2.78	20	3.62	19	4.06	17	3.42	15	2.73	18	3.55	15	3.03
	DC	15	2.98	5	0.90	6	1.28	3	0.60	9	1.64	4	0.79	3	0.61
	GUAM			13	2.35	5	1.07					3	0.59	3	0.61
	ID	10	1.98	7	1.27	4	0.85	8	1.61	3	0.55	11	2.17	4	0.81
	IN	111	22.02	104	18.81	76	16.24	91	18.31	104	18.91	92	18.15	102	20.61
	MD	24	4.76	28	5.06	26	5.56	38	7.65	38	6.91	21	4.14	20	4.04
	ME	7	1.39	7	1.27	9	1.92	4	0.80	7	1.27	9	1.78	6	1.21
	MT	5	0.99	6	1.08	6	1.28	4	0.80	5	0.91	5	0.99	4	0.81
	NM	22	4.37	21	3.80	10	2.14	21	4.23	14	2.55	21	4.14	22	4.44
	PA	11	2.18	9	1.63	9	1.92	13	2.62	19	3.45	4	0.79	5	1.01
	RI	21	4.17	11	1.99	2	0.43	13	2.62	10	1.82	14	2.76	12	2.42
	SC	23	4.56	29	5.24	23	4.91	23	4.63	28	5.09	35	6.90	18	3.64
	SD	8	1.59	15	2.71	9	1.92	6	1.21	10	1.82	6	1.18	4	0.81
	TN	32	6.35	33	5.97	33	7.05	42	8.45	34	6.18	32	6.31	25	5.05
	VI	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Gender	Male	308	61.11	359	64.92	318	68.09	321	64.85	367	66.85	319	62.92	309	62.68
	Female	196	38.89	194	35.08	149	31.91	174	35.15	182	33.15	188	37.08	184	37.32
Ethnicity	White	315	62.5	329	59.49	274	58.55	314	63.18	300	54.55	310	61.14	301	60.81
	Asian	16	3.17	23	4.16	14	2.99	22	4.43	26	4.73	29	5.72	32	6.46
	Hawaiian or Pacific Islander	5	0.99	18	3.25	8	1.71	10	2.01	9	1.64	7	1.38	7	1.41
	Indian or Alaska Native	21	4.17	29	5.24	13	2.78	11	2.21	15	2.73	14	2.76	15	3.03

Hispanic	121	24.01	148	26.76	122	26.07	126	25.35	135	24.55	109	21.5	131	26.46
African American	95	18.85	89	16.09	94	20.09	98	19.72	116	21.09	99	19.53	69	13.94

* Only 1 student participated so all data are suppressed.

Exhibit 14. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Reading

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Primary Disability	Intellectual Disability/Mental Retardation (includes Mild, Moderate, and Profound)	238	47.22	233	42.13	227	48.50	238	47.89	267	48.55	238	46.94	255	51.52
	Other Health Impairment	26	5.16	36	6.51	25	5.34	30	6.04	33	6.00	36	7.10	25	5.05
	Orthopedic	3	0.60	10	1.81	6	1.28	4	0.80	10	1.82	13	2.56	8	1.62
	Deaf	2	0.40	7	1.27					4	0.73	2	0.39	1	0.20
	Specific Learning Disability	10	1.98	25	4.52	25	5.34	18	3.62	22	4.00	34	6.71	38	7.68
	Multiple disabilities	62	12.30	65	11.75	60	12.82	48	9.66	53	9.64	32	6.31	46	9.29
	Autism	138	27.38	146	26.40	109	23.29	137	27.57	144	26.18	128	25.25	96	19.39
	Speech/language Impairment	10	1.98	7	1.27	11	2.35	7	1.41	3	0.55	4	0.79	4	0.81
	Hearing Impairment	1	0.20	5	0.90	2	0.43	3	0.60	1	0.18	4	0.79	4	0.81
	Visual Impairment	4	0.79	1	0.18			1	0.20			3	0.59		
	Traumatic Brain Injury	3	0.60	4	0.72			1	0.20	2	0.36	6	1.18	4	0.81
	Emotional Disability	2	0.40	2	0.36	1	0.21	7	1.41	6	1.09	5	0.99	9	1.82
	Deaf/Blind									1	0.18				
	Other	5	0.99	12	2.17	2	0.43	3	0.60	4	0.73	2	0.39	5	1.01
EL Status	No	432	86.06	453	82.21	393	84.15	418	84.27	477	87.04	438	86.39	415	84.01
	Yes	70	13.94	98	17.79	74	15.85	78	15.73	71	12.96	69	13.61	79	15.99
Classroom Setting	Special school	24	4.76	44	7.96	25	5.34	38	7.65	42	7.64	50	9.86	28	5.66
	Regular school, self-contained special education classroom, some special inclusion (students go to art, music, PE) but return to their special education class for most of school day.	365	72.42	354	64.01	338	72.22	355	71.43	373	67.82	330	65.09	356	71.92
	Regular school, primarily self-contained special education classroom, some academic inclusion (students go to some general education academic classes (reading, math, science, in addition to specials) but are in general education classes less than 40% of the school day).	65	12.9	84	15.19	64	13.68	54	10.87	62	11.27	74	14.60	70	14.14
	Regular school, resource room/general education class, students receive resource room services, but are in general education classes 40% or more of the school day.	33	6.55	50	9.04	27	5.77	31	6.24	51	9.27	43	8.48	33	6.67
	Regular school, general education class inclusive/collaborative (students based in general education classes, special education services are primarily delivered in	17	3.37	21	3.8	14	2.99	19	3.82	22	4.00	10	1.97	8	1.62

the general education classes) – at least 80% of the school day is spent in general education classes.							

Exhibit 14. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Reading (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Expressive Communication	Uses symbolic language to communicate: Student uses verbal or written words, signs, Braille, or language-based augmentative systems to request, initiate, and respond to questions, describe things or events, and express refusal.	367	72.82	395	71.43	358	76.50	373	75.05	423	76.91	416	82.05	410	82.83
	Uses intentional communication, but not at a symbolic language level: Student uses understandable communication through such modes as gestures, pictures, objects/textures, points, etc., to clearly express a variety of intentions.	113	22.42	131	23.69	91	19.44	104	20.93	106	19.27	80	15.78	77	15.56
	Student communicates primarily through cries, facial expressions, change in muscle tone, etc., but no clear use of objects/textures, regularized gestures, pictures, signs, etc., to communicate.	24	4.76	27	4.88	19	4.06	20	4.02	21	3.82	11	2.17	8	1.62
Augmentative Communication System	No	423	86.33	488	89.54	414	89.42	429	87.91	472	87.73	463	92.60	440	90.16
	Yes	67	13.67	57	10.46	49	10.58	59	12.09	66	12.27	37	7.40	48	9.84
Receptive Language	Independently follows 1-2 step directions presented through words (e.g. words may be spoken, signed, printed, or any combination) and does NOT need additional cues.	231	45.83	261	47.20	225	48.08	255	51.31	285	51.82	322	63.51	316	63.84
	Requires additional cues (e.g., gestures, pictures, objects, or demonstrations/models) to follow 1-2 step directions.	225	44.64	261	47.20	221	47.22	223	44.87	247	44.91	166	32.74	161	32.53
	Alerts to sensory input from another person (auditory, visual, touch, movement) BUT requires actual physical assistance to follow simple directions.	43	8.53	24	4.34	18	3.85	16	3.22	17	3.09	19	3.75	17	3.43
	Uncertain response to sensory stimuli (e.g., sound/voice; sight/gesture; touch; movement; smell).	5	0.99	7	1.27	4	0.85	3	0.60	1	0.18			1	0.20
Oral	No	92	18.25	101	18.77	70	18.18	88	20.14	101	21.22	70	16.91	67	15.91
	Yes	412	81.75	437	81.23	315	81.82	349	79.86	375	78.78	344	83.09	354	84.09
Braille	No	492	99.60	533	100	400	100	443	100	486	99.59	436	99.77	426	99.53
	Yes	2	0.40							2	0.41	1	0.23	2	0.47
Vision	Vision within normal limits	334	68.16	389	72.30	340	73.91	348	71.46	392	73.27	345	69.98	337	69.48
	Corrected vision within normal limits.	132	26.94	132	24.54	106	23.04	120	24.64	132	24.67	126	25.56	132	27.22

Low vision; uses vision for some activities of daily living.	9	1.84	14	2.60	8	1.74	11	2.26	6	1.12	16	3.25	14	2.89
No functional use of vision for activities of daily living, or unable to determine functional use of vision.	15	3.06	3	0.56	6	1.30	8	1.64	5	0.93	6	1.22	2	0.41

Exhibit 14. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Reading (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Hearing	Hearing within normal limits.	474	94.99	520	94.03	451	96.99	473	96.33	516	95.91	476	94.82	471	95.54
	Corrected hearing loss within normal limits.	6	1.20	9	1.63	3	0.65	3	0.61	3	0.56	6	1.20	6	1.22
	Hearing loss aided; but still with a significant loss.	8	1.60	10	1.81	8	1.72	6	1.22	5	0.93	7	1.39	5	1.01
	Profound loss, even with aids.	3	0.60	9	1.63	2	0.43	5	1.02	9	1.67	8	1.59	11	2.23
	Unable to determine functional use of hearing.	8	1.60	5	0.90	1	0.22	4	0.81	5	0.93	5	1.00		
Motor	No significant motor dysfunction that requires adaptations.	442	89.29	486	88.36	413	89.20	447	91.41	502	93.66	463	92.97	454	92.84
	Requires adaptations to support motor functioning (e.g., walker, adapted utensils, and/or keyboard).	28	5.66	32	5.82	20	4.32	23	4.70	16	2.99	18	3.61	18	3.68
	Uses wheelchair, positioning equipment, and/or assistive.	9	1.82	23	4.18	20	4.32	11	2.25	14	2.61	8	1.61	11	2.25
	Needs personal assistance for most/all motor activities.	16	3.23	9	1.64	10	2.16	8	1.64	4	0.75	9	1.81	6	1.23
Engagement	Initiates and sustains social interactions.	292	59.11	325	59.31	264	56.77	302	61.63	352	65.55	335	66.73	352	71.84
	Responds with social interaction, but does not initiate or sustain social interactions.	160	32.39	190	34.67	176	37.85	153	31.22	159	29.61	146	29.08	119	24.29
	Alerts to others.	40	8.10	29	5.29	23	4.95	29	5.92	24	4.47	19	3.78	14	2.86
	Does not alert to others.	2	0.40	4	0.73	2	0.43	6	1.22	2	0.37	2	0.40	5	1.02
Health	Attends at least 90% of school days.	451	91.48	495	91.16	416	91.23	447	92.74	519	97.19	468	94.55	447	91.98
	Attends approximately 75% of school days; absences primarily due to health issues.	37	7.51	39	7.18	34	7.46	30	6.22	11	2.06	23	4.65	32	6.58
	Attends approximately 50% or less of school days; absences primarily due to health issues.	1	0.20	4	0.74	2	0.44	3	0.62	1	0.19	3	0.61	3	0.62
	Receives Homebound Instruction due to health issues.	1	0.20	1	0.18	1	0.22	1	0.21					1	0.21
	Highly irregular attendance or homebound instruction due to issues other than health.	3	0.61	4	0.74	3	0.66	1	0.21	3	0.56	1	0.20	3	0.62

Exhibit 14. Student Sample Learner Characteristic Inventory Descriptive Statistics by Grade in Reading (cont.)

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Reading	Reads fluently with critical understanding in print or Braille (e.g., to differentiate fact/opinion, point of view, emotional response, etc.).	6	1.19	8	1.45	7	1.50	10	2.01	11	2.00	27	5.33	22	4.44
	Reads fluently with basic (literal) understanding from paragraphs/short passages with narrative/informational texts in print or Braille.	52	10.32	91	16.46	103	22.01	124	24.95	174	31.64	161	31.76	171	34.55
	Reads basic sight words, simple sentences, directions, bullets, and/or lists in print or Braille.	243	48.21	264	47.74	219	46.79	250	50.30	233	42.36	209	41.22	204	41.21
	Aware of text/Braille, follows directionality, makes letter distinctions, or tells a story from the pictures that is not linked to the text.	157	31.15	137	24.77	91	19.44	71	14.29	95	17.27	76	14.99	63	12.73
	No observable awareness of print or Braille.	46	9.13	53	9.58	48	10.26	42	8.45	37	6.73	34	6.71	35	7.07
Math	Applies computational procedures to solve real-life or routine word problems from a variety of contexts.	11	2.18	13	2.35	17	3.63	25	5.03	22	4.00	33	6.51	26	5.25
	Does computational procedures with or without a calculator.	170	33.73	234	42.31	222	47.44	268	53.92	302	54.91	307	60.55	320	64.65
	Counts with 1:1 correspondence to at least 10, and/or makes numbered sets of items.	209	41.47	201	36.35	148	31.62	135	27.16	147	26.73	106	20.91	95	19.19
	Counts by rote to 5.	71	14.09	62	11.21	52	11.11	38	7.65	50	9.09	38	7.50	26	5.25
	No observable awareness or use of numbers.	43	8.53	43	7.78	29	6.20	31	6.24	29	5.27	23	4.54	28	5.66

Exhibit 15. Student Sample Accommodations Descriptive Statistics by Grade in Reading

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Assistive Presentation	Needs	88	17.46	62	11.21	63	13.46	61	12.27	52	9.45	63	12.43	82	16.57
	Used	45	8.93	41	7.41	32	6.84	30	6.04	39	7.09	42	8.28	43	8.69
Assistive Response	Needs	93	18.45	66	11.93	60	12.82	68	13.68	70	12.73	43	8.48	66	13.33
	Used	38	7.54	14	2.53	26	5.56	19	3.82	18	3.27	17	3.35	15	3.03
Paper Version	Needs	119	23.61	80	14.47	79	16.88	85	17.10	83	15.09	68	13.41	79	15.96
	Used	49	9.72	31	5.61	18	3.85	34	6.84	28	5.09	23	4.54	23	4.65
Scribe	Needs	247	49.01	249	45.03	199	42.52	211	42.45	201	36.55	147	28.99	131	26.46
	Used	74	14.68	60	10.85	52	11.11	45	9.05	48	8.73	41	8.09	29	5.86
Sign Interpretation	Needs	26	5.16	22	3.98	9	1.92	11	2.21	16	2.91	9	1.78	12	2.42
	Used	12	2.38	6	1.08	1	0.21	5	1.01	6	1.09	5	0.99	7	1.41
No Accommodation Needed	Needs	198	39.29	245	44.30	214	45.73	240	48.29	285	51.82	302	59.57	290	58.59
	Used	136	26.98	155	28.03	138	29.49	159	31.99	179	32.55	185	36.49	164	33.13

Exhibit 16. Student Sample Student Response Check Descriptive Statistics by Grade in Reading

Variable	Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 11	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Student Uses Mouse and Computer	Will Use	319	63.29	376	67.99	332	70.94	385	77.46	425	77.27	403	79.49	409	82.63
	Able to Use	311	61.71	368	66.55	319	68.16	370	74.45	417	75.82	397	78.30	402	81.21
Student Provides Verbal Response	Will Use	193	38.29	191	34.54	147	31.41	148	29.78	146	26.55	117	23.08	116	23.43
	Able to Use	182	36.11	182	32.91	147	31.41	142	28.57	136	24.73	115	22.68	114	23.03
Student Circles the Correct Responses	Will Use	49	9.72	34	6.15	31	6.62	31	6.24	36	6.55	26	5.13	34	6.87
	Able to Use	44	8.73	34	6.15	33	7.05	29	5.84	34	6.18	25	4.93	31	6.26
Student Uses a Clock Scanner	Will Use	3	0.6	1	0.18	0	0.00	1	0.20	0	0.00	6	1.18	13	2.63
	Able to Use	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	0.59	12	2.42
Student Uses a Scanning Device	Will Use	4	0.79	1	0.18	0	0.00	1	0.20	1	0.18	5	0.99	9	1.82
	Able to Use	2	0.40	1	0.18	0	0.00	0	0.00	1	0.18	3	0.59	9	1.82
Other		26	5.16	12	2.17	12	2.56	18	3.62	10	1.82	6	1.18	8	1.62

Form Summary Statistics

Exhibit 18 contains form summary statistics for Pilot Phase 2 mathematics forms. The first column of the table indicates the grade, and the second column indicates the form. The next column contains the total number of items on each form. Each item is worth one score point, meaning the total number of points and number of items is equal. The remaining columns of the table indicate the number of students taking each form, the mean raw score and standard deviation, the minimum and maximum raw score, mean p-value and standard deviation, and Cronbach's alpha. Overall, the mathematics forms were relatively difficult, with mean raw scores ranging from 43% to 53% of the total points/form.

Exhibit 18. Mathematics Form Summary Statistics

Grade	Form	Total (Points)	Summary Statistics							
			N	Mean Raw Score	SD Raw Score	Min Raw Score	Max Raw Score	Mean p-value	SD p-value	Alpha
3	1	40	178	19.66	7.49	1	40	0.51	0.12	0.85
	2	40	108	21.00	7.94	5	38	0.52	0.14	0.88
	3	40	100	18.60	7.63	0	40	0.49	0.14	0.86
	4	40	107	20.51	7.53	0	37	0.51	0.13	0.86
4	1	40	205	17.30	6.69	2	39	0.45	0.14	0.82
	2	40	91	17.77	6.07	0	31	0.45	0.15	0.78
	3	40	119	18.85	5.25	5	33	0.47	0.16	0.69
	4	40	127	16.80	5.46	2	32	0.44	0.16	0.72
5	1	40	189	18.17	5.09	1	35	0.47	0.15	0.66
	2	40	78	18.03	7.14	1	40	0.47	0.16	0.85
	3	40	95	17.60	5.08	3	31	0.45	0.15	0.67
	4	40	101	18.06	5.58	6	36	0.46	0.16	0.73
6	1	40	187	20.02	6.42	4	40	0.50	0.14	0.80
	2	40	102	19.61	6.72	1	36	0.50	0.14	0.82
	3	40	90	19.77	6.69	6	38	0.50	0.13	0.81
	4	40	109	19.70	6.30	7	38	0.49	0.14	0.79
7	1	40	175	18.86	5.72	6	37	0.48	0.16	0.75
	2	40	109	20.26	7.67	0	37	0.51	0.15	0.87
	3	40	103	20.70	6.92	1	38	0.51	0.16	0.83
	4	40	154	19.25	6.17	8	40	0.50	0.15	0.78
8	1	40	203	20.51	7.38	1	39	0.52	0.12	0.85
	2	40	108	20.16	6.40	2	36	0.51	0.13	0.79
	3	40	77	17.62	6.62	6	40	0.47	0.14	0.81
	4	40	123	17.11	7.45	0	39	0.48	0.13	0.85
11	1	40	210	19.25	7.15	2	39	0.49	0.12	0.84
	2	40	102	17.51	6.35	3	34	0.47	0.12	0.79
	3	40	60	19.13	6.04	9	37	0.50	0.12	0.76
	4	40	124	19.33	7.97	3	39	0.49	0.12	0.87

Exhibit 19 contains form summary statistics for reading. The first column of the table indicates the grade, and the second column indicates the form. The next column contains the total number of items and points on each form. The remaining columns of the table indicate the number of students taking each form, the mean raw score and standard deviation, the minimum and maximum raw score, mean p-value and standard deviation, and Cronbach's alpha. Overall, the reading forms were moderately difficult, with mean raw scores ranging from 53% to 65% of the total points/form. Cronbach's alpha ranged from 0.76 to 0.88 across grades. All forms fell below the criterion of 0.90, but all except three forms met the minimally acceptable level of 0.80.

Exhibit 19. Reading Form Summary Statistics

Grade	Form	Total (Points)	Summary Statistics							
			N	Mean Raw Score	SD Raw Score	Min Raw Score	Max Raw Score	Mean p-value	SD p-value	Alpha
3	1	28 (31)	178	17.92	5.78	0	29	0.63	0.19	0.84
	2	29 (32)	98	18.65	5.74	5	29	0.62	0.15	0.83
	3	30 (32)	115	18.91	5.21	3	28	0.62	0.22	0.81
	4	29 (32)	113	18.00	6.31	0	30	0.60	0.18	0.86
4	1	28 (32)	192	18.65	6.33	0	30	0.62	0.16	0.86
	2	28 (33)	129	17.35	6.48	0	30	0.58	0.15	0.85
	3	28 (33)	110	19.15	6.76	4	30	0.62	0.17	0.87
	4	28 (34)	122	18.65	6.82	2	32	0.59	0.12	0.86
5	1	26 (30)	154	16.59	6.12	0	28	0.62	0.17	0.85
	2	26 (32)	99	19.73	6.32	3	31	0.62	0.13	0.85
	3	26 (31)	88	18.01	6.37	0	29	0.61	0.14	0.84
	4	25 (31)	127	17.43	5.88	1	29	0.58	0.14	0.81
6	1	24 (29)	180	18.97	5.64	4	29	0.68	0.16	0.84
	2	24 (29)	103	16.85	5.31	5	27	0.59	0.18	0.80
	3	24 (29)	116	18.19	5.44	6	29	0.68	0.16	0.82
	4	24 (29)	98	17.92	4.85	7	29	0.61	0.18	0.76
7	1	24 (29)	162	18.04	6.46	0	29	0.67	0.14	0.88
	2	24 (31)	121	17.74	5.94	1	29	0.59	0.14	0.82
	3	24 (29)	126	18.69	5.55	1	29	0.67	0.14	0.83
	4	24 (31)	141	17.29	5.38	1	29	0.57	0.14	0.78
8	1	24 (29)	173	17.97	5.63	0	29	0.66	0.14	0.83
	2	24 (31)	116	18.55	6.06	5	31	0.62	0.13	0.83
	3	24 (29)	104	17.82	5.27	4	28	0.61	0.17	0.79
	4	24 (31)	114	17.39	5.92	4	30	0.57	0.14	0.81
11	1	26 (31)	168	20.12	6.46	1	31	0.68	0.16	0.87
	2	26 (32)	122	20.61	6.00	3	31	0.66	0.15	0.84
	3	26 (29)	109	18.30	5.32	9	28	0.68	0.16	0.82

	4	26 (32)	96	19.90	6.74	0	32	0.65	0.15	0.88

Exhibit 20 contains form summary statistics for ELA Session 1. ELA forms consisted of the same reading selections as Session 1from the reading forms. In addition, each ELA form contained four stand-alone selected response writing items, and one each of a Tier 1, Tier 2, and Tier 3 writing prompt. Tier 1 writing prompts consisted of a set of selected response items and were administered as part of Session 1.

The results presented in Exhibit 20 are summary statistics for Session 1 of ELA, which includes all of the selected response or dichotomously scored constructed response reading and writing items, including the Tier 1 writing prompt. The first column of the table indicates the grade, and the second column indicates the form. The next column contains the total number of items and points on each form. The remaining columns of the table indicate the number of students taking each form, the mean raw score and standard deviation, the minimum and maximum raw score, mean p-value and standard deviation, and Cronbach's alpha.

Exhibit 20. ELA Form Summary Statistics

Grade	Form	Total (Points)	Summary Statistics							
			N	Mean Raw Score	SD Raw Score	Min Raw Score	Max Raw Score	Mean p-value	SD p-value	Alpha
3	1	22 (25)	170	15.49	4.69	4	23	0.68	0.69	0.81
	2	22 (25)	185	15.97	4.74	1	24	0.68	0.16	0.83
4	1	22 (26)	188	15.47	5.15	4	25	0.65	0.13	0.83
	2	22 (26)	223	15.06	5.24	1	24	0.65	0.13	0.83
5	1	21 (25)	147	13.81	4.35	1	23	0.63	0.15	0.73
	2	21 (25)	150	15.23	4.71	4	23	0.63	0.15	0.79
6	1	19 (23)	150	14.49	4.66	2	23	0.66	0.17	0.81
	2	19 (23)	150	15.44	4.46	5	23	0.66	0.17	0.81
7	1	17 (21)	157	13.25	4.27	0	20	0.63	0.18	0.80
	2	17 (21)	166	13.09	4.09	3	21	0.63	0.18	0.78
8	1	17 (21)	183	13.63	3.81	3	21	0.63	0.15	0.74
	2	17 (21)	246	13.61	3.89	1	21	0.63	0.15	0.74
11	1	21 (24)	182	16.13	4.56	0	24	0.70	0.14	0.82
	2	21 (24)	202	16.16	4.32	2	24	0.70	0.14	0.78