ISEL- K/1
Illinois Snapshots of Early Literacy
Kindergarten/Grade 1
TECHNICAL MANUAL

Rebecca Barr
Camille L.Z. Blachowicz
Roberta Buhle
Jeanne Chaney
Carol A. Ivy
Andrea Uchtman
National College of Education
National-Louis University

Therese Pigott
Loyola University Chicago

Guadalupe Suarez-Silva
Chicago Public Schools

An ISBE Sponsored Project

2004

Table of Contents

Illinois Snapshots of Early Literacy-K/1 (ISEL-K/1)

OVERVIEW OF THE ISEL-K/1 AND ITS ADMINISTRATION

What are the purposes of the ISEL-K/1?

The ISEL-K/1 is an individually administered, multifaceted classroom-based reading performance screening and diagnostic inventory for students in kindergarten and first grade. The purposes of the ISEL-K/1 are threefold. They are: (1) to provide screening and diagnostic inventory information for classroom instructional planning (2) to identify students in need of an early reading intervention program and (3) to provide pre- and post-assessment data to assess progress.

The ISEL-K/1 has two versions. ISEL-K/1: Version 1 was commissioned by the State of Illinois to provide a thoughtful, research-based, early literacy assessment that could be administered and interpreted by classroom teachers as they plan and monitor instruction. This version consists of snapshots 1-8 (detailed below) to be used selectively in fall, with the same snapshots available for spring assessment. The goal was to provide a menu of assessments, which could be used in under twenty minutes to get a good picture of student and class performance and progress.

Subsequently, the Illinois State Board of Education requested that the original ISEL-K/1 be enhanced with the addition of snapshots for Vocabulary and Fluency and with a second form for spring testing. ISEL-K/1: Version 2 consists of 10 snapshots (detailed below) with Form A for spring and Form B for fall administration. The added subtests and form are referred to as enhancements in the standardization sample charts.

What are the Illinois Snapshots of Early Literacy (ISEL-K/1)?

All ISEL assessments (ISEL-K/1, ISEL-S, ISEL-2) are based on scientific reading research and sound classroom practice. They reflect best practices in early literacy instruction and are linked to the Illinois Learning Standards (1994). Along with the ISEL-K/1 described in this manual, there is also a Spanish version (ISEL-S) and an assessment for second grade, ISEL-2. ISEL-2 has its own technical manual and teacher's guide. Each ISEL provides both standardized scores and qualitative information and has a high level of validity and reliability.

The ISEL-K/1 has three forms: Version 1, which provides the same snapshots with fall and spring norms for performance; Version 2-A for fall assessment and Version 2-B for spring assessment. These ISEL-K/1 snapshots provide information useful to teachers as they plan and develop classroom-based reading instruction. Because of its link to Illinois Learning Standards (1994) the ISEL-K/1 can guide the development of curriculum as well as the design of effective models for early intervention.

Administered to students individually within the classroom setting, the ISEL-K/1 is based on scientific reading research and sound classroom practice. Included in the ISEL-K/1 are snapshots listed in the chart below:

Snapshot	Version 1	Version 2-A and B
Alphabet Recognition: upper and lower case	√	√
Story Listening: comprehension and vocabulary	√	√
Phonemic Awareness: initial consonant	√	√
One-to-One Matching	√	√
Letter Sounds	√	√
Developmental Spelling	√	√
Word Recognition	√	√
Passage Reading	√	√
Vocabulary		√
Fluency		√

Which snapshots should be used for screening?

Each grade level of ISEL-K/1 has two snapshots which are recommended for fall screening Each is highly reliable and valid and combined administration time is 10 minutes or less per child. Recommended for fall screening:

For Kindergarten: Alphabet recognition; Letter Sounds. Developmental spelling may be substituted for letter sound in areas where pre-school writing is prevalent. The subtests are equivalent in reliability.

For First Grade: Word Recognition; Developmental spelling

When should the ISEL-K/1 be given and to which students?

Field-testing, advisory review and psychometric evaluation suggest that different snapshots are more useful as inventories for different grades at different times of the year. Norms are provided (Target Scores which are the 50th percentile score) for the beginning and the end of kindergarten and first grade and can be used to help make instructional decisions. However, teachers may wish to assess the progress of their students at other points during the school year. To assess progress teachers may wish to administer Version 1 with the same snapshots as a pre-and post-assessment measure or to use Version 2-Form A for fall and B for spring. If teachers wish to shorten the assessment time, guidelines for abbreviated administration shown in Table 1 may be helpful. A general rule of thumb is to skip any assessment for spring testing that showed mastery (0 or 1 error except for alphabet which may have 2 errors) in fall.

Table 1. Snapshots Recommended for Abbreviated ISEL-K/1 Administration

ISEL-K/1 Snapshots:	# of items	Beginning of kindergarten	End of kindergarten	Beginning of first grade	End of first grade
Alphabet Recognition: Upper and Lower Case	**54**	√-Screening			
Story Listening: Comprehension & Vocabulary	**21**	√	√		
Phonemic Awareness: Initial Consonant	**10**	√	√	√	
One-to-One Matching	**9**	√	√	√	
Letter Sounds	**26**	√-Screening	√	√	√
Developmental Spelling	**27**		√	√-Screening	√
Word Recognition	**22**			√-Screening	√
Passage Reading-Version1/Version2	**12/20**			√	√
Vocabulary	**14**				
Fluency	**-**				

Do not readminister any mastered in fall (0-2 errors on alphabet; 0-1 errors on all other snapshots) in the spring

Beginning of Kindergarten: The snapshots appropriate for most children at the beginning of kindergarten are: Alphabet Recognition, Story Listening, Phonemic Awareness and One-to-One Matching. The remaining snapshots may be appropriate for some kindergarten children. If children perform well on Phonemic Awareness and One-to-One Matching, testing should proceed to the next snapshots

End of Kindergarten: The snapshots appropriate for most children at the end of kindergarten are: Story Listening, Phonemic Awareness, One-to-One Matching, Letter Sounds and Developmental Spelling. Word Recognition and Passage Reading may also be appropriate for some kindergarten children. At the end of the year, it will not be necessary to readminister any snapshots on which a child received a perfect score, or missed one item (2 items on Alphabet Recognition are acceptable). For example, if a child receives a score of 53 on Alphabet Recognition in the beginning of the year, the teacher can enter that score at the end of kindergarten without readministering the snapshot.

Beginning of First Grade: The snapshots appropriate for most children at the beginning of first grade are: Phonemic Awareness, One-to-One Matching, Letter Sounds, Developmental Spelling, Word Recognition and Passage Reading. If children experience considerable difficulty with these, Alphabet Recognition and Story Listening should also be administered.

End of First Grade: The snapshots appropriate for most children at the end of first grade are: Letter Sounds, Developmental Spelling, Word Recognition and Passage Reading. However, administering the Alphabet Recognition, Story Listening, Phonemic Awareness, One-to-One Matching snapshots may be appropriate for some children who are less advanced readers. At the end of the year, it will not be necessary to readminister any snapshots on which a child received a perfect score, or missed one item. For example, if a child receives a score of 25 on Letter Sounds, the teacher can enter that score at the end of first grade without readministering the snapshot.

Should the ISEL-K/1 be administered to every kindergarten and first grade student?

The ISEL-K/1 offers teachers information about each student that otherwise might require several hours or weeks of classroom observation. Ideally, therefore, it is recommended that all students in the class be assessed with some snapshots at during the school year. To monitor progress more accurately, beginning year pre-testing and end-of- year post-testing are suggested. Time and other considerations may limit the administration of ISEL-K/1 assessment to students whose expected progress is questionable or uncertain.

How long does it take to administer the ISEL-K/1?

The Screening items take require 10 minutes or less. Classroom teachers can administer the abbreviated ISEL-K/1 within a reasonable time period (20 minutes), and obtain information about what the student knows about reading and how he or she approaches reading and reading-related tasks. Most snapshots and each passage reading selection take less than five minutes each to administer. Story Listening Vocabulary and Comprehension and the Developmental Spelling snapshots typically take 5-8 minutes to administer.

How does the ISEL-K/1 differ from other early literacy assessments?

Most standardized reading tests fail to provide qualitative information pertinent for instructional planning. The ISEL-K/1 is designed to inventory the significant aspects of beginning reading. Although teachers develop, modify and/or adopt informal assessment instruments to provide a clearer understanding of their students' needs, often these measures focus on a single element of reading development such as Alphabet Recognition or Phonemic Awareness to the neglect of other important dimensions. The variety of snapshots included in the ISEL-K/1 provides an overview of the child's competencies, hence the term "snapshot." Educators have developed similar assessments to be used in classrooms; nonetheless, the time required to administer the measures frequently exceeds the time available to the classroom teacher.

Who can administer the ISEL-K/1?

The classroom teacher, reading specialist and other support staff can administer the ISEL-K/1. Videos on the administration of the inventory are available from the Illinois State Board of Education in both tape and CD formats. Our field tester training suggested that it takes an experienced reading teacher less than 4 hours, typically 2- 2 hour sessions, to learn how to

administer and score the ISEL-K/1 reliably. For inexperienced teachers or paraprofessionals a longer time period may be necessary.

DESCRIPTION OF ISEL-K/1 MATERIALS

What is the format of the ISEL-K/1 materials?

With the exception of paperback books used for Story Listening and Passage Reading, master copies of all materials are available for download on the Illinois State Board of Education (ISBE) website, www.ISBE.net.

- The Administration Booklet should be printed in black ink on tagboard or other heavy white paper and spiral bound or stapled. Student booklet pages contain large, clear print and/or pictures free of background clutter. Pages are numbered and labeled with the name of the "snapshot."
- Scoresheets should be printed in black ink on plain copy paper.
- Paperback books for passage reading must be purchased from appropriate vendors. FOR THE ISEL-K/1, the passage reading books are:

***THE CARROT SEED*, by Ruth Kraus Illustrated by Crockett Johnson, Harper Collins (paperback) 10 East 53rd Street New York, New York, 10022 212-207-7000 ISBN 0-06-443210-6**	***TOY MODELS,* by Margie Burton, Cathy French, and Tammy Jones Benchmark Education Company*:* 629 fifth Avenue Pelham, NY 10803 1-877-236-2465 ISBN 1-892393-68-9-C** ***MY BIKE*, by May Nelson Photographed by Jeff Richey The Wright Group 222 East Danieldale Rd. Desoto, TX 75115 800-648-2970 ISBN 1-57257-906-4**	***PAINT MY ROOM*, by Roger Carr Illustrated by Peter Paul Bajer Sundance Publishing P.O. Box 1326, 234 Taylor Street Littleton, MA 014630 1-800-343-8204 ISBN 0-7608-4197-X** ***WIND POWER*, by Pat Quinn & Bill Gaynor Illustrated by Donna Cross Learning Media Limited Distributed in the US by Pacific Learning P.O. Box 2723/15342 graham St. Huntington Beach, CA 92647-0732 1-800-279-0737 ISBN 0-478-20494-9**

ISEL-K/1 DEVELOPMENT

ISEL-K/1 Development

The ISEL-K/1 was designed to be easily administered by teachers to yield an early literacy assessment within a relatively brief time period (about twenty minutes) when grade appropriate snapshots are given. Kindergarten and first grade children and their teachers from nine schools/districts in the northern part of Illinois served as field-study collaborators in 2000-2001. One goal for the first year's field testing was to assess the pilot version of the ISEL-K/1 in terms of clarity of directions, ease of administration and scoring, and time for administration. Based on the administration of the ISEL-K/1 in the fall of 2000, directions for administration and scoring were refined and clarified, and snapshot items were eliminated, refined and sequenced in terms of difficulty. The development of each snapshot and the refinements that were made during the field test year are described in detail in the third section of this manual. The additional subtests and form for Version 2 were designed and field-tested in 2002-2003.

ISEL-K/1: Version 1 consists of the 8 original snapshots. The same version of the ISEL-K/1 was used to collect norming data in the fall and spring of kindergarten and first grade to see how students improve over time on instructionally relevant tasks. Because only selected tasks are administered at different times of the year and in different grades, students repeat few snapshots. In 2002-2003, Version 2, with two forms, was developed and field-tested. This version adds snapshots for Vocabulary and Fluency to comprise Form A as well as adding Form B. The scoring on the Passage Reading was also changed to include the comprehension questions which changed the number of items from 12 to 20. Norming data for Version 2 were collected in 2003-2004. This is referred to as the enhancement field testing and norming in the standardization tables.

INDIVIDUAL SNAPSHOT DEVELOPMENT
Version 1

ISEL-K/1 SNAPSHOT 1: ALPHABET RECOGNITION - UPPER AND LOWER CASE

Background and Purpose

Letter Recognition is one of the preliminary precursors of literacy. Children who learn to identify features of letters and to distinguish letters from one another with control are prepared for learning "systematic associations like the alphabetical names and sound equivalents" (Clay, 1993). An inventory of known letters shows the extent to which children are familiar with the visual details of print and their names. It is essential that children grasp the concept that letters have unique features and specific names (Adams, 1990).

Ordering of Letters

Table 2. Proportion of kindergarten and first grade children at the beginning of the school year who correctly identify the upper and lower case letters

Uppercase Letters	Kindergarten Percent Correct N= 232	First Grade Percent Correct N=220	Lowercase Letters	Kindergarten Percent Correct N= 232	First Grade Percent Correct N=220
O	89	99	o	84	99
B	87	99	c	83	99
A	84	99	x	78	98
X	83	96	s	78	98
C	82	99	z	75	97
Z	81	96	i	71	96
S	80	98	e	71	98
E	74	97	w	67	95
P	73	97	p	66	95
L	72	98	m	66	97
T	72	97	k	66	97
M	72	96	r	64	97
F	71	98	y	63	95
W	71	97	t	62	96
K	70	96	a	61	97
R	70	98	v	59	95
D	69	97	j	59	91
I	69	97	f	59	97
Y	68	94	u	54	95
Q	67	96	a	53	97
H	67	95	n	50	95
G	67	97	h	47	93
N	66	97	b	43	81
J	66	93	g	41	93
U	65	94	d	34	81
V	59	95	l	34	77
			q	25	78
			g	24	75

In Snapshot 1, students are expected to differentiate letter features and identify 26 upper case and 28 lower case letters by name, including the special typeset "a" and "g" as these forms are found in books and writings. In this snapshot, the upper- and lower-case letters are listed horizontally from easiest to most difficult. The order of the letters was determined through field tests in the fall of 2000 with more than 450 kindergarten and first grade children. Table 2 shows the proportion of kindergarten and first grade children correctly identifying each of the upper case letters.

Most of the first grade children (97%) identify all the uppercase letters quickly and accurately. Many of the kindergarten children (80%) identify the easiest uppercase letters correctly, whereas only about sixty percent identify the most difficult letters. We have ordered the letters on the basis of the performance of the kindergarten children since they are still in the process of learning the letter names, whereas they are known by most of the first graders.

Table 2 also shows the proportion of kindergarten and first grade children correctly identifying each of the lower case letters at the beginning of the school year. As can be seen, the easiest letters for both groups are "o", "c", "s", "x" and "z". The most difficult are the regular type set forms of "g", "q", "l", "b" and "d". These are four of the letters that are most easily confused as reversals.

Suggestions for Task Administration

In administering Snapshot 1, Alphabet Recognition, if a child is unable to identify the first row of upper-case letters, the teacher may wish to have the child simply scan the remaining letters to see if any are known. This decision was based on a cross-tab analysis of the kindergarten sample (n = 232). Of the eleven children who missed the first six easiest upper case letters, none was able to identify any of the remaining letters. In contrast, of the eight children who identified one letter of the first six, several children recognized one or more letters after the first six. Often they recognized the first letter of their name. Similarly, of the 21 children who missed the first six easiest lower case letters, none was able to identify any of the remaining letters. In contrast, of the nine children who identified one letter of the first six, several children recognized one or more letters after the first six. Thus, if a child knows no letters the first row of letters, it is appropriate to have the child scan the remainder to see if he or she knows any other letters, and if not, to discontinue the assessment.

Difficulty of Task

The Alphabet Recognition Snapshot was administered to children in the fall and spring of kindergarten and first grade. Table 3 shows the results from these administrations in terms of mean raw scores, standard deviations, and percent correct. As can be seen, most growth occurs on this Snapshot during the kindergarten year. By the end of kindergarten, children have mastered an average of 93-95 percent of the upper and lower case letters. Only minor gains are seen during the first grade year, perhaps by the small number of children who have not attended kindergarten.

Table 3. Means, standard deviations, and percent correct on the Alphabet Recognition Snapshot for children in the fall and spring of kindergarten and first grade

Alphabet Recognition (Total=54)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	35.7	50.4	17.2	6.4	66	93
2001-02 (n=527)	33.7	51.4	17.0	5.1	62	95
First Grade						
2000-01 (n= 217)	51.5	53.5	10.5	1.7	95	99
2001-02 (n=523)	51.8	53.7	4.0	.7	96	99

Predictive Validity

Concurrent validity is reported in the section on validity. The face and content validity of the Alphabet Recognition task is self-evident. That is, if a teacher wishes to know whether a child can identify the letters of the alphabet, this snapshot provides this information. Since all upper and lower case letters are tested, no sampling is involved. The snapshot is a performance measure of letter naming.

But does good performance on this snapshot predict successful reading development? To recognize a letter, the child must not only be able to identify the visual form but also to connect that to its name. Because the name often includes the sound of the letter, Alphabet Recognition would appear to facilitate the learning of Letter Sounds. This in turn might facilitate Word Recognition and Passage Reading. Table 4 shows the extent to which good performance on Alphabet Recognition at the beginning of the year is associated with good performance on other early literacy measures taken at the end of the year for kindergarten and first grade children for two successive years.

Table 4. Predictive Validity- Correlation coefficients showing the relation between Alphabet Recognition measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall Alphabet Recognition	Spring Alphabet Rec.	Spring Story Listen'g	Spring Phoneme Aware.	Spring 1-to-1 Match	Spring Letter Sounds	Spring Develop Spelling	Spring Word Recog.	Spring Passage Read'g
Kindergarten								
2000-01 (n=217)	.59	.36	.50	.62	.62	.59	.64	.55
2001-02 (n=527)	.44	.36	.41	.47	.45	.47	.56	.59
First Grade								
2000-01 (n=207)	.34	.18	.34	-.06	.45	.37	.36	.36
2001-02 (n=523)	.16	.17	.24	.20	.14	.26	.35	.35

The coefficients for the kindergarten samples are substantial and statistically significant. As might be expected, Alphabet Recognition shows a strong relation with knowledge of Letter Sounds, Developmental Spelling, and Word Recognition. It is also highly correlated with children's ability to derive a one-to-one match between spoken and printed words and with Passage Reading. The low coefficients for the first grade sample are an artifact of the narrow variation in alphabet knowledge in the fall of first grade since almost all first graders knew all the letter names (see Table 3).

Regional Reliability

Overall reliability is reported in the later section on Reliability. Table 5 shows the reliability coefficients by region which are high, particularly in the fall for both grades. Spring coefficients decline for both kindergarten and first grade. We suspect that this is because children are taught this information if they do not know it, thus increasing the degree of mastery within groups and thereby decreasing the magnitude of the reliability coefficients (see Table 3), somewhat for kindergarten, but markedly for first grade.

Table 5. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Alphabet Recognition

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.9805	217	.8652
Region 1 (2001-2002)	277	.9793	247	.9370
Region 2 (2001-2002)	34	.9776	35	.8022
Region 3 (2001-2002)	67	.9706	67	.8897
Region 4 (2001-2002)	46	.9717	44	.9262
Region 5 (2001-2002)	103	.9796	92	.7787
Region 6 (2001-2002)	49	.9785	45	.8947
Average Coefficient		0.9768		0.8705
First Grade				
Region 1 (2000-2001)	207	.9597	207	.8788
Region 1 (2001-2002)	283	.9204	199	.2670
Region 2 (2001-2002)	78	.9044	71	.3839
Region 3 (2001-2002)	61	.7973	58	.5851
Region 4 (2001-2002)	67	.8868	64	.6218
Region 5 (2001-2002)	59	.8420	51	.5395
Region 6 (2001-2002)	48	.9453	46	.1676
Average Coefficient		0.8937		0.4441

ISEL-K/1 SNAPSHOT 2: STORY LISTENING - COMPREHENSION AND VOCABULARY

Background and Purpose

Listening is the foundation for the language arts and is the first acquired language mode. Despite its fundamental nature (or because of it), listening is often a neglected language art (Tompkins, 2001). Listening to stories is especially important because students develop a "sense of story" as well as increase their vocabulary knowledge (Eller, Pappas, & Brown, 1988; Dickinson & Smith, 1994). Listening to stories fosters an interest in books and reading. Furthermore, story listening provides a springboard to meaningful discussion, thus helping students acquire an essential literacy and school learning skill (Dyson & Genishi, 1994; Snow, Burns & Griffin, 1998)).

In Snapshot 2, students are expected to listen, "carry away information" (Rosenblatt, 1935, 1979), and respond to story-based questions. Nine questions assess the children's ability to respond to queries concerning information:

- contained in the text and in the structure of the story (questions 1, 2, 3, 4, and 5)
- inferred from the text (question 6)
- related to conceptual and vocabulary knowledge (questions 7 and 8)
- demonstrated by personal response (question 9)

Additional points are given for some items when children use specific vocabulary contained within the story.

Story Listening Comprehension

Literacy instruction generally includes listening to or reading stories and then discussing them with the teacher or with others. A student's ability to retell or answer questions about a story heard or read is also a traditional model of literacy assessment (Johns, 1999). Student performance on such tasks allows the teacher to observe general comprehension, vocabulary use, and abilities to note the literal information in a story as well as to make inferences and connections. Because talk is such a powerful tool for observing the understanding of young children, because the language used by children is connected to school success and because performance assessment holds such promise for understanding reading comprehension (Marzano, Pickering & McTighe, 1992), we designed a story listening comprehension task for the ISEL-K/1.

It is important to emphasize at the outset that this snapshot is not a measure of listening comprehension as it has been commonly understood in classrooms in tasks that involve following directions. Rather, we have attempted to structure a quick sample of how a student talks about something that has been read by the teacher, with questions and answers that follow (Cazden, 1992; Durkin, 1978-79). This procedure is common in many classrooms (the teacher Initiates with a question, a student Responds, and the teacher Evaluates its appropriateness). The

IRE format was decided upon rather than a retelling because it is easier for inexperienced teachers and paraprofessionals to administer questions and score responses. In practice, the first question sometimes elicits a retelling which answers many questions and the ISEL-K/1 Teacher's Guide provides an option for using retelling. For the purposes of standard field-testing procedures, however, we used the questions. The goal of giving the Story Listening snapshot is to enable the teacher to note those students who differ dramatically from the general response modes of the class or from her/his expectations so that instruction or further investigation can be planned.

Book Selection

The Carrot Seed (Kraus, 1945; 2000) was chosen because it is an award-winning book for young children that was recommended by a panel of kindergarten advisors, has simple illustrations, simple but natural language, and vocabulary appropriate to kindergarteners and first graders. One of the central concepts, that of plants and planting, is placed at an early primary level by The Living Word Vocabulary (Dale & O'Rourke, 1976), by current work on children's understanding of these concepts (Biemiller & Slonim, 2001) and by examinations of concepts and vocabulary common to school instructional materials (Harris & Jacobson, 1982). The Carrot Seed has been a perennial teacher's choice since its publication and was deemed appropriate by our advisory panel of experienced teachers. It also allows for some discussion and questions -- no mean feat in a short book where constructing more than two questions can be a real stretch. It is also available in English and in Spanish.

Development of the Task

The task involves the teacher reading aloud to a child with questions following. The goal is to tap the child's understanding of the general story structure and events and key vocabulary, as well as to leave room for some inferential thinking and personal connections. We went through many iterations of the question list as well as differing organizations of the question chain, field-testing them with a number of children and teachers, before we arrived at the pilot version. Changes involved dimensions that reflect the literature on the complexity of design of comprehension measures involving issues of:

Question Placement. We needed to decide whether or not to have questions on vocabulary included in the flow of the story or to ask them after the story line was established. Teachers preferred not to interrupt the talk about the story to talk about vocabulary as separate items. That approach was viewed as disjointed, interrupting the flow of thought for the students and confusing them. So vocabulary questions were placed at the end except when needed to establish the story line.

Question Wording. Students not used to "doing school," are often unfamiliar with the academic language of the classroom (Baker & Kame'enui, 1995; Snow, 1991). We found we needed probes for academic language such as, "How did the story begin?" or "How did the story start?" Children who weren't sure what we were asking here could very well answer the question, "What was the first thing the little boy did." So we clarified language involving words such as "begin," "start," "end" which are difficult for some of the children to interpret. Pronoun referents were

also a problem. One story-chain question asked, "What did his family say to him?" (Answer: "It won't come up."). When the next question asked, "What did he do after that?" students had difficulty answering. When it was phrased, "What did he do after they said, 'It won't come up?'" they could answer.

Lastly, the final question, attempting to see if the child would make any personal connections or evaluative comment, became a string of probes when no single question or probe was clear. While this may seem a gratuitous question given that any answer other than silence or "I don't know" is scored, we were struck that some children could not be nudged into giving any answer, raising a red flag for teachers that they might need special nurturing for class participation.

Vocabulary Choice. There are a number of age appropriate words in The Carrot Seed, which are potentially useful to probe vocabulary knowledge. We started with "ground, " "plant," and "seed" and then examined pupil responses to "carrot," "weed," " dig," "grow," "hole," and others. We used the responses of students and the estimates of comprehensibility from the *Living Word Vocabulary* (Dale & O'Rourke, 1976), using Biemiller and Slonim's (2001) work on this corpus, along with *Basic Reading Vocabularies* (Harris & Jacobson, 1982), to choose the final sets of words shown in Table 6.

Table 6. Ranked difficulty ratings of words using The Living Word Vocabulary (LWV) and Harris-Jacobson Basic Elementary Reading Vocabularies (HJ).

Word	Living Word Vocabulary Percent known*	Harris-Jacobson Basic Elementary Reading Vocabularies Grade estimate
plant	96	early first
seed	92	early first
ground	97	1
dig	85	2
hole	81	1
carrots	81	2
weed	76	2

* Rating for familiarity at 4th grade (higher percentages indicate easier word)

Based on pupil response, these words represented a range of difficulty, albeit a short one, and allowed for some superordinate categorization. "Weed" is definitely the most difficult word, by our estimates and prior research. The illustration in the book shows small sticks rising out of the ground. For students who have little prior knowledge of planting, the answer, "those little sticks" is commonly given and is counted as correct for a comprehension answer, through not for vocabulary as we note below.

Scoring

We started with a set of ten basic questions. Based on an analysis of data from four classrooms, we identified the most common responses. We noticed that teachers were loathe not to credit

students with any indication of comprehension to make sure they didn't short change their estimations of their students. Yet they clearly thought that some students comprehended more, or more fully or richly, than others, or had more sophisticated funds of prior knowledge and vocabulary to bring to bear on discussing the book. For example, for the question, "How did the story begin? (What was the first thing the little boy did?)" a student might answer : "He put something in the ground." Another might answer, "He planted a seed." Teachers wanted to give both students credit but wanted to give more for the second response.

Similarly, when students were probed about vocabulary, such as "What is a carrot?", teachers wanted to give credit to students who said," Something that bunnies eat," but more credit to the children who said, "It's a vegetable you eat." Some children provided a superordinate along with a functional definition revealing more advanced levels of development than those giving only functional definitions (Feifel & Lorge, 1950). For the question on "weeds" the response "little sticks" indicates that students had comprehended what was in the book but were unable to connect it to prior knowledge or vocabulary.

To investigate the definitional ability of children more systematically, we used a Q-Sort Process (McKeown & Thomas, 1988) on the data from the four classrooms. We had teachers and assessors sort their students into those with excellent comprehension and those with below average comprehension with a default middle group. We then transcribed and analyzed the responses and had the assessors classify answers in categories. Within the category of correct, we had 2-3 levels of "correctness." Examining the factors that accounted for these difference, we found that specificity in vocabulary use was a factor characterizing those classified as excellent; lack of vocabulary specification was associated with low comprehension. Research on children's story listening indicates, however, that definitional specificity can be learned; students adopt the vocabulary of the author as they become more familiar with a book (Elley, 1988; Eller, Pappas and Brown, 1988; Dickinson & Smith, 1994).

In sum, the scoring of Snapshot 2 is designed to acknowledge richer, more sophisticated language use. Students receive 1 point for an answer that is “reasonable” or logically follows the story line. A maximum of 2 additional bonus points are awarded for the use of specific language or that reflective of particular conceptual knowledge. Examples of “reasonable” and “bonus” responses are included on the score sheet to assist in scoring the snapshot.

Difficulty of Task

The Story Listening Snapshot was administered to children in the fall and spring of kindergarten and first grade. Table 7 shows the results from these administrations in terms of mean raw scores, standard deviations, and percent correct. Because of differences in the number of items from fall to spring it is difficult to interpret the results from the field test year. The results for the percent correct suggest that there are relatively low gains during the school year and more during the summer between kindergarten and first. Alternatively, it may be that adding the vocabulary items to the snapshot increased the difficulty of the snapshot so that what appear to be limited gains are in fact greater than they appear. In contrast, the results from the standardization year show gains occurring during the kindergarten and first grade years, as well as during the summer. Nevertheless, growth in vocabulary and comprehension, as measured by this task,

appears to occur at a relatively slow pace in comparison to the growth on measures of children's knowledge about print, such as alphabet recognition and letter-sound knowledge.

Table 7. Means, standard deviations, and percent correct on the Story Listening Snapshot for children in the fall and spring of kindergarten and first grade

Story Listening *	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	7.14*	15.04	2.13	3.77	71	72
2001-02 (n=527)	13.41	16.16	4.49	3.56	64	77
First Grade						
2000-01 (n= 207)	8.21*	17.44	1.42	2.59	82	83
2001-02 (n=523)	16.47	17.65	3.16	2.94	78	84

* As previously described, there were 10 items on the fall version of the snapshot during the field test year and 22 during the spring.

Predictive Validity

Overall validity is reported in the later section on Validity. On the face of it, the validity of the Story Listening task would seem to be obvious: a child listens to a story read aloud and then responds to questions asked by a teacher. Since the task is individually administered, it is likely that the children's performance will be similar to what the teacher observes when she reads a story aloud to the class. Whereas teachers in classrooms are often unsure about whether a particular child has understood a story, Snapshot #2 provides the basis for more individualized and complete assessment.

There are, however, two areas of concern. First, a single story has been sampled from a very large set of stories that might have been selected. Would we get the same results if we had used a different story? Our best source of evidence is that teachers who have used the assessment claim that what they see on the ISEL-K/1 relates to what they see in the classroom. Moreover, they claim that the nature of the questions and the scoring approach has enabled them to observe children's language in more complex ways.

Second, what exactly is measured? Is it simply children's comprehension of a story? Or does it also reflect children's ability to attend to a story and to monitor its content? Or does it tap the child's ability to verbalize what is understood? We believe that monitoring content is involved, and that this is what comprehension is. But may not the comprehension of some very shy children be underestimated in the first weeks of kindergarten? We believe that this is a possibility and that teachers should trust their observations about the comfort of a child. It may be that the validity of the task with a particular child is influenced by feelings of confidence; accordingly, the teacher should be aware that the listening comprehension of some children might be underestimated. Similarly, children may not have had the opportunity to become

familiar with "school language." They may not have yet learned the meaning of certain questions and their implicit expectations for certain forms of responses. These considerations may affect the validity of the Story Listening task – yet these are also considerations that may affect children's participation in school tasks more generally. To this extent, the Story Listening task provides teachers with important insights into how children understand stories early in the school year.

A somewhat different question pertains to whether good performance on this snapshot predicts successful reading development. Table 8 shows the extent to which performance on story listening comprehension at the beginning of the year is associated with performance on other early literacy measures for kindergarten and first grade children taken at the end of the year.

Table 8. Predictive validity- Correlation coefficients showing the relation between Story Listening measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall Story Listening	Spring Story Listen'g	Spring Phoneme Aware.	Spring 1-to-1 Match	Spring Letter Sounds	Spring Develop Spelling	Spring Word Recog.	Spring Passage Read'g
Kindergarten							
2000-01 (n=217)	.41	.43	.42	.24	.36	.29	.32
2001-02 (n=527)	.62	.43	.36	.31	.37	.28	.32
First Grade							
2000-01 (n=207)	.36	.25	.23	.21	.22	.17	.18
2001-02 (n=522)	.46	.33	.14	.13	.30	.27	.32

As is true for most listening comprehension measures, those that tap knowledge of print relate to story listening at a moderate, although statistically significant level. Story Listening in the fall is most closely related to Story Listening in the spring. Other snapshots with higher correlation coefficients in kindergarten also depend on listening ability (One-to-One Match and Phonemic Awareness). Yet, longitudinal studies show that early listening measures are strong predictors of reading achievement after children have developed fluency and automaticity with print (Cunningham & Stanovich, 1997; Juel, 1988). Early attention to comprehension and vocabulary may minimize what is known as the "fourth grade slump" when children with strong facility with print fail to achieve at a similar level in their reading comprehension (Biemiller, 2001). Hence, we believe that the inclusion of the story listening snapshot and the instruction it promotes is important in realizing the balanced conceptual development of children.

Our interview data shows this snapshot to be particularly interesting to teachers. Many had never attempted to observe story listening and the discussion behaviors of their students in a structured fashion. They reported that this task provided new insights into the thinking and oral expression of their students. We think that this snapshot is a promising vehicle to promote staff development, as well as provide assessment insights about children.

Regional Reliability

Overall reliability is reported in the later section on Reliability. Table 9 shows the reliability coefficients by region which are in the moderate range. What is most interesting is the extent to which the coefficients increase from fall to spring when we refined the system of scoring to reflect vocabulary as well as comprehension. These results suggest that the measure is sufficiently reliable for use with kindergarten children and first graders in the fall, but should be used with some caution in the spring of first grade.

Table 9. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten samples on Story Listening

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.7072*	217	.7892
Region 1 (2001-2002)	279	.8357	248	.8442
Region 2 (2001-2002)	34	.8884	21	.8146
Region 3 (2001-2002)	67	.6679	67	.6102
Region 4 (2001-2002)	46	.8568	44	.6583
Region 5 (2001-2002)	104	.8352	92	.6994
Region 6 (2001-2002)	49	.8915	45	.8479
Average Coefficient		0.8118		0.7520
First Grade				
Region 1 (2000-2001)	207	.4337*	207	.6550
Region 1 (2001-2002)	283	.7384	200	.7222
Region 2 (2001-2002)	78	.6997	71	.7338
Region 3 (2001-2002)	61	.7593	58	.7460
Region 4 (2001-2002)	67	.7711	64	.8671
Region 5 (2001-2002)	60	.8099	51	.6035
Region 6 (2001-2002)	48	.8407	46	.5988
Average Coefficient		0.7699		0.7038

* During the fall of 2000 a set of ten comprehension questions was used; because of the low reliability this was expanded to a set of 21. The first coefficient is not included in the average.

ISEL-K/1 SNAPSHOT 3: PHONEMIC AWARENESS

Background and Purpose

Phonemic awareness is the understanding that words are composed of sounds, which can be heard, manipulated, and thought about apart from their meaning (Snow, Burns & Griffin, 1998). Phonemic awareness is a gradually developing process that begins during the preschool years and continues during the early years of schooling. Children with emerging phonemic awareness are able to discern, for example, that *box* and *best* begin with the same sound and that *sat* and *front* end with the same sound. A substantial body of research demonstrates that phonemic awareness leads to reading success among kindergarten students and reading performance among first and second grade students (Bradley & Bryant, 1983; Lundberg, Frost & Petersen, 1988). Because of their awareness of the sounds of words, children become more able to discern the alphabetic nature of English (Ehri, 1998).

Many different aspects of phonemic awareness can be assessed. These include selecting a match for an initial consonant (onset), producing an initial consonant, selecting a match for a rhyme (word endings), producing a rhyme, segmenting phonemes in words, and blending phonemes. We decided to include two tasks in the ISEL to assess phonemic awareness: an aurally presented task focused on either initial consonants or rhymes and a spelling task assessing phoneme segmentation and blending. As described next, we compared two versions of tasks involving initial consonants and two involving rhymes. Based on our research, we selected the task in which children identify the picture that begins with the same beginning sound as the target word.

Development of the Task

Our goal was to develop a task that could be easily and quickly administered by teachers who wished to assess the phonemic awareness of their students. From our review of the available tests, we decided to explore four different formats. Two of these involved the child's hearing beginning consonants and two, hearing rhymes (word endings).

We developed the first of these tasks as a multiple choice in which a child listened to a word read aloud and then selected one of three pictures that "starts with the same sound." Pictures for each item in this snapshot were carefully chosen to represent distinctive beginning sounds. Nine different initial consonant sounds (/s/, /m/, /j/, /f/, /l/, /r/, /k/, /b/, /p/) and one digraph (/sh/) constituted the targeted onsets. Most kindergarten and first grade students who are consciously aware of the beginning sound in words should have minimal difficulty identifying the targeted pictures. The set of stimulus words included: side, mail, shine, junk, feet, lamp, road, cake, back, pick. We refer to this task as **Initial Consonant - Selection**. The second initial consonant task asked children to produce the first sound. They were asked to "make the first sound in _____." The words filling the blank were the same as those on the multiple-choice version of the onset task. We refer to this task as **Initial Consonant – Production**.

The two rhyme tasks included a similar contrast. In the first rhyme task, children select one from three pictures with which a spoken word rhymes. The set of stimulus words included: pail, note, try, see, mouse, toy, cat, socks, run, dig. Again the pictures were selected to be easily identifiable. We refer to this task as **Rhyme- Selection**. The second rhyme task included the same set of stimulus words. For this task the child was asked "What rhymes with _____." We refer to this task as **Rhyme - Production**. All four tasks included two practice items prior to the test items to make sure that the directions were understood.

We pursued three research questions: (1) Which task format do children prefer? (2) How do these tasks compare in terms of difficulty and reliability? (3) Which is most effective in predicting progress in learning to read by the end of the school year? To explore these questions, all children were given each of the four snapshots. The four snapshot variations were counter-balanced in order of presentation to control for practice effect. Concerning the first question, informal interviews revealed that children were almost unanimous in preferring the two tasks that included pictures. Selecting from three alternatives seemed to be easier for most of the young children than generating a response.

Selecting the Task for Assessment of Phonemic Awareness

Concerning task difficulty and reliability, Table 10 presents means and standard deviations from the field test year for each of the four tasks, as well as reliability coefficients. As can be seen, the two initial consonant tasks are similar in difficulty, with the response generation version slightly easier as indicated by more correct responses on average. In contrast, generating rhyme responses appears to be more difficult than selecting rhymes from among three pictured responses. The reliability coefficients for the tasks in which children produce responses are higher than those involving selection. This difference is probably due to the multiple-choice format in which some students may get a third of the items correct by guessing.

Table 10. Means, standard deviations, and reliability coefficients (split half) on four Phonemic Awareness snapshots for kindergarten and first grade children combined in the fall of 2000

PHONEMIC AWARENESS TASKS N = 426	Mean Raw Scores	Standard Deviations	Split Half Reliability Coefficients
Initial Consonant - Selection	7.15	2.83	.7557
Initial Consonant - Production	7.53	3.61	.9345
Rhyme - Picture Selection	7.80	2.64	.7539
Rhyme - Production	6.24	4.15	.9334

Our third consideration pertains to the predictive effectiveness of the four tasks. Table 11 shows the correlation coefficients representing the relations between the four phonemic awareness tasks administered in the fall and four reading measures administered in the spring: Letter-Sound knowledge, Developmental Spelling, Word Recognition, and Passage Reading. Concerning

predictive validity, Kame'enui (2002) quotes a member the assessment committee of the IDEA Institute as arguing:
"The most fundamental criterion for a good screening instrument is to have good predictive validity. Of course, the instrument must have reasonable reliability in order to achieve good predictive validity." (Kame'enui, p. 70).

Table 11. Correlation coefficients between four Phonemic Awareness Snapshots administered in the fall of kindergarten and first grade with four reading measures assessed (spring 2000)

PHONEMIC AWARENESS TASKS N = 426	Letter Sounds	Developmental Spelling	Word Recognition	Passage Reading
Initial Consonant - Selection	.5755	.6983	.7618	.7568
Initial Consonant - Production	.5684	.6103	.6108	.5890
Rhyme – Selection	.5017	.5880	.5356	.5617
Rhyme – Production	.4617	.6006	.5475	.5623

As can be seen neither of the rhyming tasks is as effective in predicting later achievement as are the tasks involving the initial sounds of words. Somewhat surprisingly, in spite of lower reliability, the Initial Consonant - Selection task proved to be the most effective predictor the later reading tasks of word recognition and passage reading. Based on this analysis, the multiple-choice initial consonant task was selected as the measure of phonemic awareness to be used in the ISEL-K/1 in conjunction with the spelling measure.

Difficulty of Task

The discussion from this point forth focuses on the snapshot that we selected because of its predictive validity -- the Initial Consonant – Selection task which we will now refer to as the Phonemic Awareness snapshot. It was administered to children in the fall and spring of kindergarten and first grade. Table 12 shows the results from this administration in terms of mean raw scores, standard deviations, and percent correct. As can be seen, most growth occurs on this snapshot during the kindergarten year. By the end of kindergarten, children have mastered an average of 81-88 percent of the beginning consonant Phonemic Awareness items. Although progress occurs, the gains are relatively modest during the first grade year.

Table 12. Means, standard deviations, and Percent correct on the Phonemic Awareness Snapshot for children in the fall and spring of kindergarten and first grade

Phonemic Awareness (Total=10)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	5.55	8.15	2.72	2.41	55	81
2001-02 (n=527)	5.76	8.63	2.69	1.95	58	86
First Grade						
2000-01 (n= 207)	8.84	9.62	1.77	1.01	88	96
2001-02 (n=524)	8.71	9.56	1.95	1.10	87	96

Predictive Validity

Overall validity is reported in the later section on Validity. The Phonemic Awareness Snapshot is a performance measure tapping whether children can focus on the initial sound of a word and identify another word that begins with the same phoneme. If a teacher wishes to know whether a child can consciously focus on initial phonemes, this snapshot provides that information. It is, however, a multiple-choice task which does allow credit for guessing. That is, a child who could not focus on initial sounds might still get a score of three on this task by chance.

Does good performance on this snapshot predict later successful reading development? To perform well on this task, a child must not only be able to hear the initial sound, but also to hold this sound in mind to find a match. Theoretically, it is argued that knowing how to do this will make it easier for the child to spell, learn to pair sounds with letters, and identify words. Table 13 shows the extent to which good performance on Phonemic Awareness at the beginning of the year is associated with good performance on other early literacy measures for kindergarten and first grade children at the end of the school year.

Table 13. Predictive Validity - Correlation coefficients showing the relation between Phonemic Awareness measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall Phonemic Awareness	Spring Phoneme Aware.	Spring 1-to-1 Match	Spring Letter Sounds	Spring Develop Spelling	Spring Word Recog.	Spring Passage Read'g
Kindergarten						
2000-01 (n=217)	.47	.50	.40	.52	.61	.61
2001-02 (n=527)	.42	.35	.35	.45	.46	.51
First Grade						
2000-01 (n=207)	.42	.10	.38	.53	.60	.58
2001-02 (n=522)	.41	.12	.19	.39	.49	.50

For both samples, the coefficients are most substantial for the complex literacy measures of spelling, word recognition, and passage reading. Phonemic Awareness in the fall is also significantly but more modestly related to Phonemic Awareness measured in the spring. The higher coefficients for One-to-One Matching for kindergarten children as compared to first graders are surprising. It may be that the careful listening required for phoneme identification is also tapped on the other two measures. There may also be some commonality inherent in the matching processes. In any case, these results show that a Phonemic Awareness measure entailing beginning consonant selection is a good predictor of later reading and writing.

Regional Reliability

Overall reliability is reported in the later section on Reliability. Table 14 shows the reliability coefficients for kindergarten (Table 14a) and for first grade (Table 14b) by region.

Table 14a. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten samples on Phonemic Awareness

	FALL		SPRING	
	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.7579	217	.7825
Region 1 (2001-2002)	279	.7255	248	.7776
Region 2 (2001-2002)	34	.8023	35	nr*
Region 3 (2001-2002)	67	.7197	67	.6897
Region 4 (2001-2002)	46	.6889	44	.8214
Region 5 (2001-2002)	103	.7145	91	.7458
Region 6 (2001-2002)	49	.7904	45	.6297
Average Coefficient		0.7427		0.7411

- Not reliable – insufficient data

Most coefficients are in the acceptable range. Spring coefficients decrease for the first grade over what was obtained in the fall. We suspect that the latter reflects a ceiling effect since almost all of the items on the snapshot were correctly identified by most first graders at the end of the year (96%, see Table 23).

Table 14b. Fall and spring reliability coefficients (Cronbach alpha) for first grade samples on Phonemic Awareness

	FALL		SPRING	
	n	**Cronbach alpha**	**n**	**Cronbach alpha**
Region 1 (2000-2001)	207	.7441	207	.6780
Region 1 (2001-2002)	283	.8087	200	.5779
Region 2 (2001-2002)	78	.7454	71	.8380
Region 3 (2001-2002)	60	.7110	58	.8856
Region 4 (2001-2002)	69	.7887	64	.5056
Region 5 (2001-2002)	60	.7276	50	.5445
Region 6 (2001-2002)	48	.7908	46	.3354
Average Coefficient		0.7595		0.6385

ISEL SNAPSHOT 4: ONE-TO-ONE MATCHING

Background and Purpose

One-to-one matching or "concept of word" refers to a child's ability to map spoken words to printed words on a page. The child should also be able to identify specified target words in text (Morris, 1998). A concept of word often is considered a prerequisite for developing an initial sight vocabulary and facilitates attention to letter-sound relationships (Ehri, 1980, 1998; Morris, 1998). The concept of word develops over time and takes into account that (1) a stream of speech is broken up into words, (2) a word is a unit of print bounded by space(s) and (3) spoken words map to written words in text. As a child develops a stable concept of word, he or she will be able to break words into parts, to note letters in words and to acquire an awareness of letter-sound relationships.

Several useful approaches exist to tap whether children are aware of the one-to-one match between spoken and printed words. Because of its demonstrated usefulness by teachers, we decided to use the version of the task first created by Darrell Morris (1998). We modified his story only by changing the name of the character.

The One-to-One Matching Snapshot provides an opportunity for teachers to observe a child attempting to read a short story. In the "Kim" story, the child is expected to read and point to each word in a sentence after listening to the teacher/tester read and demonstrate the pointing process. Then after reading each sentence while pointing, the student is expected to name two specific words in the sentence, totaling six words in the entire passage. Teachers gain insights about the child's understanding of this process by noting the following behaviors:

- begins pointing at the left of a line of print
- maps spoken word to printed word
- repeats the sentence accurately
- identifies isolated words in a sentence by pointing to words in a line of known text prior to reaching a specific word or by letter-sound cues or sight recognition

Children entering kindergarten may display varying degrees of awareness that a word is a unit of letters bounded by space. A few children will have no idea about where to begin to point to the words of the "Kim" story. Others will proceed to point to the first few words accurately, but err or ignore word boundaries as they progress across the sentences. Still others will be able to point accurately to each word in the sentence and will have a strategy for correctly identifying specific words in sentences. By the end of the year, most children in kindergarten and all in first grade should reach the ceiling level of the assessment, provided they have opportunities to practice finger-point reading throughout the school year and participate in writing activities.

Difficulty of Task

The One-to-One Matching snapshot was administered to children in the fall and spring of kindergarten and first grade. Table 15 shows the results from this administration in terms of

mean raw scores, standard deviations, and percent correct. Most growth occurs on this snapshot during the kindergarten year. By the end of kindergarten, children had an average performance of 82 –87 percent correct in tracking words and word identification. Although some gains are seen during the first grade, they are minor in comparison with those during kindergarten. In addition, as would be expected, the variation among children diminished during the first grade as well.

Table 15. Means, standard deviations, and percent correct on the One-to-One Matching Snapshot for children in the fall and spring of kindergarten and first grade

One-to-One Matching (Total=9)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	3.90	7.35	2.77	2.24	43	82
2001-02 (n=527)	4.09	7.79	2.87	1.88	46	87
First Grade						
2000-01 (n= 207)	7.90	8.84	1.66	.53	88	98
2001-02 (n=523)	7.99	8.90	1.72	.44	89	99

Predictive Validity

The One-to-One Matching snapshot is a performance measure tapping whether children can "finger point read" – whether they can point to each word in print as they say it aloud. This task is useful to teachers in revealing the strategies that children use in identifying words that occur in sentences. It is possible to see when they softly repeat the sentence as an aid to word identification, or if they use letter-sound cues, or if they recognized words as ones they learned previously. On this basis, we defend the face and content validity of the word matching task. If a teacher wishes to know whether a child is "tracking" print while reading, this snapshot provides this information. It provides a window into how children process text and identify words. Once children can do this sort of tracking, they are better able to learn words.

However, does good performance on this snapshot predict later successful reading development? To perform well on this task, the child must not only be able to match spoken and printed words, but to use this and other knowledge to name the words to which the teacher points. Theoretically, we argue that this knowledge is an important precursor to learning sight words and reading contextual material. Table 16 shows the extent to which good performance on One-to-One Matching at the beginning of the year is associated with the good performance of kindergarten and first grade children on other early literacy measures at the end of the school year. As might be expected for kindergarten children, one-to-one matching shows a strong relation with knowledge of word recognition and passage reading. It is also substantially correlated with children's knowledge of letter-sounds and spelling. The low coefficients for the first grade

sample seems to be related to the narrow variation in one-to-one matching in the fall of first grade since almost all first graders were able to track print at that time.

Table 16. Correlation coefficients showing the relation between One-to-One Matching measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall 1-to-1 Match	Spring 1-to-1 Match	Spring Letter Sounds	Spring Develop Spelling	Spring Word Recog.	Spring Passage Reading
Kindergarten					
2000-01 (n=217)	.54	.47	.48	.64	.62
2001-02 (n=527)	.40	.42	.47	.59	.56
First Grade					
2000-01 (n=207)	.17	.24	.36	.37	.34
2001-02 (n=522)	.13	.18	.34	.52	.49

Regional Reliability

Does the snapshot provide a stable and consistent measure of children's ability to track printed words? To address this question, we examined the evidence from the field test schools and the six regions. As can be seen in Table 28, the reliability coefficients are sufficiently high to merit confidence in the kindergarten year. In contrast, the reliability of the task in the fall of first grade is also acceptable, but that for the spring administration is unacceptable. The low coefficient reflects the narrow variation among students and a ceiling effect on the task (see Table 26).

Table 17. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on One-to-One Matching

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.8197	217	.8130
Region 1 (2001-2002)	279	.8016	248	.7823
Region 2 (2001-2002)	34	.8983	35	.7577
Region 3 (2001-2002)	67	.7715	67	.5740
Region 4 (2001-2002)	46	.8436	44	.8845
Region 5 (2001-2002)	104	.8483	92	.7349
Region 6 (2001-2002)	49	.8471	45	.8703
Average Coefficient		0.8329		0.7738

First Grade				
Region 1 (2000-2001)	207	.7435	.207	.4065
Region 1 (2001-2002)	283	.7662	200	.5943
Region 2 (2001-2002)	78	.7672	71	.5515
Region 3 (2001-2002)	60	.7431	58	nv*
Region 4 (2001-2002)	69	.6092	64	.3388
Region 5 (2001-2002)	59	.5650	51	-.0685
Region 6 (2001-2002)	48	.9063	46	nv*
Average Coefficient		0.7286		.3645

* No variation

ISEL-K/1 SNAPSHOT 5: LETTER SOUND ASSOCIATIONS

Background and Purpose

Letter sound knowledge undergirds the alphabetic system in English reading and writing. Children who can recognize the letters of the alphabet and are able to produce their sounds are developing knowledge of letter-sound relationships. Research indicates that students in control of letter-sound relationships can use this knowledge to assist them in (1) mapping letters or letter groups to sounds, (2) identifying individual sounds in words, (3) recognizing familiar and unfamiliar words while reading and (4) writing known and unknown words (Adams, 1990). In Snapshot 5, children are expected to provide letter sounds for 18 consonants, 5 short vowels, and 3 digraphs.

Selection of Letters

Most teachers we interviewed wanted all frequently occurring consonant letter-sounds tested ("q" and "x" are not assessed). Since the sound of the long vowel corresponds with its name, it was not necessary to test children on this information again. For children, particularly those in first grade, it is important that they learn the short sounds of vowels, as well as a subset of consonant digraphs (two letters that represent a single phoneme such as "sh" and "ch"). Because of this selection process that includes all frequently occurring consonants and vowels, the face and content validity of this task is self-evident. The Letter-Sound Snapshot is a performance measure assessing the entire item domain.

Ordering of Letters

In Snapshot 5, the student is expected to produce the sounds corresponding to the most frequently occurring consonants. Also the letter-sound for "m" which was used in the directions was not assessed. The short sounds of the five vowels, a, e, i, o, u, are included on the snapshot. Finally, to assess whether some learning of consonant digraphs was occurring, three of these items (sh, th, ch) were included. The order of the letter-sounds was determined through field tests in the fall of 2000, with more than 450 kindergarten and first grade children.

Table 18 shows the proportion of kindergarten and first grade children correctly identifying each of the letter-sound associations. We have used the results for the kindergarten children as the basis for ordering the letter-sound association on Snapshot 5.

Table 18. Proportion of kindergarten and first grade children at the beginning of the school year who correctly identify the letter-sound associations

Letter-Sounds	Kindergarten Percent Correct N= 232	First Grade Percent Correct N=220	Letter-Sounds	Kindergarten Percent Correct N= 232	First Grade Percent Correct N=220
B	66	98	N	29	86
S	58	98	R	28	87
P	51	97	H	27	85
T	50	97	W	21	77
K	45	95	Y	12	53
Z	45	95	a	15	54
D	44	94	o	12	46
F	42	94	e	8	34
C	41	89	i	8	41
V	41	89	u	7	29
J	38	89	sh	4	32
G	32	82	th	3	30
L	29	88	ch	3	26

A comparison between the kindergarten results and those for first grade show that there is little difference in order for the first half of the list. We arbitrarily ordered "Y" with the consonants although it is less well known than some of the vowels. The order is also similar for vowels and digraphs, although first graders, on average, found the vowel "i" and some of the digraphs easier than did the kindergarteners.

Suggestions for Task Administration

In the administration of Snapshot 5, Letter Sounds, if a child is unable to identify the first row of letter-sounds, the teacher may wish to have the child scan the remaining letters to see if any sounds are known. This suggestion is based on a cross-tab analysis of the kindergarten and first grade samples (n=453) in which we found that if a child was unable to produce the sound for the first six items, it was extremely unlikely that other sounds were known. Thus, if a child knows none of the first row of letter-sounds, it is appropriate to ask the child to scan the remaining letters to see if he or she knows any of the sounds. Yet, we would encourage teachers who, on the basis of their experience think that a child can do better, to continue the assessment letter by letter to ascertain the child's knowledge.

Difficulty of Task

The Letter Sound snapshot was administered to children in the fall and spring of kindergarten and first grade. Table 19 shows the results from this administration in terms of mean raw scores, standard deviations, and percent correct.

Table 19. Means, standard deviations, and percent correct on the Letter Sound snapshot for children in the fall and spring of kindergarten and first grade

Letter-Sound Association (Total=26)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	7.61	17.90	7.18	5.52	29	69
2001-02 (n=527)	8.53	20.65	7.38	5.20	33	79
First Grade						
2000-01 (n= 207)	19.54	23.31	5.12	3.34	75	90
2001-02 (n=523)	19.62	24.28	5.13	2.28	75	93

As can be seen, growth occurs on this snapshot both during the kindergarten and the first grade. But the items that are learned differ. Kindergarten children make progress not only in learning consonants (a 46% gain), but also in learning vowels and digraphs (37% gain). In contrast, since most children have mastered consonant letter-sound associations when they enter first grade, there are relatively little gains to be made (8% gain) but they show major growth in learning vowel and digraph sounds (47% gain).

Predictive Validity

Overall validity is reported on the later section on Validity. The face and content validity of the Letter Sound task is self-evident. That is, if a teacher wishes to know whether a child can identify sounds corresponding to letters of the alphabet, this snapshot provides the information. Since almost all consonant and vowel letters are tested, limited sampling is involved. Sampling is involved in the case of digraphs. The snapshot is a performance measure of letter-sound learning.

But does good performance on this snapshot predict successful reading development? To recognize letter-sounds, the child must not only be able to identify the visual form of a letter and its name, but also the sound that goes with it. Typically this learning facilitates spelling performance, as well as word recognition and passage reading. Table 20 shows the extent to which good performance on letter sounds at the beginning of the year is associated with good performance on other early literacy measures for kindergarten and first grade children at the end of the year.

Table 20. Predictive Validity- Correlation coefficients showing the relation between Letter Sounds measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall Letter Sounds	Spring Letter Sounds	Spring Developmental Spelling	Spring Word Recognition	Spring Passage Reading
Kindergarten				
2000-01 (n=217)	.47	.52	.61	.58
2001-02 (n=527)	.52	.55	.58	.58
First Grade				
2000-01 (n=207)	.60	.59	.56	.60
2001-02 (n=522)	.21	.36	.42	.44

As expected for both kindergarten and first grade children, Letter Sound knowledge shows a strong relation with Developmental Spelling, Word Recognition, and Passage Reading. It is also substantially correlated with children's knowledge of letter-sounds and spelling. The lower coefficients for the first grade regional samples (2001-2002) are unexpected and difficult to explain. Predictive coefficients are somewhat higher when regions are analyzed separately.

First Grade predictive and concurrent validity with other tests were also assessed. Table 21 shows these coefficients with the Gates MacGinitie Reading Test (G-M) (MacGinitie & MacGinitie, 1989). The results show that knowledge of letter-sound association as measured by the ISEL-K/1 is a reliable predictor of Word Decoding as measured by the Gates MacGinitie Reading Test at the end of first grade. The concurrent coefficient is relatively low, probably because of the narrow variation on the ISEL-K/1 snapshot at the end of first grade (see Table 30).

Table 21. First grade predictive and concurrent validity coefficients between ISEL-K/1 Letter Sounds and the Gates MacGinitie Reading Test (G-M)

ISEL First Grade	G-M Word Decoding N = 17
Predictive Validity **Fall Letter Sounds**	0.76
Concurrent Validity **Spring Letter Sounds**	0.27

Regional Reliability

Overall reliability is reported in the later section on Reliability. Does the snapshot provide a stable and consistent measure of letter-sound knowledge? To address this question, we examined the evidence from the field test schools and the six regions. As can be seen in Table 22, the reliability coefficients are high, particularly in the fall of kindergarten. In the spring, coefficients are only slightly lower for kindergarten. The same trend holds for first grade although coefficients are slightly lower. We suspect that this is because of the decreased variation in Letter Sound knowledge as most first graders master phonics.

Table 22. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten samples on Letter Sounds

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.9493	217	.9143
Region 1 (2001-2002)	279	.9508	248	.9148
Region 2 (2001-2002)	34	.9378	35	.7611
Region 3 (2001-2002)	67	.9444	67	.8466
Region 4 (2001-2002)	46	.9192	44	.9036
Region 5 (2001-2002)	104	.9191	91	.8375
Region 6 (2001-2002)	49	.9350	45	.8925
Average Coefficient		0.9365		0.8672
First Grade				
Region 1 (2000-2001)	207	.8708	207	.8515
Region 1 (2001-2002)	283	.9011	200	.7741
Region 2 (2001-2002)	78	.8969	71	.6847
Region 3 (2001-2002)	60	.8442	58	.8589
Region 4 (2001-2002)	69	.9039	64	.7958
Region 5 (2001-2002)	58	.8659	50	nr*
Region 6 (2001-2002)	48	.8836	46	.5909
Average Coefficient		0.8809		0.7593

* Not reliable – insufficient data

ISEL-K/1 SNAPSHOT 6: DEVELOPMENTAL SPELLING

Background and Purpose

Developmental spelling is a useful measure because it reflects a child's ability to integrate and apply knowledge in three areas: (1) phonemic awareness, (2) knowledge of letter-sound relations, and (3) knowledge of printed letters and their formation. Regarding phoneme awareness, spelling taps both sound segmentation and blending. Each of these areas plays a central role in reading and writing development. Teachers often use spelling to gain insight into children's thinking about words, noting whether or not a child can hear the sound components of a word as well as represent them. Developmental spelling is a strong predictor of subsequent reading development (Henderson, 1985; Morris & Perney, 1984). Thus, it provides an important source of information for selecting children who may need the support of early intervention.

Test Development

A developmental spelling approach entails identifying and listing how each phoneme in a word may be spelled (Henderson, 1985). Acceptable spellings reward children for being able to hear phonemes and to select an appropriate spelling. For example, the phoneme "b" in the word "back" could be spelled as "b" or "p" and either response would receive one point credit. Similarly, the final "ck" could be spelled as "ck," "c," "k," or "g". Research has shown that literate persons have learned which of these letters is the correct one, but this is a matter of convention and cannot be known by the child who has not yet learned the rules of spelling. In other words, this manner of scoring spellings rewards children for *hearing* the phoneme and representing it in a plausible fashion. Similarly, the scoring procedure accepts a number of different ways for representing vowels. For example the "ai" in "mail" might be written as "ai," "a," or "ay" and the child would receive credit. In addition, a "bonus" point is given for each word spelled in a conventional and standard way.

In keeping with our approach of not "reinventing wheels," our first step in developing a spelling measure was to examine existing measures designed for kindergarten and first grade children. We were attracted to the task developed by Darrell Morris (1998) since it included items that increased in difficulty and represented different articulatory features. We modified the Morris spelling test in two ways: we refined the scoring and shortened the test. The original set of twelve words from the Morris test included: feet, mail, back, step, junk, peeked, side, lamp, road, dress, chin, picking. After a series of informal field tests to refine the directions for administration and the test format, we administered the snapshot to 228 kindergarteners and 221 first graders. Because of the length of time taken by the spelling task, we sought to develop a shortened version of the snapshot that would be reliable and provide us with information similar to that of the twelve items. We explored the characteristics of the snapshot in terms of the percentage of phonemes that were correct for each word and the total number of correct phonemes. The percentage of correct phonemes was calculated by dividing the total number of phonemes correctly represented by the total number of phonemes in the word. The total number of correct phonemes is simply the total number of phonemes correctly represented for each word.

Although some of the longer words appear to be more difficult, once phonemes per word are taken into consideration, they appear to be less so. For example, "chin" seems to be the most difficult spelling word when the total number of correct phonemes is considered. However, the percent correct for "chin" is similar to many of the words composed on four phonemes.

Table 23 shows the percent of correct phonemes represented for each spelling word and the total number of correct phonemes represented. It also includes the correlation coefficients estimating the relation between total word scores and the total spelling score. Our goal was to shorten the snapshot to six words. In order to derive comparable forms, we compared words in terms of phoneme and word difficulty and in terms of articulatory features represented. We were also mindful of the need to create a sample that would have sufficient ceiling to validly represent the learning of children at the end of the year. The six underlined words in Table 23 are those we selected for the final version of the spelling task in Version 1 and in Version 2 Form A. As discussed subsequently under "Reliability," the shortening of the snapshot did result in a slight drop in the reliability coefficients.

Table 23. The percent of correct phonemes represented for each spelling word by kindergarten and first grade students in the fall of 2000 (n=449), the total number of correct phonemes represented, and correlations between total word scores and the total spelling score

Spelling Word	Percent of Correct Phonemes	Total Number of Correct Phonemes	Correlation with Total Spelling Score
feet	.58	1.74	0.93
back	.56	1.69	0.93
side	.54	1.61	0.94
mail	.53	1.60	0.92
road	.51	1.52	0.92
step	.45	1.79	0.92
picking	.44	1.77	0.94
peeked	.44	1.77	0.94
lamp	,43	1.75	0.94
chin	.43	1.28	0.87
dress	.43	1.71	0.93
junk	.36	1.43	0.89

Scoring

Another issue we pursued pertained to scoring procedures. We refined the Morris scoring format by adapting the approach developed by Marcia Invernizzi and her colleagues at the University of Virginia (Invernizzi, Robey, & Moon, 2000); this format provides acceptable alternative phonemes within the scoring grid. We then addressed the question of whether we should score the spelling results using the "simple" scoring method on the *PALS Early Screening Inventory* spelling task (Invernizzi et al, 2000) or an approach that rewards children who segment phonemes of words in sequence left to right and matched letters to them. We refer to the latter as the "sequential" scoring method. The simple method can be defended because it is simple and

easy to use and taps whether children hear phonemes in a word, although not necessarily in a left-to-right order. In contrast, the sequential method is more complex to score but has the potential to capture the growing awareness of directionality in reading.

This is an issue that can be addressed empirically. To this end, we analyzed a set of 85 tests (43 kindergarten and 42 first grade) using both the simple and the sequential methods. Then we examined how the scores behaved in relation to other reading measures such as Phonemic Awareness, Word Recognition, and Passage Reading. Table 24 shows the results. Generally, in only one comparison does the simple method seem to be better, and this is in the kindergarten correlation with Phonemic Awareness. It may be that the simple method more sensitively represents what kindergarten children know in the beginning stages of phonemic awareness. The other comparisons at the kindergarten level with Word Recognition and Passage Reading favor the sequential scoring method. All correlations at the first grade level favor the sequential method. Because of this analysis, we adopted the sequential method of scoring the spelling words.

Table 24. Correlation coefficients between Developmental Spelling and Phonemic Awareness, Word Recognition, and Passage Reading for kindergarten and first grade using simple and sequential scoring methods

Grade Level	Scoring Method	Phonemic Awareness	Word Recognition	Passage Reading
Kindergarten (n=43)	Simple	0.7149	0.5449	0.5834
	Sequential	0.7050	0.5675	0.6085
First Grade (n=42)	Simple	0.5781	0.7071	0.6211
	Sequential	0.6683	0.7214	0.6639

The final version of the Developmental Spelling snapshot includes six items – back, mail, step, junk, peeked, chin – that are scored sequentially. In sum, the ISEL-K/1 scoring system values the sequence that children hear and their ability to represent the sounds. If the initial consonant is not represented, credit will not be given for other letters written. In addition, to make the snapshot more sensitive in distinguishing children who had learned standard forms of spelling from those who were still spelling inventively, we award a "bonus" point for each word spelled conventionally.

Difficulty of the Task

The Developmental Spelling Snapshot was administered to children in the fall and spring of kindergarten and first grade. Table 25 shows the results from this administration in terms of mean raw scores, standard deviations, and percent correct. For the fall administration, only the items used in the final version are included. As can be seen, growth occurs on this snapshot both during kindergarten and first grade.

Table 25. Means, standard deviations, and percent correct on the Developmental Spelling Snapshot for children in the fall and spring of kindergarten and first grade

Developmental Spelling (Total=27)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	4.00	13.03	5.08	5.87	15	48
2001-02 (n=527)	5.00	15.17	5.48	5.60	19	56
First Grade						
2000-01 (n= 207)	15.12	21.79	4.47	4.49	56	81
2001-02 (n=523)	15.02	21.99	5.29	3.67	56	81

A score of 4 at the beginning of kindergarten shows that many children are able to represent some beginning consonants, but the variation within the sample shows that some children are able to represent none and others can represent most consonants and some vowels. By the end of kindergarten, children on average are able to represent initial and ending consonants; some are representing vowel sounds. The same holds for children at the beginning of first grade. By the end of first grade, children on average have mastered 81 percent of the phonemes – most know consonants, many represent vowels, and some are spelling conventionally.

Predictive Validity

Overall validity is reported in the later section on Validity. The Developmental Spelling Snapshot is a performance measure tapping whether children can segment words into phonemes, match the phoneme with an acceptable letter, and produce the letter. Because these operations are essential to spelling, we argue for the face and content validity of the spelling task. That is, if a teacher wishes to know whether a child can spell developmentally, this snapshot provides this information. Yet since sampling is involved, it would be possible for a teacher to mar the content validity by teaching to the test.

But much of the knowledge used for spelling, such as phonemic awareness and letter-sound knowledge, are also theoretically and practically implicated in learning to read. Thus, we ask the question: Does good performance on this snapshot predict later successful reading development? Theoretically, we posit a reciprocal relationship between reading and writing. The knowledge underlying one aspect of literacy is tapped in the reciprocal process.

Table 26 shows the extent to which good performance in Developmental Spelling at the beginning of the year is associated with good performance on other early literacy measures for kindergarten and first grade children at the end of the school year. For both samples, the coefficients are substantial for the more complex literacy measures: spelling, word recognition, and passage reading. In any case, these results show that this Developmental Spelling measure is a good predictor of later reading and writing.

Table 26. Predictive Validity- Correlation coefficients showing the relation between Developmental Spelling measured in the fall and other areas of literacy measured in the spring for kindergarten and first grade

Fall Developmental Spelling	Spring Developmental Spelling	Spring Word Recognition	Spring Passage Reading
Kindergarten			
2000-01 (n=217)	.55	.60	.61
2001-02 (n=527)	.52	.54	.61
First Grade			
2000-01 (n=207)	.65	.60	.64
2001-02 (n=522)	.52	.50	.52

Regional Reliability

Overall reliability is reported in the later section on Reliability. Does the snapshot provide a stable and consistent measure of Developmental Spelling? To address this question, we examined the evidence from the field test schools and the six regions shown in Table 27.

Table 27. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten samples on Developmental Spelling (6 item snapshot)-Version 1

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.9540	217	.9354
Region 1 (2001-2002)	278	.9421	248	.9154
Region 2 (2001-2002)	34	.9106	35	.8451
Region 3 (2001-2002)	67	.9488	67	.8683
Region 4 (2001-2002)	46	.8988	44	.8316
Region 5 (2001-2002)	104	.9172	91	.8696
Region 6 (2001-2002)	49	.9305	45	.9081
Average Coefficient		0.9289		0.8819
First Grade				
Region 1 (2000-2001)	207	.8687	207	.9618
Region 1 (2001-2002)	283	.8806	200	.6037
Region 2 (2001-2002)	78	.8824	71	.6674
Region 3 (2001-2002)	60	.8982	58	.8038
Region 4 (2001-2002)	69	.8794	64	.6731
Region 5 (2001-2002)	59	.7993	51	.7972
Region 6 (2001-2002)	48	.8744	46	.6421
Average Coefficient		0.8690		0.7356

As can be seen in Table 27, the reliability coefficients are high. These results show that the coefficients for the six-item snapshot are sufficiently high so that teachers can have confidence in the stability of the results. In a separate analysis to explore the effect of shortening the snapshot from 12 to 6 items in the fall of the field test year (2000), we found a slight drop in the odd-even reliability coefficients for kindergarteners (from .9540 to .9354) and a more sizable drop for first graders (from .9354 to an average of .8687), but the reliability of the snapshot remains in an acceptable range.

ISEL-K/1 SNAPSHOT 7: WORD RECOGNITION

Background and Purpose

Teachers and diagnosticians commonly use word recognition in isolation as one measure of total reading performance because it is highly correlated with general reading proficiency (Johns, 1999; Clay, 1993; Juel & Minden-Cupp, 1999). Quick and automatic word recognition ability is associated with reading fluency. When young readers develop a repertoire of words they can identify quickly and effortlessly, this set of words helps to "anchor" their reading and to promote self-monitoring. As the number of sight words increases, less attention needs to be devoted to word recognition problem solving. Fluency is enhanced and reading is supported by a growing number of known words. A parallel process occurs in writing.

In Snapshot 7, the child is expected to read a list of 22 words that increase in difficulty. Because the list spans early emergent to second grade, it is not a list of the 22 most frequent words but a sampling of frequent words at each level, kindergarten through grade 2. The list not only contains words that are frequent in text but also words that are commonly recognized by young readers. The word "can" is a typical example. In contrast, the word "the" occurs frequently in text, but it is not included in the ISEL-K/1 list because it is a difficult word for some young readers to learn and identify.

Design of Task
Selecting a Corpus of Words for the Field Test

A data base corpus of 350 words was constructed by entering in words from the pre-primer, primer, first, and second grade lists of the following word lists:

Basic Reading Inventory Word Lists (which embeds the revised Dolch list) (Johns, 1999)
Reading Recovery Word Lists (Clay, 1993)
Howard Street Tutoring List and ERSI List (Morris, 1999)
Basic Reading Vocabularies (Harris & Jacobson, 1982)
PALS Early Reading Screening List (Invernizzi et al, 2000)
McCrel Frequent Word List (Bodrova, Leong and Semenov, 1998)
CIERA list of 100 most frequent words. (www.CIERA.org)

A first cut was made by selecting words that appeared on three or more lists. The list was then filled in with those words appearing on at least two lists. These were then checked against The Living Word Vocabulary (Dale & O'Rourke, 1976) to remove any words that were unfamiliar in the oral vocabularies of young children.

The resulting list was then organized into emergent words (pre-primer), early first grade words (primer), first grade words, and second grade words (the hard words from the above list that were also cross listed with the CIERA and McCrel lists). To eliminate inappropriate words, the

lists were then rated by a team of 5 expert teachers with primary grade experience. The teachers were asked to indicate words that they felt were not appropriate K/1 words and to scale them in difficulty. The 40 words deemed most appropriate were selected for the first cut. This list was administered to 20 kindergarteners and 20 first grade students on a trial basis to see if any unanticipated problems emerged with the words or format.

Field Test Refinement

The resulting list of 40 words was administered to 220 kindergarten students and 221 first grade students at schools selected to reflect the demographic makeup of Illinois school children. Student responses were used to identify those words from each subset. Table 28 shows the list of 27 words representing levels that seemed to emerge clearly from the first set of 40 words and the percent of kindergarten and first grade children who recognized each of the words correctly.

Generally, the emergent words were easiest for both kindergarten and first grade children to recognize. As might be expected, the early first grade words were known by a third to two-thirds of the first graders, but few of the kindergarteners. A quarter of the beginning first grade children recognized some of the first grade list, but very few from kindergarten did. About twenty percent of the first graders recognized some of the late first/second grade words, and almost none of the kindergarteners did.

Our goal was to include in the final list a sufficient number of emergent words -- about eight -- so that emergent readers at the beginning of kindergarten could be identified, and so that beginning first graders would have a high rate of mastery. All of the emergent words were included on the final set except “dog” which was frequently confused with “big.”

Along with frequency, concreteness and syntactical form have been determined to be powerful factors in word recognition (Schwanenfluegel & Akin, 1994). Thus, the concreteness and syntactical form of the words, as well as recognition frequency, were considered in comprising a balanced list and in ordering the final list. The panel of five educators with primary teaching experience reexamined the list to check for inappropriate words or placement. The word "big" was problematic in that it was an easier word for kindergarteners who perhaps recognized it as an icon but more difficult for first graders who, focusing more on print, reversed the letters and frequently said "dog." It was decided to use the first grade level of placement for this word. After careful study of the assessment evidence and the evaluations of teachers, a representative subset composed of 22 words was selected for inclusion on the final version of the Word Recognition Snapshot. These words are marked with an “*” in Table 28.

Table 28. The percentage of words correctly recognized by kindergarten (n=230) and first grade children (n=221) in the fall. Correlations of each word with total score ranged from .6026-.8379

Level	Words	Kindergarten % recognized	First Grade % recognized
Emergent	cat	27	89
	go	21	90
	dog	23	86
	is	15	82
	red	12	72
	you	13	77
	me	11	70
	can	9	71
	and	9	71
Early First Grade	big	10	54
	look	8	47
	play	7	45
	said	5	46
	this	5	37
	tree here	5 4	30 31
First Grade	men	4	22
	never	3	24
	road	4	19
	live	3	25
	into	4	26
High First/Second	change	2	11
Grade	there	2	15
	because	1	13
	could	2	13
	ready	2	29
	friend	2	18
	made	2	18

Difficulty of Task

The Word Recognition Snapshot was administered to children in the fall and spring of kindergarten and first grade during the field test year. Table 29 shows the results from this administration in terms of mean raw scores, standard deviations, and percent correct.

Table 29. Means, standard deviations, and percent correct on the Word Recognition Snapshot for children in the fall and spring of kindergarten and first grade

Word Recognition (Total=22)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	1.59	8.06	3.63	6.11	7	37
2001-02 (n=527)	1.52	9.31	3.49	6.09	7	42
First Grade						
2000-01 (n= 207)	10.26	19.70	6.19	13.38	47	90
2001-02 (n=523)	10.90	20.00	6.20	3.05	50	91

Growth on this snapshot occurs both during the kindergarten and first grade. By the end of kindergarten, many children, on average, have mastered words that come mainly from the emergent list. By the end of first grade children have mastered an average of 90 percent of the sight words. Many are able to identify some of the most difficult items on the snapshot, but the variation among children is large.

Predictive Validity

Overall validity is reported in the later section on Validity. The face and content validity of the Word Recognition Snapshot is enhanced by the way the list was put together with eight words that are considered emergent and about 12 words spanning the first grade level in difficulty. If a teacher wishes to know whether a child can identify words and roughly at what level, this snapshot provides this information. Yet since sampling is involved, it would be possible for a teacher to mar the content validity by teaching to the test.

Does good performance on this snapshot predict successful reading development? To recognize a word, the child must either know the word on the basis of sight, or have the letter-sound knowledge and blending skill to identify the word. Because fluent word recognition is a central component leading to fluent passage reading (Cunningham & Stanovich, 1998) we would anticipate that children who do well on the word recognition snapshot would also do well on passage comprehension. Table 30 shows the extent to which good performance on the Word Recognition Snapshot at the beginning of the year is associated with performance on Word Recognition and Passage Reading measures for kindergarten and first grade children taken at the end of the year. For both groups of children, the coefficients were statistically significant and substantial.

Table 30. Predictive Validity- Correlation coefficients showing the relation between Word Recognition measured in the fall to other areas of early literacy measured in the spring for kindergarten and first grade

Fall Word Recognition	Spring ISEL-K/1 Word Recognition	Spring ISEL-K/1 Passage Reading
Kindergarten		
2000-01 (n=217)	.60	.67
2001-02 (n=527)	.54	.59
First Grade		
2000-01 (n=207)	.57	.65
2001-02 (n=522)	.46	.56

First grade predictive and concurrent validity with other tests was also assessed. Table 31 shows these coefficients with the Iowa Test of Basic Skills (ITBS)(Hoover, Dunbar& Frisbie, 2001) and the Gates MacGinitie Reading Test (G-M). As can be seen ISEL Word Recognition measured in the fall of first grade is a strong predictor of Comprehension as measured by the ITBS and of Comprehension and Word Decoding as measured by the G-M. The concurrent validity coefficients are not as strong but are still is the acceptable range.

Table 31. Predictive and concurrent validity coefficients between ISEL Word Recognition and the Iowa Test of Basic Skills (ITBS) and the Gates MacGinitie Reading Test (G-M) for first grade

ISEL	Spring ITBS N = 26	Spring ITBS N = 19	G-M Word Decoding N = 17	G-M Comprehension N = 26
Predictive Validity				
Fall Word Recognition	0.73	0.64	0.84	0.84
Concurrent Validity				
Spring Word Recognition	0.51	0.51	0.64	0.63

Regional Reliability

Overall reliability is reported in the later section on Reliability. Does the snapshot provide a stable and consistent measure of word recognition? To address this question, we examined evidence from the field test schools and the six regions. As can be seen in Table 32, the

reliability coefficients are high for both kindergarteners and first graders. Spring coefficients are somewhat lower for first graders.

Table 32. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Word Recognition-Version 1

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2000-2001)	217	.9478	217	.9286
Region 1 (2001-2002)	279	.9519	248	.9379
Region 2 (2001-2002)	34	.9313	35	.9103
Region 3 (2001-2002)	67	.9328	67	.9310
Region 4 (2001-2002)	46	.8156	44	.9006
Region 5 (2001-2002)	104	.8548	91	.9382
Region 6 (2001-2002)	49	.9165	45	.9168
Average Coefficient		0.9072		0.9233
First Grade				
Region 1 (2000-2001)	207	.9404	207	.8683
Region 1 (2001-2002)	283	.9434	200	.8862
Region 2 (2001-2002)	78	.9370	71	.8256
Region 3 (2001-2002)	60	.9429	58	.8575
Region 4 (2001-2002)	69	.9398	64	.8521
Region 5 (2001-2002)	60	.8935	51	.8290
Region 6 (2001-2002)	48	.8764	46	.7006
Average Coefficient		0.9248		0.8313

ISEL-K/1 SNAPSHOT 8: PASSAGE READING

Background and Purpose:

Passage reading performance represents a complex integrative/interactive process involving the child's knowledge of meaning, language structure and letter-sound correspondence to comprehend text. Moreover, children who exhibit early reading behaviors are developing an awareness of book language in contrast to everyday speech (Clay, 1993; Snow, 1991).

The measure is a "snapshot" and is thus not intended to provide a comprehensive assessment or precise instructional levels as is possible with an informal reading inventory. Instead, the intent was to give insight into how well children respond to the organization and language of books, as well as an indication of their proficiency in reading (oral reading accuracy, comprehension, and fluency). The criteria involved in book selection included the following:
(1) The story and pictures are attractive to children, (2) No unusually difficult vocabulary is involved, (3) The book is short in length, (4) The book topic is familiar to most children and (5) The book is not in common use in schools. More than a hundred books were considered and informally field-tested with children; four were selected.

The selected paperback books are used to measure the child's oral reading accuracy and the ability to respond to text-based questions. The use of "little books" allows the children to demonstrate their efficiency with the text reading process authentically and naturally. The books are graded or leveled (from simple to more complex) according to criteria such as: concepts and vocabulary, story line or topic, length, page layout and print size, supporting illustrations and sentence structure (Fountas & Pinnell, 1999). Levels for each book follow:

Toy Models	Kindergarten/First Grade - Early Fall	Level B
My Bike	First Grade - Late Fall	Level D
Paint My Room	First Grade - Early Spring	Level H
Wind Power	Second Grade- Early Fall	Level J

Version one of the ISEL-K/1 has a score for Passage Reading that was determined solely on accuracy with a total of 12 possible points (3 for each reading passage). In the 2003-2004 enhancement, a comprehension component was added. The Passage Reading score now combines the reading accuracy score for each passage (assessed on a three point scale) and comprehension questions for each passage for a total of a possible 20 points.

We encourage teachers to attend to fluency by noting whether the "student's oral reading sounded: smooth, word-by-word, or labored." Our analysis of a sample of 100 first graders revealed that these ratings are highly correlated with the number of oral reading errors made by the student. Thus, at this stage of reading development, the two measures may be redundant. Since children are still mastering word recognition, quick recognition of sight words appears to be a main component of fluency. We are also including a measure of fluency to be used with

children who read the third passage (Paint My Room) at the end of first grade with 85% accuracy or better. This will be described in the section on Snapshot 10.

Difficulty of Task

The Passage Reading Snapshot was administered to children in the fall and spring of kindergarten and first grade during the field test year. Table 33 shows the results of this administration which indicates difficulty of the passages.

Table 33. Means, standard deviations, and percent correct on the Passage Reading Snapshot for children in the fall and spring of kindergarten and first grade

Passage Reading (Total=12)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten						
2000-01 (n= 217)	.60	2.94	1.80	3.09	5	24
2001-02 (n=527)	.49	3.46	1.56	3.21	4	29
First Grade						
2000-01 (n= 207)	4.50	9.14	3.60	2.69	38	76
2001-02 (n=523)	4.18	9.46	3.58	2.60	35	79

As can be seen, most growth occurs on this snapshot during the first grade year. Seventy-five percent is what we would expect for children mastering the third book (spring of first grade). Some children develop passage proficiency in kindergarten, but for most it is at the emergent level (first book).

Predictive Validity

Overall validity is reported in the later section on Validity. The face and content validity of the passage reading task are self-evident. That is, if a teacher wishes to know whether a child can read simple storybooks, the snapshot provides this information. In addition, story reading provides the opportunity for the teacher to observe children's familiarity with book reading and their fluency with text. Yet since sampling is involved, it would be possible for a teacher to mar the content validity by teaching to the test.

Does good performance on this snapshot relate to passage comprehension on this and other tests? Reading a passage or story book is a culminating activity, what the teaching of literacy components hopes to enable. Table 34 shows the extent to which good performance on passage reading at the fall of the year is associated with good performance on other early literacy measures for kindergarten and first grade children taken at the end of the year. The coefficients for the kindergarten sample are substantial and statistically significant. That is, those children who can read passages in the fall of kindergarten do well on passage reading at the end of kindergarten. The trend is similar for first graders.

Table 34. Predictive Validity- Correlation coefficients showing the relation between Passage Reading measured in the fall and Passage Reading measured in the spring for kindergarten and first grade

Fall Passage Reading	Spring Passage Reading
Kindergarten	
2000-01 (n=217)	.53
2001-02 (n=527)	.54
First Grade	
2000-01 (n=207)	.64
2001-02 (n=522)	.53

First grade predictive and concurrent validity with other tests was also assessed. Table 35 shows these coefficients with the Iowa Test of Basic Skills (ITBS) and the Gates MacGinitie Reading Test (G-M). Larger sample concurrent validity is reported in the section on Validity.

As can be seen Passage Reading measured in the fall of first grade is a strong predictor of Comprehension as measured by the ITBS and of Comprehension and Word Decoding as measured by the G-M. The concurrent validity coefficients are also substantial indicating that the four graded passages measure in a brief period of time what is gained by a much longer standardized measure administered to groups of children.

Table 35. First grade predictive and concurrent validity coefficients between ISEL-K/1 Passage Reading and the Iowa Test of Basic Skills and the Gates MacGinitie Reading Test

ISEL	Spring ITBS N = 26	Spring ITBS N = 19	G-M Word Decoding N = 17	G-M Comprehension N = 26
Predictive Validity				
Fall Comprehension	0.76	0.62	0.87	0.86
Concurrent Validity				
Spring Comprehension	0.79	0.62	0.74	0.73

Regional Reliability

Overall reliability is reported in the later section on Reliability. Does the snapshot provide a stable and consistent measure of graded passage reading? To address this question, we examined evidence from the field test schools and the six regions. Table 36 shows that the regional reliability coefficients are high, particularly for the spring measures. In the fall, the passage reading is scored as acceptable (above 90%) or unacceptable, whereas in the spring, three points

for accuracy are possible. The higher coefficients for the spring sample probably reflect this increase in the scoring sensitivity. There are only four items (passages) composing this task and they are, by design, from different levels of difficulty. Consequently, Cronbach alpha may be a less sensitive index of test reliability than other possibilities such as test-retest administration.

Table 36. Fall and spring regional reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Passage Reading

Version 1	FALL		SPRING	
Kindergarten	n	Cronbach Alpha	n	Cronbach Alpha
Region 1 (2000-2001)	217	.6891	217	.6742
Region 1 (2001-2002)	275	.7371	181	.7664
Region 2 (2001-2002)	34	.7439	35	.7453
Region 3 (2001-2002)	67	.6683	67	.7331
Region 4 (2001-2002)	46	nv*	44	.5713
Region 5 (2001-2002)	104	nv*	91	.7814
Region 6 (2001-2002)	49	.6660	45	.7605
Average Coefficient		0.666		0.7189
First Grade				
Region 1 (2000-2001)	207	.7283	207	.7995
Region 1 (2001-2002)	283	.9045	194	.7445
Region 2 (2001-2002)	78	.8056	71	.6525
Region 3 (2001-2002)	60	.8397	58	.7565
Region 4 (2001-2002)	69	.8352	64	.7354
Region 5 (2001-2002)	60	.4125	50	.6706
Region 6 (2001-2002)	48	.7450	46	.5734
Average Coefficient		0.7530		0.7046

* No variation

INDIVIDUAL SNAPSHOT DEVELOPMENT
Version 2

Version 2 was developed so that there could be separate forms for Fall and Spring Assessment. It also enhanced the forms by adding two new snapshots.
It includes second forms of snapshots for:

- Phonemic Awareness- Form B-Spring
- Developmental Spelling - Form B-Spring
- Word Recognition- Form B-Spring

It includes new snapshots for:

- Vocabulary –Form A-Fall and Form B-Spring
- Fluency–Form A-Fall and Form B-Spring

Alphabet and letter sounds, which test the whole domain, remains the same in both forms of Version 2. Listening and one-to-one matching which typically reach ceiling are also the same in both forms. The same selections were used for Graded Passage Reading as students do not reread passages that they read before. A new scoring calculation was determined for Graded Passage Reading to result in a combined score for Accuracy and Comprehension of 20.

ISEL-K/1 SNAPSHOT 3: PHONEMIC AWARENESS - Version 2, Form B

A second snapshot was developed for Version 2-Form B in consultation with Rae Moses, Ph.D., Professor of Linguistics at Northwestern University. This form contained the same phonemic elements as were assessed with Version 2-Form A. Alternate Form Reliability of the two forms is .8403.

Complete reliability and validity information is located in the following sections on Validity and Reliability. Regional Fall reliability coefficients are the same as in Version 1. Regional Spring reliability coefficients calculated on Region 1 (N=44) is .7988.

ISEL-K/1 SNAPSHOT 6: DEVELOPMENTAL SPELLING-Version 2, Form B

Overall reliability and validity information is reported in the later sections on Validity and Reliability. For Version 2, Form B for spring, 6 words which had been in the original field test data were selected by difficulty level to match the list in Form A and to match the correlation with the total spelling score. Alternate form reliability was .9067 (n=449). Fall regional reliabilities are the same as Version 1. Table 37 reports the spring Regional reliabilities.

Table 37. Regional Spring reliability coefficients (Cronbach alpha) for kindergarten samples on Developmental Spelling (6 item snapshot) Version 2

	SPRING	
Kindergarten-2003-2004	n	Cronbach alpha
Region 1	235	.9164
Region 2	111	.9036
Region 3	80	.7830
Region 4	36	.8448
Region 5	76	.9080
Region 6	55	.9368
Average Coefficient		.8821
First Grade	n	
Region 1	275	.8457
Region 2	105	.7269
Region 3	56	.6816
Region 4	56	.7577
Region 5	76	.6662
Region 6	50	.8687
Average Coefficient		.7581

ISEL-K/1 SNAPSHOT 7: WORD RECOGNITION-Version 2, Form B

For Version 2, Form B, 22 words which had been in the original field test data were selected by difficulty level to match the list in Form A and to match the correlation with the total vocabulary score. Alternate form reliability was .9279 (n=449). Fall is the same as Version 1. Table 38 reports the reliabilities for spring.

Table 38. Spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Word Recognition-Version 2

	SPRING	
Kindergarten-2003-2004	n	Cronbach alpha
Region 1	248	.9379
Region 2	35	.9103
Region 3	67	.9310
Region 4	44	.9006
Region 5	91	.9382
Region 6	45	.9168
Average Coefficient		0.9233
First Grade-2003-2004		
Region 1	200	.8862
Region 2	71	.8256
Region 3	58	.8575
Region 4	64	.8521
Region 5	51	.8290
Region 6	46	.7006
Average Coefficient		0.8313

ISEL-K/1 SNAPSHOT 8: VOCABULARY- Version 2, Forms A and B

Background and Purpose

Few standardized measures of word knowledge exist for classroom assessment. Best known is the Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 1997). Other standardized tests with vocabulary assessments are generally group administered, silent measures. This is not an assessment that assigns a vocabulary age or grade level as does the more sensitive PPVT. The intent of this vocabulary assessment is to give teachers an individual grade- appropriate tool to get a picture of the way in which young students in a particular class, school or district scale in relation to others taking the test.

In Snapshot 8, the child is expected to respond with an indication of understanding to a list of 14 words that increase in difficulty. Because the list spans early emergent to second grade, it is not a list of the 14 most known words but a sampling of frequent words at each level, kindergarten through grade 2.

Development of the Task
Selecting a Corpus of Words for the Field Test

Two hundred words were chosen from the work of Biemiller and Slonim (2001) which has established that young children's oral recognition vocabulary is approximately two year advanced over their reading vocabularies. In consultancy with Andrew Biemiller of the Ontario Institute for the Study of Education, the corpus of words chosen for field-testing were:

Grade at Which Words are First Known by 80% or More Children			
Kindergarten	**Grade One**	**Grade Two**	**Grade Three**
spread	fish	throat	swing (baseball)
loop	voice	flood	sock
tip	shot	match (fire)	choice
clown	listen	café	bait
flashlight	near	math	ant
nobody	drop	snatch	top
only	alphabet	volume (sound)	feed
air	splash	terror	sniff
glue	alright	smear	third
star	eyebrow	brought	hamster
TV	tiger	lake	grill
about	puppy	dumb	nickname
play	piano	worn	rag
own	mice	tack	advice

terrible	mean	way	canteen
eye	wrinkle	lawn	raccoon
moon	aim	homework	glare
day	mystery	damp	pack
sight	chop	organ	plow
feet	scare	aboard	sincere
stop	helmet	distance	state
water	bud	pill	aid
live (be live)	sample	cranberry	chip
bear (animal)	office	admire	else
kiss	crime	member	bashful

To eliminate inappropriate words, the lists were then rated by a team of 5 expert teachers with primary grade experience. The teachers were asked to indicate words that they felt were not appropriate K/1 words and to scale them in difficulty. The 48 words deemed most appropriate were selected for the first cut. This list was administered to 20 kindergarteners and 20 first grade students on a trial basis to see if any unanticipated problems emerged with the words or format.

The 48 word field-test list that resulted was:

ISEL-K/1 Field Test List

Easy K	1	kiss		Hard 1	1	done
	2	play			2	anchor
	3	flashlight			3	head
	4	terrible			4	buckle
	5	eye			5	sheet
	6	bear			6	aunt
	7	loop			7	horrid
	8	glue			8	curl
Harder K	1	listen		Easy 2	1	throat
	2	drop			2	flood
	3	match			3	damp
	4	claws			4	pill
	5	tumble			5	admire
	6	near			6	member
	7	space			7	terror
	8	munch			8	organ
Easy 1	1	voice		Hard 2	1	sliver
	2	shot			2	boulder
	3	eyebrow			3	cobra
	4	tiger			4	shimmer
	5	mean			5	root
	6	helmet			6	haul
	7	office			7	justice
	8	crime			8	secure

Field Test Refinement

The resulting list of 48 words was administered to 227 kindergarten students and 181 first grade students at schools selected to reflect the demographic makeup of Illinois school children. Student responses were used to identify those words from each subset. Table 39 shows the list of 28 words representing levels that seemed to emerge clearly from the first set of 40 words and the percent of kindergarten and first grade children who responded to each of the words correctly.

Generally, the emergent words were easiest for both kindergarten and first grade children to respond to with an indication of understanding which might be a definition, a synonym, a usage, a physical or other indication that the students knew some meaning of the word. Our goal was to include in the final list a sufficient number of emergent words -- about eight -- so that emergent readers at the beginning of kindergarten could be identified, and so that beginning first graders would have a high rate of mastery.

The panel of five educators with primary teaching experience reexamined the list to check for inappropriate words or placement. After careful study of the assessment evidence and the evaluations of teachers, a representative subset composed of 28 words was selected for inclusion on the final version of the Vocabulary Snapshot and were sorted into two forms based on difficulty.

Table 39. The percentage of words correctly recognized by kindergarten (n=227) and first grade children (n=181) in the fall of 2002

List 1	word	% k known	%1 known	List 2	word	% k known	%1 known
1	eye	94	97	**1**	flashlight	75	94
2	terrible	65	90	**2**	glue	72	91
3	mean	60	88	**3**	drop	59	83
4	buckle	60	82	**4**	munch	55	75
5	throat	56	85	**5**	curl	51	74
6	listen	54	73	**6**	done	47	75
7	near	49	77	**7**	office	45	74
8	sheet	48	65	**8**	pill	40	61
9	tumble	47	60	**9**	space	34	61
10	flood	39	70	**10**	horrid	25	27
11	boulder	17	33	**11**	organ	16	28
12	shimmer	12	24	**12**	damp	14	27
13	admire	11	25	**13**	secure	9	25
14	cobra	9	22	**14**	terror	6	16

Difficulty of Task

The Vocabulary Snapshot was administered to children in the fall and spring of kindergarten and first grade during 2003-2004. Table 40 shows the results from this administration in terms of mean raw scores, standard deviations, and percent correct.

Table 40. Means, standard deviations, and percent correct on the Vocabulary Snapshot for children in the fall and spring of kindergarten and first grade 2003-2004

Vocabulary (Total=14)	Mean Raw Score		Standard Deviation		Percent Correct	
	Fall	Spring	Fall	Spring	Fall	Spring
Kindergarten 2003-04	6.1	**8.7**	3.4	2.6	4.4	62
First Grade 2003-04	8.4	9.8	3.4	2.5	6.0	70

It is important to note that Target scores are the 50th percentile score using weighted means. They indicate the average scores for students at a specific time of year. Watch scores are the 20th percentile score. Scores on the vocabulary measure scale students with respect to others who take the test, but they do not provide a grade level. Rather, they provide a way to look at a class or school and estimate relative vocabulary knowledge of these terms (Biemiller, 2001).

Validity

Overall validity is reported in the later section on validity. The face and content validity of the vocabulary snapshot are enhanced by the way the list composed with a selection of words scaled by difficulty based on the Living Word Vocabulary (Dale &O'Rourke, 1976) and the assessment work of Biemiller and Slonim (2001). If a teacher wishes to know whether a child has knowledge of specific words and roughly at what level, this snapshot provides this information.

Regional Reliability

Does the snapshot provide a stable and consistent measure of vocabulary? As can be seen from Table 41, fall and spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Vocabulary are high. The correlation of the two lists is .9423.

Table 41. Fall and spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Vocabulary

	FALL		SPRING	
Kindergarten	n	Cronbach alpha	n	Cronbach alpha
Region 1 (2003-2004)	221	.8372	235	.6587
Region 2 (2003-2004)	154	.8574	111	.7541
Region 3 (2003-2004)	83	.8237	80	.6091
Region 4 (2003-2004)	19	nv	36	.6431
Region 5 (2003-2004)	93	.8008	76	.7589
Region 6 (2003-2004)	63	,8660	55	.7302
Average Coefficient		.8402		.6924
First Grade				
Region 1 (2003-2004)	250	.8371	274	.7032
Region 2 (2003-2004)	78	.7737	105	.7050
Region 3 (2003-2004)	60	.8902	56	.6384
Region 4 (2003-2004)	69	.6337	70	.5760
Region 5 (2003-2004)	60	,8608	75	.7264
Region 6 (2003-2004)	48	.9206	50	.7922
Average Coefficient		.8373		.6902

This snapshot was designed with two forms for Version 2. Alternate form reliability (A/B) is .9423.

ISEL-K/1 SNAPSHOT 9: PASSAGE READING-Version 2, Forms A and B

This snapshot is the same in Versions 1 and 2 but the scoring for Version 2 includes the comprehension questions resulting in 20 items.

Table 42. Spring reliability coefficients (Cronbach alpha) for kindergarten and first grade samples on Passage Reading with comprehension. Version 2

Version 2	**SPRING**	
Kindergarten	n	Cronbach alpha
Region 1 (2001-2002)	248	.9675
Region 2 (2001-2002)	35	.9685.
Region 3 (2001-2002)	67	.9535
Region 4 (2001-2002)	44	.9446
Region 5 (2001-2002)	92	..9753
Region 6 (2001-2002)	45	.9723
Average Coefficient		.9636
First Grade		
Region 1 (2001-2002)	200	.9174
Region 2 (2001-2002)	71	.8828
Region 3 (2001-2002)	58	.9192
Region 4 (2001-2002)	64	.8727
Region 5 (2001-2002)	51	.9370
Region 6 (2001-2002)	46	.9202
Average Coefficient		.9082

nv= No variation

ISEL-K/1 SNAPSHOT 10: FLUENCY-Version 2, Forms A and B

Background and Purpose

The ability to read fluently (at a good rate, with good accuracy and proper intonation and phrasing) is highly correlated with many measures of reading competence (Kuhn & Stahl, 2003; Strecker, Roser & Martinez, 1998; Johns & Berglund, 2002). For the reader, fluency requires good decoding skills, the strategies to orchestrate these in reading real text, and the comprehension to monitor what is being read to make sure it sounds like language.

For the teacher, listening to students read and charting their development in fluency is also a way to measure the effect of instruction and to provide input for further instructional planning (Blachowicz, Moskal, Fisher, Massarelli, Obrochta, Fogelberg, (in press). Unlike most standardized measures which only show large changes in behavior, fluency measurement is sensitive to small increments of improvement (Shinn, 1989). Students who are fluent readers are able to devote less of their attention to word recognition and more of their attention to comprehension. Thus, fluency generally results in increased reading comprehension (Samuels, 1979; Shinn, 1989) and is identified as a critical component of skilled reading (National Reading Panel, 2000).

In snapshot 10 of the ISEL-K/1, students are expected to read a narrative passage aloud to an examiner. They are stopped at the end of one minute and the number of words read correctly is noted.

Design of Task

Five passages were developed using common early elementary themes: friends, pets, raccoons and a tree house. The passages had simple, but natural language, and vocabulary appropriate for first graders. It was decided to make all of the passages narratives since most young students are familiar with narrative text structure (Baker & Brown, 1984). The stories ranged in length from 155-182 words.

The literature regarding specific grade-level appropriate oral reading rates suggests that precise rates are somewhat passage dependent (Bear & Barone, 1998; Rasinski & Padak, 1996). Studies and estimates (Hasbrouck & Tindal, 1992; Barr, Blachowicz, Kaufman & Katz, 2001) suggest that 50-80 wpm is a typical range for end of first grade readers. Therefore, it was determined that passages of 150 words would accommodate most fluent first-grade readers.

As fluency assessment is not appropriate for early emergent readers, it was determined that it would be administered only to students who read at a middle-to-late first grade level For the ISEL-K/1, this would mean students who were able to successfully complete Passage Reading Snapshot 8-3, *Paint My Room*. which is appropriate for spring of first grade. Therefore, the passages were written to reflect an end of first grade-beginning of second grade reading level. Readability of the passages, as measured by the Flesch-Kincaid readability formula, ranged from

1.5 – 2.2. The five stories were then taken to field tryouts with the goal of narrowing the stories down to two that were comparable in terms of difficulty.

Field Test Refinement

Initial tryouts of all five stories were conducted in an ethnically and economically diverse school with a wide range of student achievement at each grade level. For the purpose of the tryouts, students were selected from all three first grade classrooms. Since students who would take the fluency subtest of the *ISEL-K/1* would need to have successfully read *Paint My Room*, the book for early spring of first grade, students were selected by the teachers from among the most capable readers in first grade.

Eleven females and eight males participated in the story tryouts, which were conducted in the mornings during the course of a week in early April, 2003. Students met individually with the test administrator just outside their first-grade classrooms. The administration of the passages was counterbalanced so that the passages were not read in the same order by all of the students. An electronic timer was used to ensure accuracy of the timing. Following the reading of each story, students were asked to reflect on their perceptions of the difficulty of the story and its interest to them. Field notes were made following each assessment and were analyzed. Based on the tryouts, two stories were selected for more extensive field-testing, "Matt's Dog" (183 words, RL 1.8) and "Best Friends" (156 words, RL 2.2). The mean rate for "Matt's Dog" was 106 words correct per minute (wcpm). The mean rate for "Best Friends" was 105 wcpm. Students also reported that they were motivated to read both stories.

Difficulty of Task

The Fluency Snapshot was administered to 633 kindergarteners and 655 first graders during the 2003-2004 academic year. Table 43 shows the number of students able to complete the fluency measure and their average correct words per minute.

Table 43. Difficulty of Fluency Snapshot

		FALL		SPRING	
Total N	n	n able to read Fluency Snapshot		n able to read Fluency Snapshot	cwpm M and SD
First Grade	**n**				
Region 1 (2003-2004)	300	34		240	74.32 (36.43)
Region 2 (2003-2004)	112	14		97	73.28 (40.14)
Region 3 (2003-2004)	56	0		50	72.50 (30.30)
Region 4 (2003-2004)	77	0		63	54.54 (36.15).
Region 5 (2003-2004	93	0		41	57.83 (29.30)
Region 6 (2003-2004)	55	0		36	82.08 (36.15)
Average cwpm of total n		--		544 = total N	68.63 (38.19)
Average cwpm of readers	49	61.23 cwpm	mode 38 wpm	527 can read	70.84 (36.72)

Validity

Overall validity information is found in the later section on Validity. The face and content validity of the fluency task are self-evident. That is, if a teacher wishes to know whether a child can read simple narratives fluently, the snapshot provides this information. Since sampling is involved, it would be possible for a teacher to mar the content validity by teaching to the test.

Reliability

Overall reliability information is found in the later section on Reliability. The snapshot provides a stable and consistent measure of fluency. 322 students were assessed with both passages (alternate form reliability) and the correlation between performance on the two passages was .9560. Test-retest correlation on the Passage A was .8920 and on Passage B was .8788.

STANDARDIZATION SAMPLE

Standardization Sample Characteristics

The standardization sample was selected from across the state of Illinois so as to be representative of the state in terms of region, income, and ethnicity. The Illinois State Board of Education has divided the state into six regions. Proportional samples of children were obtained from each of these regions to yield a sample that was diverse in terms of urban, suburban, and rural representation. The six educational regions include: (1) the Chicago and nearby suburban area, (2) north middle and northwestern Illinois, (3) west central Illinois, (4) east central Illinois, (5) southwestern Illinois, and southern Illinois**.** The collaborative data collection team from across the state included Louis Ferroli, Rockford College and Roberta Berglund, Northern Illinois University (Region 2), Kathryn Ransom, University of Illinois, Springfield (Region 3), Thomas Crumpler and Susan Lenski, Illinois State University (Region 4), Stephanie McAndrews, Southern Illinois University (Region 5), and Marla Mallette and William Henk, Southern Illinois University (Region 6) who worked with us to obtain assessment results that are representative of the state. (See the Appendix for a complete listing of districts participating in the assessment and for a list of consultants).

As Tables 44A, B, and C show how the standardization sample closely approximates the state of Illinois demographically in terms of race/ ethnicity and is distributed by gender and geographic location. These tables also show that the sample closely represents the racial and ethnic distribution characteristics of the United States as a whole with one deviation: more African Americans reside in Illinois than in the United States as a whole. Although there would appear to be an under-representation of Hispanic children in the sample, this occurs because some Spanish-speaking children who spoke little English were tested with the Spanish version of the ISEL (ISEL-S). The standardization sample may also under-represent the proportion of children receiving free lunch in Illinois – but our analysis of the socioeconomic status of the districts we sampled suggests that in some locales there may be hesitancy to apply for free lunch. For example, in one district near Chicago where the per capita income is low, only 17 percent of the children in our sample applied for free lunch.

Table 44A. The standardization sample for the ISEL-K/1 in terms of Race/Ethnicity and Free Lunch Demographics (based on 2002 Illinois State Board of Education data)

Group	White	Black	Hispanic	Asian	Native American	Free Lunch
ISEL Kindergarten	**61.0**	**21.6**	**13.6**	**3.5**	**0.1**	**31.7**
ISEL First Grade	**63.0**	**20.1**	**13.8**	**3.6**	**0.1**	**32.0**
ISEL Total	**62.0**	**20.9**	**13.7**	**3.5**	**0.1**	**31.8**
2001 State Totals	**60.1**	**20.9**	**15.4**	**3.4**	**0.2**	**36.9**
2000 State Totals	**61.1**	**20.9**	**14.6**	**3.3**	**0.2**	**36.7**
2000 U.S. Totals	**62.6**	**12.3**	**12.5**	**3.6**	**0.9**	----

Table 44B. Distribution of sample by grade and gender

Year	Date	Grade	Total	Male	Female
Field Test					
2000-2001	Fall	K	232	118	114
2000-2001	Fall	1	221	112	109
2000-2001	Spring	K	232	118	114
2000-2001	Spring	1	223	113	110
Norming					
2001-2002	Fall	K	579	268	311
2001-2002	Fall	1	602	324	278
2001-2002	Spring	K	531	238	293
2001-2002	Spring	1	532	284	248
Enhancements Field test					
2002-2003	Spring	K	398	221	177
2002-2003	Spring	1	479	238	241
Norming					
2003-2004	Fall	K	633	334	299
2003-2004	Fall	1	693	367	326
	Spring	K	597	323	272
	Spring	1	635	334	300

Table 44C. Distribution of sample by geographic area

2001-2002	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Total by grade
FALL							
K male	133	13	30	21	52	19	268
K female	146	21	37	25	52	30	311
K fall total	279	34	67	46	104	49	579
1 male	152	44	37	35	34	22	324
1 female	134	34	24	34	26	26	278
1 fall total	286	78	61	69	60	48	602
TOTAL FALL	565	112	128	115	164	97	1181
SPRING							
K male	114	16	29	19	45	15	238
K female	134	19	38	25	47	30	293
K spring	248	35	67	44	92	45	531
1 male	129	38	33	33	30	21	284
1 female	113	33	25	31	21	25	248
1 spring	242	71	58	64	51	46	532
TOTAL SPRING	490	106	125	108	143	91	1063

2003-2004 enhancements	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Total by grade
K male	125	63	44	13	59	30	334
K female	136	51	39	6	34	33	299
K fall	261	114	83	19	93	63	633
1 male	161	64	30	39	50	23	367
1 female	139	48	26	38	43	32	326
1 fall	300	112	56	77	93	55	693
TOTAL FALL	565	112	128	115	164	97	1326

DIFFICULTY OF THE ISEL-K/1 SNAPSHOTS

The ten snapshots form a continuum in skills and knowledge that is traversed by children as they learn to read and write. Table 45 show the percent of items that children, on average, get correct when they enter and finish kindergarten and first grade

Most children come to school with some knowledge of the alphabet and ability to listen to stories. As shown in Table 45A, these are the two easiest snapshots. Kindergarteners, on the average, just entering school, are able to answer from 67 to 71 percent of the story questions correctly. Similarly, kindergarteners, on average, enter school knowing 65 to 66 percent of the upper and lower case alphabet letters. However, most kindergarteners entering school have difficulty responding to items that measure Phonemic Awareness and One-to-One Matching, as they finger- point read a simple story. And for most, the activities tapped by the remaining snapshots, are not well known by children. By the end of the kindergarten year, children on average make dramatic gains in all areas assessed with the possible exception of Story Listening. By the end of kindergarten, many children show mastery of Alphabet Recognition and good progress in Phonemic Awareness and One-to-One Matching as they "read" a simple story. They learned Letter-Sounds, mainly the consonants but a few vowels, and progressed in Developmental Spelling.

Most first graders come to school having mastered most items on the first four snapshots. They have also learned many letter-sound associations in kindergarten and some know how to spell developmentally. Some have learned some sight words, and some are able to read simple storybooks and messages. By the end of first grade, they have made the most gains in Developmental Spelling, Word Recognition, Vocabulary and Passage Reading and more limited gains in other areas where they already show a high level of mastery. Fluency is only assessed with respect to the students who are reading, thus a growth is seen from the beginning to the end of first grade. Table 45 B shows the difficulty for snapshots added for Version 2.

Table 45A. Average percent correct on the eight ISEL-K-1 assessments by kindergarteners and first graders in the fall and spring, Version 1

ISEL-K-1 Snapshots	Sample	Kindergarten Fall	Kindergarten Spring	Grade 1 Fall	Grade 1 Spring
Alphabet Recognition (54 Items)	2000-2001	66	93	95	99
	2001-2002	63	95	96	99
Story Listening (21 Items)	2000-2001	71*	68	82	83
	2001-2002	64	77	78	84
Phonemic Awareness (10 Items)	2000-2001	56	82	89	96
	2001-2002	58	86	87	96
One-to-One Matching (9 Items)	2000-2001	44	82	88	98
	2001-2002	46	87	89	99
Letter Sounds (26 Items)	2000-2001	30	69	75	90
	2001-2002	33	79	76	93
Developmental Spelling (27 Items)	2000-2001	15	48	56	81
	2001-2002	19	56	56	81
Word Recognition (22 Items)	2000-2001	8	37	46	90
	2001-2002	7	42	50	91
Passage Reading (12 Items)	2000-2001	6	25	37	76
	2001-2002	4	29	35	79

* The fall version of the Story Listening snapshot consisted of 10 items in contrast to the final version with 21 items.

Table 45B. Average percent correct on the ten ISEL-K/1 assessments by kindergarteners and first graders in the spring, Version 2-alternate snapshot

ISEL-K/1 Snapshots	Kindergarten Spring	Grade 1 Spring
Phonemic Awareness (10 Items)	83	93
Developmental Spelling (27 Items)	58	87
Word Recognition (22 Items)	22	70
Vocabulary (14 items)	62	70
Fluency (wcpm)		68 cwpm

We considered this evidence in deriving our recommendations concerning the snapshots that should be administered at the beginning and end of kindergarten and at the beginning and end of first grade. However, the results also show that some kindergarteners have already made substantial progress and thus should be given more advanced snapshots. Likewise, some first graders have developed only limited knowledge of literacy; for them, the first several snapshots will provide useful diagnostic information.

RELIABILITY OF THE ISEL-K/1 SNAPSHOTS

To establish the reliability of the ISEL-K/1 as a whole and for individual snapshots, we examined the evidence from the nine Area 1 field test schools in which the ISEL-K/1 was administered during the fall of 2000 and the spring of 2001 and from the six educational regions of Illinois in the fall of 2001 and the spring of 2002 and again in 2003-2004. The samples of kindergarten children from the six regions ranged in size from 34 to 217. The samples of first graders ranged in size from 48 to 207. The 2003-2004 sample for vocabulary and fluency closely replicated the prior sample. The total sample for the three years totaled 1793 kindergarteners and 1809 first graders.

Table 46A shows the average reliability coefficients for each of the ISEL snapshots. The coefficients reported represent the average coefficients obtained for the field test and the standardization samples. As can be seen, the coefficients are acceptably high for most snapshots, particularly for those most appropriate for a specified grade level.

Table 46A. Average fall and spring reliability coefficients (Cronbach alpha except for Fluency which is test-retest) for kindergarten and first grade samples on the ISEL-K/1 snapshots

Snapshot (Number of Items)	Kindergarten		First Grade	
	Fall	Spring	Fall	Spring
1. Alphabet Recognition (54)	.9768	.8705	.8937	.4441**
2. Story Listening (21)	.8118	.7520	.7699	.7038
3. Phonemic Awareness (10)	.7427	.7411	.7595	.6385**
4. One-to-One Matching (9)	.8329	.7738	.7286	.3645**
5. Letter Sounds (26)	.9365	.8672	.8809	.7593
6. Develop. Spelling (27)	.9289	.8819	.8690	.7356
7. Word Recognition (22)	.9072	.9233	.9248	.8313
8. Vocabulary (14) (Version 2 0nly)	.8402	.7180	.8373	.6993
9. Passage Reading (20) (Snapshot 8, Version 1) (12)	.9320 .6660 *	.7189	.9493 .7530	.7046
10. Fluency		*	.8920	.8788

* Not recommended for use in kindergarten because of the low number of cases who can read
** Not recommended for use at the end of first grade. A large number of subjects have mastered these skills by the end of first grade and thus reached ceiling levels which reduces the range of variance.

According to our prior recommendations (See Table 1), it is important that the first four snapshots be reliable measures at the beginning of kindergarten, and that the first six be reliable measures at the end of kindergarten. The first four snapshots, Alphabet Recognition, Story Listening, Phonemic Awareness, and One-to-One Matching are all reliable for the beginning and end of kindergarten. Letter-Sounds and Developmental Spelling are reliable at the end of kindergarten. The somewhat lower reliabilities for Phonemic Awareness (in a picture selection task format) reflect the multiple-choice nature of this snapshot. As discussed in previous sections of this manual, an alternative version of this snapshot has been developed in which children generate the first sound of a spoken word (Phonemic Awareness - Production). The predictive validity of the Phonemic Awareness - Selection task (where children select an answer from a set of three) is higher than the more Phonemic Awareness -Production task, but the Production task is more reliable (.9345).

It is also important that snapshots 3-9 are reliable at the beginning of first grade, and that the last four snapshots are reliable at the end of first grade. Table 46 B shows the alternate form reliability of the two forms and Table 46C details the test-retest reliability. Table 47 presents the means and standard deviations. Generally, in all these tables, reliability coefficients are acceptable for the beginning of first grade. The reliability coefficients for the last five snapshots are also acceptable at the end of first grade. Although reliabilities are marginal or unacceptable for Snapshots 1-4 at the end of first grade (Story Listening, Alphabet Recognition, Phonemic Awareness, and One-to-One Matching), this occurs because most first graders have already mastered this content.

Table 46B. Alternate Form Reliability- ISEL-K/1 Version 2 Forms A and B - Grade 1 N= 449

Snapshot (Number of Items)	
1. Alphabet Recognition (54)	NA .
2. Story Listening (21)	NA
3. Phonemic Awareness (10)	.8403
4. One-to-One Matching (9)	NA
5. Letter Sounds (26)	NA
6. Develop. Spelling (27)	.9067
7. Word Recognition (22)	.9279
8. Vocabulary (14)	.9423
9. Passage Reading (20)	NA
10. Fluency	.9560

NA= Snapshot which is the same in both forms

Table 46C. Test-Re-test Reliability - ISEL-K/1 Version 1 –Kindergarteners tested in May with 8 day retest interval
N= 64

Snapshot (Number of Items)	
1. Alphabet Recognition (54)	.8516
2. Story Listening (21)	.6893
3. Phonemic Awareness (10)	. 8962
4. One-to-One Matching (9)	.7487
5. Letter Sounds (26)	.8833
6. Develop. Spelling (27)	.8492
7. Word Recognition (22)	.8270
8. Passage Reading (12)	.8514

Table 47. Average fall and spring means and standard deviations (SD) for kindergarten and first grade samples- 2001-2002 except where noted by *

Snapshot (Number of Items)	Kindergarten		First Grade	
	Fall Mean (SD) N=579	**Spring Mean (SD)** N=531	**Fall Mean (SD)** N=598	**Spring Mean (SD)** N=527
1. Alphabet Recognition (54)	33.6 (16.9)	51.5 (5.1)	51.7 (4.3)	53.7 (0.7)
2. Story Listening (21)	13.4 (4.5)	16.2 (3.6)	16.3 (3.3)	17.7 (2.9)
3. Phonemic Awareness (10)	5.7 (2.7)	8.6 (1.9)	8.6 (2.0)	9.6 (1.1)
4. One-to-One Matching (9)	4.1 (2.9)	7.8 (1.9)	8.0(1.7)	8.9 (0.4)
5. Letter Sounds (26)	8.5 (7.3)	20.7 (5.2)	19.6 (5.1)	24.3 (2.3)
6. Developmental Spelling (27)	4.9 (5.4)	15.2 (5.6)	14.8 (5.3)	22.0 (3.7)
7. Word Recognition (22)	1.5 (3.5)	9.3 (6.1)	10.7 (6.2)	20.0 (3.1)
8. Passage Reading (12)	.5 (1.5)	3.5 (3.2)	4.1 (3.6)	9.5(2.6)
(SD only for Version 1)	6.1(3.4)	8.7 (2.57)	8.4 (3.4)	9.81 (2.45)
8. Vocabulary (14)* (Version 2 only)	-	-	--	68.63 cwpm
10. Fluency *				

VALIDITY OF THE ISEL-K/1 SNAPSHOTS

Recent guidelines developed for educational and psychological measurement (see, for example, Standards for Educational and Psychological Testing, AERA, 1999) argue for a unitary conception of validity, with purpose at its core. A test may be valid for some purposes, but not for others. For example, the purpose of the Alphabet Recognition snapshot is to help teachers learn which children are already familiar with the letters of the alphabet and can name then, and which children are still in the process of becoming familiar with them. Since all letters, upper and lower case, are assessed on a one-to one basis, the task, because of its content and procedures, is highly valid. That is, for the purpose defined by teachers, the test measures completely what is desired. We selected the eight areas of the ISEL-K/1 on the basis of teacher interviews – the eight snapshots yielded information teachers need to develop instruction. We also consulted the research literature on early reading development to insure that aspects of reading shown to be important to reading development were included such as the report of the National Reading Panel (2002), Preventing Reading Difficulties in Young Children (Snow, Burns and Griffin, 1998) and the Handbooks of Reading Research I, II, and III.

The construct validity of all tasks is high since the tasks were developed to tap the information that teachers desire as they plan instruction for children and on the basis of the research literature. They were also reviewed by teacher and reading specialist review boards and by consultants who are both educators in the field, university researchers, editors of research journals, members of the NAEP panel and research award winners (see Appendix). The snapshots are performance measures, assessing items that teachers want children to learn and be able to do (Alphabet Recognition, Letter-Sounds, Word Recognition, Fluency) and process measures involving aspects of reading and writing (Story Listening, One-to-One Matching during text reading, Phonemic Awareness, word segmentation into sounds during Developmental Spelling, Vocabulary, Passage Reading and Fluency). The snapshots engage children in tasks that are common instructional activities in kindergarten and/or first grade. Some, such as Developmental Spelling, Passage Reading and Fluency, are complex in that they require the integration of children's knowledge. Teaching to the processes involved in each of these snapshots is what we hope will occur since these are areas children need to master. Yet, those snapshots that include only a subset of the possible target items from a domain (Developmental Spelling, Word Recognition, Passage Reading) are vulnerable to practice effects if teachers teach the items included in the snapshots. For example, teachers can invalidate the spelling snapshot by teaching the six spelling words or the word recognition snapshot by teaching the 22 word recognition items. Should this occur, the validity of the snapshot at the end of the year would be jeopardized. To avoid this, we have developed two different forms of the ISEL-K/1.

Concerning more traditional definitions of validity, whether a test is similar to what other literacy tests measure (concurrent validity) and/or whether it predicts subsequent reading (predictive validity) may be of interest. As to the latter measure, Kame'enui (2002), in the report of the assessment committee of the IDEA Institute on their analysis of reading assessment instruments for K-3, argues for the importance of these forms of validity, particularly predictive validity.

Yet, we could also argue that high predictive validity is not always desirable. In schools with effective intervention programs available for those children with few prior literacy experiences, we find that the correlations are lower than in schools without such support. That is, predictive coefficients are lower in schools where lower achieving children are brought to the class average.

Table 48A details the correlation between the ISEL-K/1 and the Gates-MacGinitie Reading Test. Table 48 B details the correlation between the ISEL-K/1 and the Iowa Test of Basic Skills, Form B (Harcourt Educational Measurement, 1995).

Table 48A. Concurrent Validity- ISEL-K/1 and Gates MacGinitie Reading Test (G-M) (MacGinitie & MacGinitie,1989) for the Suggested Grade 1 Spring Subtests
N= 234

	Gates-MacGinitie		
ISEL-K/1	**Comprehension**	**Word Decoding**	**Total Reading**
Developmental spelling	**.5828**	**.6802**	**.6693**
Word recognition	**.7203**	**.7433**	**.7531**
Graded passage reading	**.7120**	**.7627**	**.7621**
Fluency	**.7788**	**.8093**	**.8247**
Vocabulary	**.8152**	**.9429**	**.9783**

Table 48B. Concurrent Validity- ISEL-K/1 and Iowa Test of Basic Skills (ITBS) Harcourt for the Suggested Grade 1 Spring Subtests N= 144

	Iowa Test of Basic Skills	
ISEL-K/1	**Comprehension**	**Phonics/Vocabulary**
Developmental spelling	**.6003**	**.6289**
Word recognition	**.8416**	**.8392**
Graded passage reading	**.7282**	**.7352**

Predictive Validity

Predictive validity information is presented in the sections on each snapshot.

SETTING STANDARDS FOR TARGET AND WATCH SCORES

A mandate for the ISEL-K/1 was to determine a "watch" score to identify students who may require early intervention. Further, target scores for average performance were also generated. The Watch and Target scores for the ISEL-K/1, Versions 1 and 2, are found in the appendices to this manual. The section which follows provides the theoretical and empirical rationale for their determination for Version 1.

Selecting Achievement Goals for Target Levels

Establishing benchmarks or achievement goals for kindergarten and first grade children is complicated. We have chosen the term "Target Scores" to refer to the mean level of performance. These Target Scores can help in setting class, school, or district instructional goals. Some children will achieve higher than this level, but our goal is to have all children, even those who enter kindergarten with limited literacy, achieve at this level. We established these "targets" in two ways. Most basically, we asked about how well a child must be achieving at the end of each year to insure good continued progress. In other words, we asked what a child needed to know by the end of kindergarten to insure that he or she would do well in first grade. Similarly, we asked what a child needed to know and how well he or she needed to read by the end of first grade to insure fluent reading in second and subsequent grades. This process was followed with Version 1, normed in 2001-2002, so the snapshots and data for that version will be discussed here. This process provided the basis for adding snapshots for Vocabulary and Fluency for Version 2. Those data will be reported in the individual snapshot sections.

Kindergarten Targets

Reading Clinicians. Our first effort to address these questions was to approach a group of reading clinicians about their expectation for the progress of the children with whom they worked for performance on the first 8 snapshots. We asked, "How well must a child perform for you to be confident that he or she will continue to progress, given quality classroom instruction? There was clear agreement in expectations: by the end of kindergarten, mastery was expected in alphabet Recognition, Phonemic Awareness, and one-to-one finger point reading. In addition, clinicians expected that consonant letter-sound associations will be learned and will be applied in developmental spelling, some simple sight words will be learned, and a simple patterned storybook read with few miscues. The clinicians were confident that children who were able to perform at these levels would become proficient readers. These expectations translate into Target scores as follows for Version 1 (Full Target Scores for both versions in Appendices A and B.):

Alphabet Recognition:	52 of the 54 upper and lower case letters (allowing for reversals)
Phonemic Awareness:	9 of the 10 items
One-to-One Matching:	8 of the 9 items
Letter Sounds:	16 of the 18 consonant letter-sound associations

Developmental Spelling:	14 of the 15 consonants represented
Word Recognition:	7 of 9 "emergent" kindergarten words (first 1/3 of list) recognized
Passage Reading	3 of 12 indicating mastery of the kindergarten/ early first passage

Less certainty was expressed about how well children should be achieving on the Story Listening Task (Vocabulary and Comprehension) and the added Vocabulary measure. Although all clinicians indicated the importance of children knowing word meanings and comprehending simple stories and vocabulary, they were unable to confidently state a level of achievement necessary for future proficient reading comprehension. Moreover, the research literature does not provide a basis for making this judgment. As to Fluency, there is a paucity of research on the fluency level needed for competent performance in first grade. One large-scale research study (Hasbrouck & Tindal, 1992) suggests that the mean second grade rate in fall is 53 wpm in fall of second grade, but our clinical experience and experience in field-testing passages suggests high variability depending on the type of first grade passages utilized.

Regional Norms. We also sought to define normal progress by administering the ISEL-K/1 to many kindergarten children across the state. As previously discussed, the state of Illinois is divided into six educational regions. Samples were collected from each of these regions during 2001-2002. The results for each of the six regions and the weighted means are shown in Table 49A for kindergarten and 49B for the different regions of Illinois. They show, for example, that children in our state sample had mastered, on average, 51.62 of the alphabet letters and were able to correctly identify 8.78 of pictures based on matching initial consonants on the Phonemic Awareness snapshot.

Table 49A. Spring 2002 Kindergarten Norms-2001-2001 version

Measure	Weighted Mean
Alphabet Recognition	51.62
Story Listening	16.51
Phonemic Awareness	8.78
One-to-One Matching	7.81
Letter Sounds	20.95
Developmental Spelling	15.47
Word Recognition	9.41
Passage Reading	3.52

Table 49B. Spring 2002 Regional Kindergarten Norms-2001-2001 version

	REGIONS					
Measure	1	2	3	4	5	6
Alphabet Recognition	50.48 (6.43)	52.09 (2.78)	53.36 (2.20)	51.57 (4.94)	52.57 (2.31)	51.53 (4.22)
Story Listening	15.61 (4.06)	17.22 (3.49)	16.91 (2.42)	17.00 (2.47)	16.21 (2.85)	16.29 (4.03)
Phoneme Awareness	8.21(2.21)	9.26 (1.01)	9.15 (1.43)	8.70 (2.09)	8.99 (1.69)	8.96 (1.48)
One-to-One Match	7.44 (2.04)	7.80 (1.75)	8.73 (0.73)	7.82 (2.18)	7.91 (1.65)	8.00 (1.98)
Letter Sounds	18.73 (5.81)	22.03 (2.66)	22.97 (3.49)	20.91 (5.01)	23.08 (3.29)	21.56 (4.56)
Develop. Spelling	13.69 (5.99)	16.29 (4.36)	16.96 (4.61)	15.70 (4.86)	16.85 (4.93)	15.89 (5.61)
Word Recognition	7.76 (6.02)	10.23 (5.12)	1300 (5.89)	8.05 (4.73)	10.66 (6.18)	10.42 (5.46)
Passage Reading	2.95 (3.19)	3.97 (3.00)	5.61 (2.97)	2.66 (2.39)	3.41 (3.25)	3.60 (3.17)
Number	248	35	67	44	92	45

One of the complexities of establishing Target scores is that we are aiming at a shifting target. As shown in Table 50, students from Region 1 who were administered the ISEL in the spring of 2001 achieve somewhat higher on most measures in 2002.

Table 50. Means and standard deviations for similar samples of kindergarten students from Region 1 in 2000-2001 and 2001-2002

Measure	**Region 1 Spring 2001 Mean (SD)**	**Region 1 Spring 2002 Mean (SD)**
Alphabet Recognition	50.37 (6.43)	50.48 (6.43)
Story Listening	15.04 (3.77)	15.61 (4.06)
Phonemic Awareness	8.15(2.41)	8.21(2.21)
One-to-One Matching	7.35 (2.24)	7.44 (2.04)
Letter Sounds	17.90 (5.52)	18.73 (5.81)
Developmental Spelling	13.03 (5.87)	13.69 (5.99)
Word Recognition	8.06 (6.13)	7.76 (6.02)
Passage Reading	2.94 (3.08)	2.95 (3.19)

The changes in mean score are slight for most snapshots, but greater for Story Listening and Letter-Sounds**.** Over the years, we anticipate an increase in Phonemic Awareness and One-to-One Matching. We believe that the Target scores should continue to be based on the developmental goals articulated by clinicians rather than increase over time, based on normative evidence. Schools that begin with lower scores should be provided with an attainable target.

A comparison of clinician-established Target scores with the empirically-based norms shows a high degree of consistency for most snapshots (see Table 51). The main departure is represented by Letter Sounds where clinicians expected children to have learned most consonant letter-sounds (a score of 16); yet most kindergarteners have actually learned an average of 21 letter-sounds. Finally, the norms suggest a Target for Story Listening. Our analysis of results revealed

that a score of 16 meant that children had answered all or most of the comprehension questions but only half to two-thirds of the vocabulary questions**.**

Whereas clinicians and teachers worry when children come to kindergarten with very limited knowledge, they do not appear to have expectations about where children should be achieving when they enter kindergarten. Thus, we based the fall kindergarten targets on the average achievement of children from across the state. Based on these considerations and this evidence, we established the Target scores shown in Table 51 for kindergarten children. It can be seen that the clinician targets and norm-based target are similar. We resolved any discrepancies by following the developmentally based wisdom of clinicians or by taking an average of the two values.

Table 51. Target/50th percentile scores for kindergarten students in the State of Illinois-2001-02

Measure	Kindergarten Fall Target	Kindergarten Spring Target	Clinician Spring Target	Norm-Based Spring Target
Alphabet Recognition	35	52	52	52
Story Listening	14	17	--	17
Phonemic Awareness	6	9	9	9
One-to-One Matching	4	8	8	8
Letter Sounds	3	19	16	21
Developmental Spelling	6	14	14	15
Word Recognition	2	7	7	9
Passage Reading	0	3	3	4

First Grade Target /50th Percentile Score

Reading Clinician. Similar to kindergarten, we asked the group of reading clinicians, "How well must a child perform at the end of first grade for you to be confident that he or she will continue to progress, given quality classroom instruction?" There was agreement in expectations: by the end of first grade, mastery was expected on those snapshots to have been mastered at the end of kindergarten: Alphabet Recognition, Phonemic Awareness, and One-to-one Matching. In addition, clinicians expected most consonant, vowel, and consonant digraph Letter-Sounds would be learned at the end of first grade. They expected that this letter-sound knowledge will be applied in Developmental Spelling and that children will spell some words in a standard fashion by the end of first grade. They expected that all first grade level sight words and some end-of-first/beginning-of-second grade sight words would be learned. Finally, they expected that the third passage from the spring of first grade (Level H) would be read smoothly. The clinicians were confident that children who are able to do these things would continue to make good progress in second and third grade. These expectations translate into Target scores as follows:

Alphabet Recognition: mastery
Phonemic Awareness: mastery
One-to-One Matching: mastery

Letter Sounds:	24 of 26 consonant and vowel letter-sound associations
Developmental Spelling:	24 of the 27 phonemes represented; some standard spellings
Word Recognition:	20 of 22 first grade words recognized
Passage Reading	9 of 12 indicating mastery of the spring first grade passage

Again there was less certainty about how well children should be achieving on the Story Listening Task (Vocabulary and Comprehension). They reiterated the importance of knowing word meanings and being able to comprehend simple stories, but were unable to confidently state a level of achievement necessary for future proficient reading comprehension. The research community lacks research evidence on this issue.

Regional Norms. We also sought to define normal progress by administering the ISEL-K/1 to many first grade children from the six regions across the state during 2001-2002. The results for each of the six regions and the weighted means are shown in Tables 52A and B for first grade.

Table 52A. Spring 2002 First Grade Norms

Measure	Weighted Mean
Alphabet Recognition	53.70
Story Listening	17.80
Phonemic Awareness	9.57
One-to-One Word Match	8.90
Letter Sounds	24.29
Developmental Spelling	21.92
Word Recognition	19.98
Passage Reading	9.43

Table 52B. Spring 2002 Regional First Grade Norms

	REGION					
Measure	1	2	3	4	5	6
Alphabet Recognition	53.66 (0.68)	53.75 (0.63)	53.69 (0.84)	53.64 (0.95)	53.71 (0.78)	53.83 (0.38)
Listening	16.83 (3.05)	17.68 (2.74)	18.97 (2.39)	19.25 (2.98)	17.41 (2.29)	18.24 (2.14)
Phonemic Awareness	9.48 (1.18)	9.49 (1.40)	9.81 (0.96)	9.55 (0.89)	9.55 (0.90)	9.78 (0.55)
Word match	8.85 (0.55)	8.92 (0.41)	9.00 (0.00)	8.87 (0.42)	8.90 (0.30)	9.00 (0.00)
Letter Sounds	24.06 (2.46)	24.83 (1.72)	24.45 (2.83)	24.56 (2.31)	23.67 (1.49)	24.61 (1.68)
Develop. Spelling	21.94 (4.08)	23.38 (2.65)	22.76 (3.46)	22.27 (2.95)	19.39 (3.39)	21.61 (2.74)
Word recognition	19.83 (3.45)	20.20 (2.61)	20.88 (2.32)	19.72 (3.06)	18.76 (3.16)	20.98 (1.63)
Passage Reading	9.38 (2.73)	9.70 (2.36)	10.22 (2.40)	9.61 (2.65)	7.90 (2.54)	10.00 (1.81)
Number	237	71	58	64	51	46

Children at the end of first grade have mastered, on average, 24.29 items on the Letter-Sound snapshot. The score of 9.43 on Passage Reading shows that children, on average, can fluently read a passage from the spring of first grade.

As we discussed previously, Target scores provide a shifting target. As shown in Table 53, students from Region 1 who were administered the ISEL in the spring of 2002 achieve slightly higher on many measures than in 2001 – particularly those appropriate for first grade. Over the years, we anticipate that scores will increase. But we believe that the Target scores should continue to be based on developmental goals articulated by clinicians, rather than on normative evidence.

Table 53. Means and standard deviations for similar samples of first grade students from Region 1 in the spring of 2001 and 2002

Measure	Region 1 Spring 2001 Mean (SD)	Region 1 Spring 2002 Mean (SD)
Alphabet Recognition	53.55 (0.90)	53.66 (0.68)
Story Listening	17.45 (2.59)	16.83 (3.05)
Phonemic Awareness	9.63 (1.01)	9.48 (1.18)
One-to-One Matching	8.84 (0.53)	8.85 (0.55)
Letter Sounds	23.28 (3.45)	24.06 (2.46)
Developmental Spelling	21.75 (4.55)	21.94 (4.08)
Word Recognition	19.76 (2.95)	19.83 (3.45)
Passage Reading	9.15 (2.71)	9.38 (2.73)

The kindergarten end-of-year target scores are useful in establishing goals for where children should be achieving at the beginning of first grade. Both the clinician targets and the norm-based targets provide evidence. Based on the evidence shown in Table 11, we established the following as Target Scores for first grade children. We resolved the single discrepancy for Developmental Spelling by taking an average value of the two. The consistency of the estimates confirmed the choice of the 50th percentile score as our target score.

Table 54. Target scores for first grade students in the state of Illinois compared to clinician estimates and 50th percentile scores

Measure	First Grade Fall Target	First Grade Spring Target	Clinician Spring Target	50th Percentile Spring Target
Alphabet Recognition	53	54	54	54
Story Listening	17	18	18	18
Phonemic Awareness	10	10	10	10
One-to-One Matching	9	9	9	9
Letter Sounds	20	24	24	24
Developmental Spelling	15	23	24	22
Word Recognition	11	20	20	20
Passage Reading	3	9	9	9

Establishing Watch Scores/20th Percentile Scores

Watch Scores are useful in identifying children who need special support or closer observation. If a child scores at or below the Watch Score on a snapshot in the fall, teachers should monitor his or her initial progress closely. For some, low initial performance may be due to lack of exposure to literacy activities in a pre-school or home setting. Close observation may show the child making steady and appropriate progress. For other children, scoring below the Watch Score may indicate a need for more detailed assessment, more intensive classroom instruction, and/or participation in an intervention program.

We established Watch Scores by determining the ISEL-K/1 score below which 20% of the children in the Illinois regional samples achieved. These are children whose knowledge of literacy falls considerably below the Target Scores – so much lower, that their progress should be watched. In some schools where many children achieve near the Target Scores when they enter kindergarten and first grade, there may be few children who perform at or below the Watch Score levels. In contrast, in some school where many children enter school with little exposure to literacy activities, there may be many children who will be identified by the Watch Scores. Watch scores are particularly useful in the fall of the year to alert teachers concerning the children they need to "keep their eye on." They may also be useful at the end of the year as a method for identifying children for summer programs. Table 55 shows the Watch Scores for children at the beginning and end of kindergarten and first grade. These scores refer to a point at or below which twenty percent of the children in the state scored.

Table 55. Watch Scores for kindergarten and first grade students in the state of Illinois

Measure	Total # Items	Kindergarten Fall Watch Score	Kindergarten Spring Watch Score	First Grade Fall Watch Score	First Grade Spring Watch Score
Alphabet Recognition	54	14	50	51	53
Story Listening	21	10	14	14	15
Phonemic Awareness	10	3	7	7	9
One-to-One Matching	9	1	7	7	9
Letter Sounds	26	-	16	16	23
Develop. Spelling	27	-	11	11	19
Word Recognition	22	-	3	5	18
Passage Reading	12	-	0	0	7

Beginning Kindergarten Watch Scores

For children entering kindergarten, knowing only 14 letter names out of the 54 tested alerts the teacher that a child may have had little exposure to print. Similarly, being able to select only 3 of the Phonemic Awareness items out of 10 indicates a chance level of performance. Finally, if the child is able to make only one finger-point match on a simple sentence, this may indicate that the child has had little exposure to book and being read to. Finally, responding correctly to only 10 of the comprehension and vocabulary items, when a story had been read aloud, may indicate

problems with comprehension and vocabulary or in the child's ability to verbalize about a story. Obviously, if a child earns scores that are at or below the Watch Scores on three or four of these snapshots, the need for careful monitoring is particularly urgent and special instructional support may be required.

Beginning First Grade and End of Kindergarten Watch Scores

For children in the spring of kindergarten and the fall of first grade, the most useful snapshots are the first six. It is particularly serious when a child scores at or below the Watch Score on Phonemic Awareness, Letter Sounds, and Developmental Spelling. All these Watch Scores indicate the child is having difficulty mastering the code. If a child scores at or below the Watch Score in Story Listening, this may indicate problems in the area of language development -- comprehension, and vocabulary. Word Recognition that is at or below the Watch Score may be another indication of failure to master letters and words. Similarly, obtaining a score of "0" on Passage Reading may suggest little experience with book reading.

For children at the end of first grade, the Watch Scores for three of the first four snapshots (Alphabet Recognition, Phonemic Awareness, and One-to-One Matching) are not useful since they represent mastery or near mastery on these snapshots. By contrast, children should have made major progress on the last four snapshots: Letter-Sounds, Developmental Spelling, Word Recognition, and Passage Reading. If children achieve at or below the Watch Score level, particularly on the last three, it may indicate that special support is needed during the summer following first grade. Again, if a child scores at or below the Watch Score in Story Listening, this may indicate problems in the area of language development -- comprehension, and vocabulary. Other diagnostic testing in these areas may be warranted.

ISEL-K/1 Enhancements for Version 2- 2003-2004

In 2003-2004, snapshots for Vocabulary and Fluency were added to the ISEL-K/1 and the Passage Reading snapshot was rescored to include 20 items. The norming sample for these two snapshots was composed of 633 kindergarteners and 655 first graders distributed according to the original sample profile. Means, standard deviations, watch and target scores for these snapshots are included in the earlier individual subtest descriptions and in Appendix A.

REFERENCES

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.

Baker, L. & Brown, A. L. (1984). *Metacognitive Skills and Reading.* Technical Report N. 188. U.S., Illinois.

Baker, S. K.,, D. C., & Kame'enui, E. J. (1995). *Vocabulary acquisition: Synthesis of the research*. Technical Report No. 13 produced for the National Center to Improve the Tools of Educators, University of Oregon.

Barr, R., Blachowicz, C.L.Z. & Katz, C. & Kaufman, B. .(2001). *Reading diagnosis for teachers: An instructional approach.* 4th Edition. New York: Longman.

Bear, D.R. & Barone, D.M. (1998). *Developing Literacy: An Intergrated Approach to Assessment and Instruction*. Boston: Houghton Mifflin Co.

Biemiller, A. (2001). Teaching Vocabulary: Early, Direct, and Sequential. *American Educator, 25*(1)*,* 24-28, 47.

Biemiller, A. & Slonim, N. (2001). Estimating root word vocabulary growth in normative and advantaged populations: Evidence for a common sequence of vocabulary acquisition. *Journal of Educational Psychology, 93*(3), 498-520.

Blachowicz, C.L.Z., Moskal, M.K., Fisher, P., Massarelli, J., Obrochta, C. & Fogelberg, E. (In press). Everybody Reads": Fluency as a Focus for Staff Development. In Fluency Development, Edited by T. Rasinski. Newark:DE: International Reading Association.

Bodrova, E., Leong, C. & Semenov, M. (1998). *McCrel Frequent Word List*. http://www.mcrel.org/products/literacy/100words.html. (Retrieved December 11, 2001).

Bradley, L., & Bryant, P. E. (1983). Categorizing sounds and learning to read: A causal connection. *Nature, 301,* 419-421.

Cazden, Courtney B. (1992). Revealing and Telling: The Socialization of Attention in Learning to Read and Write. *Educational Psychology: An International Journal of Experimental Educational Psychology, 12*(3-4) 305-13.

Clay, M.M. (1993). *An Observation Survey of Early Literacy Achievement*. Portsmouth, NH: Heinemann.

Cunningham, A. E. and Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. Developmental Psychology, 33, 934-945.

Dale, E. & O'Rourke, J. P. (1976). *The living word vocabulary*. Chicago: Field Enterprises.

Dickinson, D. K.. & Smith, M. W. (1994). Long-Term Effects of Preschool Teachers' Book Readings on Low-Income Children's Vocabulary and Story Comprehension. *Reading Research Quarterly, 29*(2), 104-22.

Dunn, L.M. & Dunn, L.M. (1997). Peabody Picture Vocabulary Test- Revised. Circle Pines, MN: American Guidance Service.

Durkin, D.D. (1978-79). What classroom observations reveal about reading comprehension instruction. Reading Research Quarterly, 14, 481-533.

Dyson, A.H. & Genishi. C. (1994). *The need for story: Cultural diversity in classroom and community*. Urbana, Il: NCTE.

Ehri, L. (1998). Grapheme-phoneme knowledge essential for learning to read words in English. In J. Metsala & L. Ehri (Eds.). *Word recognition in beginning literacy* (pp. 3-40). Mahwah, NJ: Erlbaum.

Ehri, L.C. (1980). The development of orthographic images. In U. Frith (Ed.), Cognitive processes in spelling. London: Academic Press.

Eller, .G., Pappas, C. C & Brown, E. (1988). The lexical development of kindergartners: Learning from written context. *Journal of Reading Behavior, 20*, 5-24.

Elley, W. B. (1988). Vocabulary acquisition from listening to stories. *Reading Research Quarterly, 24* , 174-87.

Feifel, H. & Lorge, I. (1950). Qualitative differences in the vocabulary responses of children. J*ournal of Educational Psychology, 41*, 1-18.

Fountas, I. & Pinnell, G.S. (1999). *Matching books to readers: using leveled books in guided reading, K-3*. Portsmouth, NH: Heinemann.

Henderson, E.H. (1985). *Teaching spelling*. Boston: Houghton Mifflin.

Harris, A.J. & Jacobson, M.D. (1982). *Basic reading vocabularies*. New York: Macmillan.

Hasbrouck, J.E. & Tindal, G. (1992). Curriculum-based oral reading fluency norms for students in grades 2 through 5. *Teaching Exceptional Children, 24,* 41-44.

Hoover, H.D., Dunbar, S.J. & Frisbie, D.A., (2001). Iowa Test of Basic Skills. Itasca, IL.: Riverside Publishing.

Invernizzi,M.M, (2000). *PALS Early Screening Inventory*. Charlotte, Va.: University of Virginia

Johns, J.J. (1999). *Basic reading inventory* (7th ed.). Dubuque, IA: Kendall/Hunt.
Johns, J.J. (1999). Basic reading inventory (7th ed.). Dubuque, IA: Kendall/Hunt.

Johns, J.J. & Berglund, R. (2002). *Fluency: Questions, Answers, Evidence-Based Strategies*. Dubuque, IA: Kendall/Hunt

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. Journal of Educational Psychology, 80, 437-447.

Juel, C. & Minden-Cupp, C. (1999). *Learning to read words: Linguistic units and strategies.* Ann Arbor, MI: Center for the Improvement of Early Reading Achievement.

Kame'enui, E. (2002). An analysis of reading assessment instruments for K-3. University of Oregon: IDEA.

Kamil, M.L., Mosenthal, P.B., Pearson, P.D. & Barr, R. (Eds.), (2000). *Handbook of Reading Research, Volume III*. Mahwah, NJ: Lawrence Erlbaum Associates.

Kraus, R. (1945; 2000). *The carrot seed.* New York: Scholastic.

Kuhn, M. & Stahl, S. (2003). Fluency: A review of developmental and remedial practices. Journal of Educational Psychology, v95, n1, 3-21.

Lundberg, I., Frost, J., & Petersen. O. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly, 23,* 263-284.

MacGinitie, W.H. & MacGinitie, R.K. (1989). Gates-MacGinitie Reading Tests, 3rd Edition. Chicago: The Riverside Publishing Co.

Marzano, R.J, Pickering, D. & McTighe, J. (1993). *Assessing student outcomes : performance assessment using the dimensions of learning model*. Alexandria, Va. : Association for Supervision and Curriculum Development.

McKeown, B. & Thomas, D. (1988): *Q Methodology*. Newbury Park: Sage Publication

Morris, D. (1998). Assessing printed word knowledge in beginning readers" The Early Reading Screening Instrument (ERSI). *Illinois Reading Council Journal, 26*(2), 30-51.

Morris, D. (1999). *The Howard Street tutoring manual: teaching at-risk readers in the primary grade*. New York: Guilford Press.

Morris, D. & Perney, J. (1984). Developmental spelling as a predictor of first-grade reading achievement. *Elementary School Journal, 84*, 441-457.

Muter, V., & Snowling, M. (1998). Concurrent and longitudinal predictors of reading: The role of metalinguistic and short-term memory skills. *Reading Research Quarterly, 33*, 320-337.

Muter, V., Hulme, C., Snowling, M., & Taylor, S. (1997). Segmentation, not rhyming, predicts early progress in learning to read. *Journal of Experimental Child Psychology, 65*, 370-396.

National Reading Panel (2000). *Report of the National Reading Panel: Reports of the subgroups*. Washington, DC: National Institute of Child Health and Human Development Clearinghouse.

Rasinski, T.V. & Padak, N.D. (1998). How Elementary Students Referred for Compensatory Reading Instruction Perform on School Based Measures of Word Recognition, Fluency, and Comprehension. *Reading Psychology, 19,* 185-216.

Rosenblatt , L. (1935; 1979) *The Reader, the Text, The Poem. Carbondale*, Il.: SIU Press.

Samuels, S. J. (1979). The method of repeated reading. The Reading Teacher,

Schwanenflugel, P. J. & Akin, C. (1994). Developmental Trends in Lexical Decisions for Abstract and Concrete Words. *Reading Research Quarterly. 29*(3), 250-64

Shinn, M.R. (1989). *Curriculum-based measurement: Assessing special children.* New York: Guilford Press.

Snow, C.E. (1991). Unfulfilled expectations : home and school influences on literacy. Cambridge, MA: Harvard University Press.

Snow, C. E., Burns, M. S., & Griffin, P. (1998*). Preventing reading difficulties in young children*. Washington, D.C.: National Academy Press.

Strecker, S. K., Roser, N. L., & Martinez, M. G. (1998). Toward understanding oral reading fluency. In Forty-seventh yearbook of the National Reading Conference, Chicago, IL.

Tompkins, G. (2001). *Literacy for the 21st Century: A Balanced Approach*. Columbus:Merrill-Prentice Hall.

ISEL References

Barr, R. , Blachowicz, C.L.Z., Pigott, T., Buhle, R., &Chaney, J,. Ivy, C. & Uchtman, A, . (2004). Illinois Snapshots of Early Literacy-K/1:Technical Manual. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Chaney, J. , Buhle, R., Blachowicz, C.L.Z., Ivy, C. & Suarez-Silva, G. . (2004). Illinois Snapshots of Early Literacy-K/1:Teacher's Guide. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Buhle, R., Blachowicz, C.L.Z , Chaney, J., Ivy, C. & Suarez-Silva, G. . (2004). Illinois Snapshots of Early Literacy-K/1:Administration Booklet and Student Scoresheet. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Buhle, R., Blachowicz, C.L.Z , Chaney, J., Ivy, C. & Suarez-Silva, G. . (2004). Illinois Snapshots of Early Literacy-S-:Administration Booklet and Student Scoresheet. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Sullivan, D., Blachowicz, C.L.Z., Pigott, T, Buhle, R., Dunn, M.,.. & Uchtman, A, . (2004). Illinois Snapshots of Early Literacy-2:Technical Manual. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Sullivan, D., Buhle, R., Blachowicz, C.L.Z., & Chaney, J. (2004). Illinois Snapshots of Early Literacy-2:Teacher's Guide. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004.

Barr, R. , Sullivan, D., Buhle, R., & Blachowicz, C.L.Z. . (2004). Illinois Snapshots of Early Literacy-2:Administration Booklet and Student Scoresheet. Springfield, IL:Illinois State Board of Education. Retrieved from http://www.isbe.net/curriculum/isel/ISEL.html on January 1, 2004

Appendix A

Version 1- 50th Percentile (Target) and 20th Percentile (Watch) Scores

Version 1- 50th Percentile (Target) and 20th Percentile (Watch) Scores for Kindergarten

Snapshot (Number of Items)	Kindergarten		Kindergarten	
	Fall 50th	**Fall 20th**	**Spring 50th**	**Spring 20th**
1. Alphabet Recognition (54)	35	15	52	50
2. Story Listening (21)	14	11	15	13
3. Phonemic Awareness (10)	6	3	9	8
4. One-to-One Matching (9)	4	1	8	6
5. Letter Sounds (26)	9	-	19	14
6. Develop. Spelling (27)	6	-	14	10
7. Word Recognition (22)	2	-	7	2
8. Passage Reading (12)	0	-	3	0

Version 1- 50th Percentile (Target) and 20th Percentile (Watch) Scores for First Grade

Snapshot (Number of Items)	First Grade		First Grade	
	Fall 50th	**Fall 20th**	**Spring 50th**	**Spring 20th**
1. Alphabet Recognition (54)	53	51	54	53
2. Story Listening (21)	17	14	18	15
3. Phonemic Awareness (10)	10	9	10	9
4. One-to-One Matching (9)	9	7	9	8
5. Letter Sounds (26)	20	16	25	21
6. Develop. Spelling (27)	15	11	23	19
7. Word Recognition (22)	11	5	21	18
8. Passage Reading (12)	3	0	10	7

Appendix B

Version 2- 50th Percentile (Target) and 20th Percentile (Watch) Scores

Version 2- 50th Percentile (Target) and 20th Percentile (Watch) Scores for Kindergarten

Snapshot (Number of Items)	Kindergarten		Kindergarten	
	Fall 50th	**Fall 20th**	**Spring 50th**	**Spring 20th**
1. Alphabet Recognition (54)	35	15	52	50
2. Story Listening (21)	14	11	15	13
3. Phonemic Awareness (10)	6	3	9	8
4. One-to-One Matching (9)	4	1	8	6
5. Letter Sounds (26)	9	-	19	14
6. Develop. Spelling (27)	6	-	14	10
7. Word Recognition (22)	2	-	7	2
8. Vocabulary (14)	5	2	9	6
9. Passage Reading (20)	0	-	5	0
10. Fluency	-	-	-	-

Version 2- 50th Percentile (Target) and 20th Percentile (Watch) Scores for First Grade

Snapshot (Number of Items)	First Grade		First Grade	
	Fall 50th	**Fall 20th**	**Spring 50th**	**Spring 20th**
1. Alphabet Recognition (54)	53	51	54	53
2. Story Listening (21)	17	14	18	15
3. Phonemic Awareness (10)	10	9	10	9
4. One-to-One Matching (9)	9	7	9	8
5. Letter Sounds (26)	20	16	25	21
6. Develop. Spelling (27)	15	11	23	19
7. Word Recognition (22)	11	5	21	18
8. Vocabulary (14)	9	5	10	8
9. Passage Reading (20)	3	0	16	13
10. Fluency	-	-	64 cwpm	37 cwpm

Appendix C

Illinois Snapshots of Early Literacy

Researchers, Advisors and Consultants

ISEL Research and Development Team/Project Staff

Rebecca Barr, Ph.D.
Camille Blachowicz, Ph.D.
Roberta Buhle, Ed.D.
Jeanne Chaney, Ed.D.
Rian Davis, MAT
Michael Dunn, Ph.D.
Carol Ivy, Ed.D
Therese Pigott, Ph.D.
Guadalupe Suarez-Silva, M.Ed.
Diane Sullivan, M.Ed.
Andrea Uchtman, MAT

ISEL University Advisors

Rosalinda Barrerra, Ph.D.
University of Illinois

Roberta Berglund, Ph.D
Northern Illinois University

Andrew Biemiller, Ph.D.
Ontario Institute for Educational Studies

Thomas Crumpler, Ph.D.
Susan Davis Lenski, Ph.D.
Illinois State University

Louis Ferroli, Ph.D.
Rockford College

Georgia Garcia, Ph.D.
University of Illinois

William Henk, Ph.D.
Marla Mallette, Ph.D.
Stephanie McAndrews, Ph.D.
Southern Illinois University

Darrell Morris, Ph.D.
Appalachian State University

Rae Moses, Ph.D.
Northwestern University

Michael Pressley, Ph.D.
Michigan State University

Kathryn Ransom
University of Illinois-Springfield

Dorothy Strickland Ph.D.
Rutgers University

Karen Wixson, Ph.D.
University of Michigan

ISEL School Advisory Board
Cathy Byrne
Central Community School District 301-Burlington

Wendy De Sent
Liz Gorr
Marcia Pitts
Rosy Vargas
Griselda Whipple
Chicago Public Schools - District 299

Nancy Lany
Cicero School District 99

Sandy Bruns
Downers Grove

Julie Levine
Lisa Sanchez
Linda Schusterman
Evanston/Skokie District 65

Linda Zakarian
Educator in Residence, ISBE

Carmen Araujo
Dolores Drachman
Beth Hoferitza
Judy Rauschenberg
Ann Swies
Diane Wilkey
Mannheim School District 83

Michael Heggerty, Ed.D.
Woodridge School District 68

ISEL-S Advisory Board
Raj Balu
Wanda Colon
Kathy Davy
Janice DiVincenzo
Margo Gottlieb
Mary Hausner
Nancy Laney
Mary Penich
Janet Ring
Guy Schumacher
Gail Sessler
Nilda Soto
Laura Tapia
Griselda Whipple
Cheryl Wolfel

Pilot Schools
Copernicus Elementary – Chicago
Hawthorne Scholastic Academy – Chicago
Kingsley Elementary – Downers Grove
Scott School – Melrose Park
Sprague Elementary- Lincolnshire
Walker Elementary – Evanston
Washington Elem. – Chicago
Westdale – Northlake
Zapata Academy – Chicago

ISEL Field Researchers-English
Ann Bates
Dalia Benz
Jesse Blachowicz
Meg Boland
Marcia Caulkins
Wilma Coleman
Jean Ehlert
Kit Harper
Deborah Hays
Betty Johnson
Susan Jones
Barbara Kaufman
Elsie McAvoy
Marilee Mercer
Ina Meyer
Lisa Pozzi
Dee Roubekas
Maggie Walsh
Linda Zakarian

ISEL Field Researchers-Spanish
Ellen Brugliera
Gloria Guevara
Cheryl Haack
Janice Maresh
Rosa Partilda
Nereida Valez

ISEL-S School Contacts
Kathy Davy - Des Plaines C.C. S.D. 62
Liz Lara – North Shore S.D. 112
Diane Wilkey – Mannheim S.D. 83
Cheryl Wolfel – Palatine C.C. S.D. 15

Also thanks to the many other teachers, students and principals who welcomed us into their schools and aided us in the construction, field testing, refining and norming of the ISEL.

Appendix D

List of Tables

Table 44A. The standardization sample for the ISEL-K/1 in terms of Race/Ethnicity and Free Lunch Demographics (based on 2002 Illinois State Board of Education data)

Table 44B. Distribution of sample by grade and gender

Table 44C. Distribution of sample by geographic area

Table 45A. Average percent correct on the eight ISEL-K-1 assessments by kindergarteners and first graders in the fall and spring, Version 1

Table 45B. Average percent correct on the ten ISEL-K/1 assessments by kindergarteners and first graders in the spring. Version 2-alternate snapshot

Table 46A. Average fall and spring reliability coefficients (Cronbach alpha except for Fluency which is test-retest) for kindergarten and first grade samples on the ISEL-K/1 snapshots

Table 46B. Alternate Form Reliability- ISEL-K/1 Version 2 Forms A and B - Grade 1 N= 449

Table 46C. Test-Re-test Reliability - ISEL-K/1 Version 1 –Kindergarteners tested in May with 8 day retest interval. N= 64

Table 47. Average fall and spring means and standard deviations (SD) for kindergarten and first grade samples- 2001-2002 except where noted by *

Table 48A. Concurrent Validity- ISEL-K/1 and Gates MacGinitie Reading Test (G-M) (MacGinitie & MacGinitie,1989) for the Suggested Grade 1 Spring Subtests N= 234

Table 48B. Concurrent Validity- ISEL-K/1 and Iowa Test of Basic Skills (ITBS) Harcourt for the Suggested Grade 1 Spring Subtests N= 144

Table 49A. Spring 2002 Kindergarten Norms-2001-2001 version

Table 49B. Spring 2002 Regional Kindergarten Norms-2001-2001 version

Table 50. Means and standard deviations for similar samples of kindergarten students from Region 1 in 2000-2001 and 2001-2002

Table 51. Target/50th percentile scores for kindergarten students in the State of Illinois-2001-02

Table 52. Spring 2002 First Grade Norms

Table 53. Means and standard deviations for similar samples of first grade students from Region 1 in the spring of 2001 and 2002

Table 54. Target scores for first grade students in the state of Illinois compared to clinician estimates and 50th percentile scores

Table 55. Watch Scores for kindergarten and first grade students in the state of Illinois.