

## Mapping the Contemporary Landscape of Early Literacy Learning

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This *CELLreview* includes information about the experiences and outcomes considered most important for early literacy learning. Three sources of information (literacy experts, literacy centers, and professional organizations) were used to identify contemporary thinking about early literacy learning opportunities and accomplishments. Findings showed that all three sources of information recommended a rich mix of print-related and linguistic processing experiences for promoting early literacy learning. All three sources also included a mix of print-related and linguistic processing-related outcomes for measuring literacy success. Implications for practice are described.

The purpose of this practice-based research synthesis was to identify current thinking about the early literacy learning experiences considered important for the acquisition of preliteracy, emergent literacy, and early literacy competence. This was accomplished by a review and integration of those experiences and outcomes considered to be most important by literacy experts, researchers, and practitioners at national and international centers for early literacy learning and at professional organizations advocating for the improved education of young children. The goal of the synthesis was to map the landscape of contemporary approaches to fostering early literacy learning.

The conduct of the synthesis was guided by a characteristics/consequences framework that focuses on the experiences and opportunities that are associated with targeted or desired outcomes (Dunst, Trivette, & Cutspec, 2002). Examination of the literacy learning literature was accomplished by compiling information about those experiences considered important for early literacy learning and the outcomes that would be expected to result from the learning opportunities. The information we examined was analyzed in a number of different ways to help identify the implications of contemporary thinking for developing evidence-based literacy learning practices (Dunst, Trivette, Masiello, Roper, & Robyak, 2006).

### BACKGROUND

Literacy is generally defined as a set of reading and writing related practices and skills that are governed and guided by some explicit idea and realization of what, how, when, and why to read and write. Slavin (2006) defined emergent literacy as the “knowledge and skills related to reading that children usually develop from experience with books and other print [material] before the beginning of formal reading instruction in school.”

Based on their review of available research evidence and practice, Dunst et al. (2006) divided early literacy learning from birth to 6 years of age into three periods of development (preliteracy, emergent literacy, and early literacy) and seven overlapping domains of early literacy learning experiences and accomplishments (Table 1). Both Adams (1990a) and van Kleeck (1998) noted that literacy learn-

*CELLreviews* is a publication of the Center for Early Literacy Learning (CELL) funded by the U.S. Department of Education, Office of Special Education Programs (Grant #H326B060010). CELL is a collaboration among the Orelena Hawks Puckett Institute, the American Institutes for Research, PACER Center, and the A.J. Papanikou Center for Developmental Disabilities at the University of Connecticut Health Center. Copyright © 2007. Orelena Hawks Puckett Institute. All rights reserved.

Table 1  
*Seven Areas of Literacy Learning and Development*

Domain	Definition
Alphabet Knowledge	Ability to recognize and name the letters of the alphabet. This includes the “translation of units of print (graphemes) to units of sound (phonemes). . . . at the most basic level, this requires the ability to distinguish letters” (Whitehurst & Lonigan, 2001, p. 16).
Print Awareness	Ability to recognize the characteristics of the rules and properties of written language (Justice & Ezell, 2001).
Written Language	Ability to represent ideas or words in a printed or written format. This includes learning to differentiate the elements of the written system (e.g., letters and words).
Text Comprehension	Ability to understand and process the meaning of ideas represented in text. Reading and text comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language consisting of three elements: text, reader, and activity/purpose for reading.
Phonological Awareness	Ability to recognize, manipulate, and use sounds in words, including the ability to hear and discriminate the sounds in language. This includes the “general ability to attend to the sounds of language as distinct from its meaning, . . . noticing similarities between words in their sounds, enjoying rhymes, counting syllables, and so forth are indicators of such ‘metaphonological’ skills” (Snow, Burns, & Griffin, 1998, p. 52).
Oral Language	Ability to use words to communicate ideas and thoughts and to use language as a tool to communicate to others. Oral language “consists of the use of words and rules for organizing words and changing them and the abilities to listen and accurately reconstruct what is said on the basis of understanding” (Roskos, Tabors, & Lenhart, 2004, pp. 6-7).
Listening Comprehension	Ability to process and understand the meaning of spoken words. Listening comprehension entails the decoding of words and sentences and the meaning of what is spoken and heard.

ing experiences and accomplishments fall broadly into two categories: print (orthographic) and speech (phonological) processing skills. The print related domains include alphabet knowledge, print awareness, written language, and text comprehension. The speech processing domains include listening comprehension, phonological awareness, and oral language. The experiences and accomplishments constituting the focus of this *CELLreview* were examined using the organizing schemes to discern the scope and focus of contemporary thinking about early literacy learning.

### *Description of the Practices*

It is generally recognized that literacy-related skills develop in the context of young children’s positive interactions with materials and people that support early literacy learning where skill acquisition is closely related to young children’s interests in communication, language, reading, and writing (Dickinson & Neuman, 2006; Neuman & Dickinson, 2002). It is also generally acknowledged that early literacy learning includes both formal and informal literacy learning experiences and opportunities. *Formal experiences* are typically provided as part of early childhood programming, early intervention, preschool education,

preschool special education, child care, and other preschool experiences (e.g., Dickinson, 1994; Hemmeter, McCol-lum, & Hsieh, 2005; Teale & Martinez, 1988; Watkins, 1996). These also often include explicit instruction for teaching early literacy skills. *Informal experiences* are typically afforded children as part of everyday family and community life (e.g., Cairney, 2000a; Dunst & Shue, 2005; Frijters, Barron, & Brunello, 2000; Storch & Whitehurst, 2001) and generally involve implicit forms of instruction that have literacy development effects. Cairney (2002) noted that the experiences children have day in and day out in their homes and community, as well as those provided as part of early childhood intervention, contribute to later literacy success.

### SEARCH STRATEGY

Identification of key sources of information on the early literacy learning experiences and accomplishments considered to be most important was conducted by examining the content of published papers and reports of literacy experts, national and international centers focusing on early literacy learning, and the position statements and

published materials of professional organizations having a focus on early childhood development. Literacy experts were considered to be individuals who have contributed substantially to an understanding of early literacy learning and development and to be persons who have used available knowledge as a foundation for developing early literacy learning practices and interventions. Centers were defined as collaborative groups of literacy experts who focus on specific aspects of early literacy learning. The professional organizations constituting the focus of examination included associations that either focused specifically on early literacy learning or had a literacy learning initiative.

The sources used to identify experts, centers, and organizations were an extensive Endnote library maintained by the Puckett Institute, the reference section of a *Center for Early Literacy Learning* background paper (Dunst et al., 2006), Google, and Google Scholar. The Social Sciences Citation Index was searched for seminal papers cited by researchers and practitioners writing about early literacy learning. These primary sources were supplemented by searches of PsycINFO, ERIC, MEDLINE, and Academic Search Premiere. The sources included in this *CELLreview* were ones that explicitly described either or both literacy learning experiences and early literacy outcomes and accomplishments. The goal of the search was to obtain a representative sample rather than an exhaustive list of the experiences and accomplishments of early literacy learning.

## SEARCH RESULTS

The search strategy produced 71 published papers, chapters, and books by literacy experts, 12 centers on early literacy learning, and 13 professional organizations and groups. The reference section of this *CELLreview* includes the complete list of citations for the literacy experts. The experts included, but were not limited to, Trevor Cairney, David Dickinson, Laura Justice, Susan Landry, Christopher Lonigan, Susan Neuman, Kathleen Roskos, Catherine Snow, Dorothy Strickland, and Grover Whitehurst. The professionals who used the literacy literature for developing implications for practice included, but were not limited to, Bonnie Armbruster, Elena Bodrova, Lori Keith, Jana Mason, and Sharon Rosenkoetter.

Appendix A lists the centers that were located and their Web sites which were the primary sources for identifying the information for this *CELLreview*. The professional organizations and groups that constituted the focus of investigation are listed in Appendix B. The Web sites of these organizations were the primary sources for identifying relevant information.

### Source Material Coding

The different source materials were extensively examined to identify those experiences, opportunities, interven-

tions, etc. that were described as most important for early literacy learning. The same source materials were examined to identify the most important literacy outcomes, described in terms of child accomplishments. Most source materials included both experiences and accomplishments, although some described only experiences and others only accomplishments. A practice or outcome was coded as important only if it was explicitly described in the source.

Both the experiences and accomplishments were coded using the framework described above (Dunst et al., 2006) for assigning the descriptors to different literacy domains (Table 1). The coded information was analyzed in a number of different ways to display the results in terms of similarities and differences according to source (literacy experts, centers, and organizations) and literacy domain.

## SYNTHESIS FINDINGS

### Early Literacy Experiences

Table 2 lists the literacy experiences described most often as the kinds of learning opportunities that lead to pre-literacy, emergent literacy, and early literacy accomplishments. The experiences are a rich mix of both print-related and speech/linguistic processing learning opportunities. The print-related experiences include, but are not limited to, access to books, being read to, exposure to print-rich materials, and opportunities to engage in prewriting activities. The speech/linguistic processing experiences include, but are not limited to, vocabulary enrichment activities, answering questions and probes for elaborations, nursery rhymes and phonemic awareness activities, and storytelling. The percent of the activities that were coded print-related and speech/linguistic processing experiences in all three sources of information were 65% and 69% respectively.

The extent to which the literacy experts, centers, and organizations included the same or similar experiences was determined by rank-order correlations of the experiences described most to least often in the three sources. The percentages in Table 2 were rank ordered and correlated to ascertain the degree of agreement between the three sources and all three sources combined. The correlations are shown in Table 3. There was general agreement in terms of the relative importance of the literacy-related experiences considered most important for early literacy learning as evidenced by the size of effects between the rank orderings in the three sources. The fact that the correlation between the literacy experts and centers was somewhat lower was not unexpected because the researchers and practitioners at many centers were focusing on specific types of experiences and interventions that were being investigated.

Figure 1 shows the distribution of the literacy experiences coded according to literacy domain (Table 1). What is shown is the percent of experiences found in all three

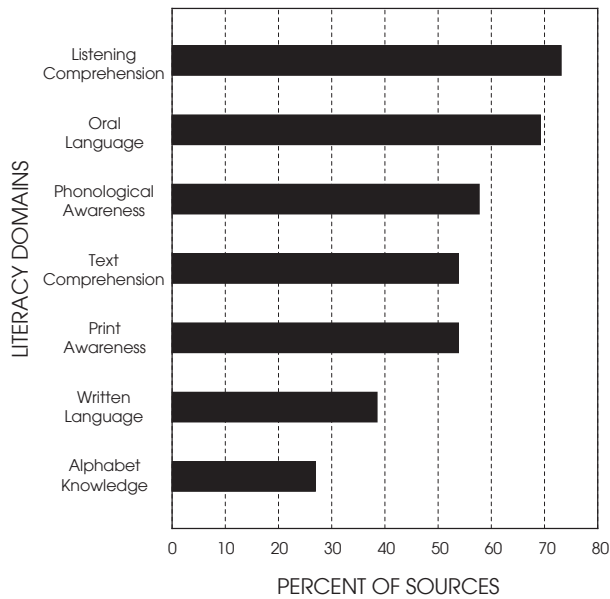
Table 2  
*Types of Early Literacy Experiences Described Most Often in the Source Materials*

Literacy Experience	Literacy Experts	Literacy Centers	Professional Organizations	All Sources
Having access to books	75	50	100	74
Being read to in a positive, enjoyable way	78	57	69	73
Being exposed to a wide variety of vocabulary	63	50	92	65
Engaging in ongoing, challenging, meaningful conversations	69	50	77	65
Having literacy activities integrated into daily routines	69	43	77	64
Being asked open-ended questions	63	43	77	62
Playing phonemic awareness games	53	50	92	59
Explicitly introducing print-related materials	61	29	85	59
Learning nursery rhymes, songs, etc.	47	57	92	56
Engaging in <i>repeated</i> dialogues, book readings, singing, etc.	65	21	62	56
Observing modeling of literacy behaviors (including functional literacy)	59	43	62	55
Adult responding to communication attempts	65	14	69	55
Having fun with language (e.g., rhymes, making up stories)	61	21	77	55
Being exposed to environmental print	43	36	77	47
Reciting/retelling stories and role playing	41	14	69	41
Having access to art and writing materials	29	57	69	41
Experiencing with story reading in groups and individually	20	57	77	36
Writing experiences	28	36	69	36
Being exposed to environmental symbols and logos	24	43	39	30
Playing with alphabet toys	16	29	62	26
Participating in library and story times	16	43	39	24
Receiving positive responses to requests/demands to be read to	22	0	54	23
Being exposed to decontextualized language	29	0	23	23
Relating storybook themes to own life/behavior	5	21	54	21
Engaging in dialogic reading	22	7	8	17
Engaging in finger plays	12	7	23	13

Table 3  
*Rank Order Correlations of the Early Literacy Learning Experiences*

Sources of Information	Literacy Experts	Literacy Centers	Professional Organizations	All Sources
Literacy Experts	–	.35*	.61**	.92**
Literacy Centers		–	.61**	.60**
Professional Organizations			–	.81**
All Sources				–

\*p < .05, \*\*p < .0001.



**Figure 1. Percent of sources describing the importance of different literacy-related experiences.**

sources of information that were considered learning opportunities for promoting the acquisition of seven different kinds of literacy-related accomplishments (Dunst et al., 2006). The experiences described most often were those categorized as speech/linguistic processing learning opportunities. The fact that the print-related experiences were described less often was not unexpected because those would generally not be appropriate for very young children.

### *Literacy Accomplishments*

The literacy accomplishments described most often in the three sets of source material are listed in Table 4. The outcomes are again a rich mix of print-related and speech/linguistic processing skills. The print-related outcomes include, but are not limited to, print awareness and meaning, alphabet knowledge, beginning reading, and invented spelling and writing. The speech/linguistic processing outcomes include, but are not limited to, vocabulary growth, listening comprehension, phonological awareness, and rhymes. The percentages of outcomes in the three sources

**Table 4**  
*Types of Literacy Outcomes Described Most Often in the Source Materials*

Literacy Outcomes	Literacy Experts	Literacy Centers	Professional Organizations	All Sources
Vocabulary/oral language development	82	79	92	83
Print meaning	82	50	92	78
Print awareness	80	57	77	76
Alphabet knowledge	77	57	92	76
Listening comprehension	73	50	85	71
Book rules (e.g., turning pages, left to right)	59	43	69	61
Distinguish sounds/phonemic awareness	55	50	85	59
Phonological awareness	55	36	100	59
Independent interest and motivation to read	45	57	62	50
Invented spelling in text production	51	43	46	49
Scribbling with a purpose	41	50	69	47
Recognize familiar signs/labels	39	43	69	45
Identify/play with rhymes	41	29	77	45
Phonological manipulation/access	47	14	54	42
Phonological memory	43	14	23	35
Differentiating print and pictures	28	43	46	33
Retelling simple stories	31	29	46	33
Written language	38	14	15	30
Pretend play/using objects as symbols	14	14	46	19
Writing name	10	36	23	18
Understanding that pictures are symbols	16	14	31	18
Rapid naming	14	7	23	14
Following sequential directions	8	7	46	14
Visual perceptual skills (e.g., pattern recognition)	12	7	23	13

of information coded as each type of accomplishment were 58% and 46% respectively.

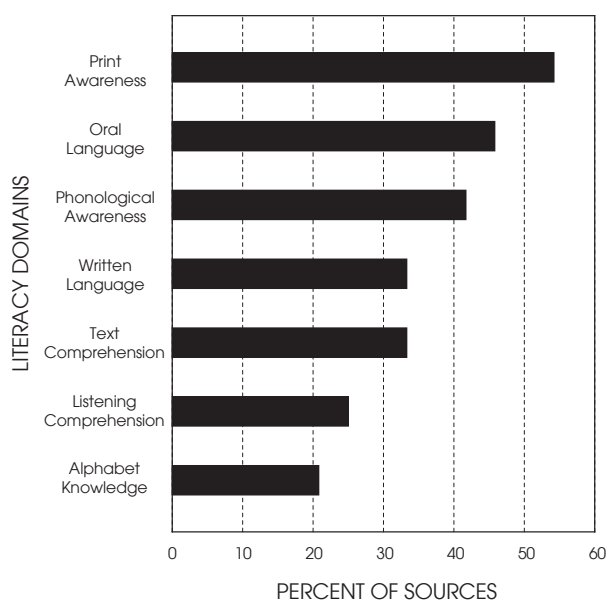
The degree of agreement among the three sources of information is shown in Table 5. The correlations are for the percentages shown in Table 4 ranked according to the three sources combined. There was almost unanimous agreement in terms of the outcomes considered the most important literacy accomplishments, indicating that the outcomes described most often (see Table 4) are the accomplishments that define literacy success.

The distribution of outcomes coded according to literacy domain is shown in Figure 2. Print awareness, oral language, and phonological awareness outcomes were described as the most important literacy accomplishments in all three sources. The fact that print awareness and phonological awareness were noted as two of the most important outcomes was not surprising given the fact that these skills are those generally recognized as key indicators of later literacy success (National Early Literacy Panel, 2006; Shanahan, 2005). Outcomes in six of the seven domains were described in at least 25% of the three sources.

## CONCLUSION

Findings from this practice-based research synthesis indicate that both the experiences considered most important for early literacy learning and the accomplishments associated with the learning opportunities are a wide variety of print-related and speech/linguistic processing literacy learning interventions and outcomes. Results also show that there is general agreement about the relative importance of the experiences and outcomes in the three sources (literacy experts, centers, and national organizations) constituting the data basis for this *CELLreview*.

Closer examination of the experiences considered important for fostering early literacy learning opportunities shows that they include both formal and informal experiences that, at least in principle, will provide young children with many different kinds of opportunities to acquire and master a range of literacy skills. The mix is consistent with the contention that formal and informal literacy learning



**Figure 2.** Percent of sources describing the literacy-related outcomes and accomplishments of early literacy learning opportunities.

opportunities that are complementary are more likely to have literacy-development-enhancing effects (Cairney, 2000a, 2002).

## Implications for Practice

Findings from this practice-based research synthesis suggest the kinds of literacy learning experiences that can be used to promote early literacy learning. These experiences and opportunities include, but are not limited to, shared book reading, rhyming games and finger plays, the availability of print-rich materials, interactive conversations, storytelling and role-playing, word play and games, and prewriting and writing opportunities. The findings reported in this paper are being used to define and operationalize the kinds of learning experiences that can be used to provide infants, toddlers, and preschoolers developmentally appropriate literacy learning opportunities (see Dunst

Table 5  
*Rank Order Correlations of the Early Literacy Learning Accomplishments*

Sources of Information	Literacy Experts	Literacy Centers	Professional Organizations	All Sources
Literacy Experts	–	.77**	.80**	.97**
Literacy Centers		–	.73**	.88**
Professional Organizations			–	.88**
All Sources				–

\*p < .05, \*\*p < .0001.

et al., 2006). Further analyses of the data constituting the focus of this *CELLreview* will be used to organize early literacy learning experiences into categories of practices for developing evidence-based practice guides and tool kits.

A nontechnical summary of this practice-based research synthesis highlights the main results reported in this paper (*CELLnotes*, Volume 1, Number 1). This summary is useful for providing parents and practitioners a general idea of the scope of early literacy experiences and accomplishments that experts and professional organizations consider to be important for young children. The interested reader is referred to Dunst et al. (2006) for a more detailed description of the framework used by the *Center for Early Literacy Learning* for developing evidence-based literacy learning experiences.

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## APPENDIX A

### *Research and Practice Centers Promoting the Understanding and Use of Early Literacy*

Centers	Source (Web site)
Center for Early Education and Development	<a href="http://education.umn.edu/ceed">http://education.umn.edu/ceed</a>
Centre for Excellence for Early Childhood Development	<a href="http://www.excellence-earlychildhood.ca">http://www.excellence-earlychildhood.ca</a>
Center for the Improvement of Early Reading Achievement	<a href="http://www.ciera.org">http://www.ciera.org</a>
Center for Improving the Readiness of Children for Learning and Education	<a href="http://www.uth.tmc.edu/circle">http://www.uth.tmc.edu/circle</a>
Chicago's Child-Parent Centers	<a href="http://www.aecf.org/publications/advocasey/spring2002/chicago.htm">http://www.aecf.org/publications/advocasey/spring2002/chicago.htm</a>
Child Care and Early Education: Research Connections	<a href="http://www.childcareresearch.org">http://www.childcareresearch.org</a>
Florida Center for Reading Research	<a href="http://www.fcrr.org">http://www.fcrr.org</a>
Foundation for Comprehensive Early Literacy Learning: Preschool Literacy Project	<a href="http://www.cell-exll.com/cell.htm">http://www.cell-exll.com/cell.htm</a>
The Hanen Centre	<a href="http://www.hanen.org">http://www.hanen.org</a>
High/Scope Educational Research Foundation	<a href="http://www.highscope.org">http://www.highscope.org</a>
National Center for Learning Disabilities	<a href="http://www.nclد.org">http://www.nclد.org</a>
SERVE Center	<a href="http://www.serve.org">http://www.serve.org</a>

## APPENDIX B

### *Professional Organizations and Groups with Early Literacy Learning Initiatives*

Organizations	Source (Web site)
American Speech-Language-Hearing Association	<a href="http://www.asha.org/public/speech/emergent-literacy.htm">http://www.asha.org/public/speech/emergent-literacy.htm</a>
Early Reading First and Reading First	<a href="http://www.ed.gov/nclb/methods/reading/readingfirst.html">http://www.ed.gov/nclb/methods/reading/readingfirst.html</a>
Even Start	<a href="http://www.ed.gov/about/offices/list/oese/sasa/esres.html">http://www.ed.gov/about/offices/list/oese/sasa/esres.html</a>
Head Start	<a href="http://www.headstartinfo.org/publications/emerging_literacy/index.htm">http://www.headstartinfo.org/publications/emerging_literacy/index.htm</a>
International Reading Association	<a href="http://www.reading.org/resources/issues/positions_preschool.html">http://www.reading.org/resources/issues/positions_preschool.html</a>
National Association for the Education of Young Children	<a href="http://www.naeyc.org/about/positions/pdf/PSREAD98.PDF">http://www.naeyc.org/about/positions/pdf/PSREAD98.PDF</a>
National Child Care Information Center	<a href="http://www.nccic.org/poptopics/index.html">http://www.nccic.org/poptopics/index.html</a>
National Institute for Early Education Research	<a href="http://nieer.org/resources/policybriefs/10.pdf">http://nieer.org/resources/policybriefs/10.pdf</a>
National Institute for Literacy, <i>A Child Becomes a Reader Birth through Preschool</i>	<a href="http://www.nifl.gov/partnershipforreading/publications/html/parent_guides/birth_to_pre.html">http://www.nifl.gov/partnershipforreading/publications/html/parent_guides/birth_to_pre.html</a>
National Institute for Literacy, Early Childhood Resources	<a href="http://www.nifl.gov/partnershipforreading/publications/earlychildhood.html">http://www.nifl.gov/partnershipforreading/publications/earlychildhood.html</a>
National Institute for Literacy, National Early Literacy Panel	<a href="http://www.nifl.gov/partnershipforreading/family/nclf/NELP2006Conference.pdf">http://www.nifl.gov/partnershipforreading/family/nclf/NELP2006Conference.pdf</a>
National Reading Panel	<a href="http://www.nationalreadingpanel.org">http://www.nationalreadingpanel.org</a>
Reading Is Fundamental	<a href="http://www.rif.org/about/">http://www.rif.org/about/</a>
Zero to Three	<a href="http://www.zerotothree.org/site/PageServer?pagename=key_language">http://www.zerotothree.org/site/PageServer?pagename=key_language</a>