

4 Supporting the Emergent Reader Through Research-Based Integrated Early Literacy Instruction

Martin Gleeson¹

Introduction

The process of learning to read is not natural or easy for most children, but a complex linguistic achievement requiring effort and incremental skill development (American Federation of Teachers, 1999). However, the past three decades have seen major advances in the quantity and quality of scientific research into the psychological processes involved in learning to read (Stanovich, 2000), while converging evidence from a wide variety of sources has enabled a growing consensus to emerge regarding key elements in effective early reading instruction. (Shaywitz, 2003).

Observations of children's early reading behaviours have enabled researchers to identify incremental stages of word reading development (Frith, 1985; Ehri, 1999), based on children's growing mastery of the alphabetic principle. Evidence from fMRI images indicating patterns of brain activation in the recognition, storage and retrieval of words substantiate this theory. Shaywitz (2003) suggests that the novice reader recognises words in a slow analytic fashion through activation of the parieto-temporal system in the left hemisphere of the brain. The efficient achievement of this task relies on a number of related processes working simultaneously. As a reader fixates on a word, each individual letter activates its own recognition unit in the reader's memory. In the early stages of reading development these will require phonological translation into spoken words. However, with increased exposure to print, the most commonly occurring letter clusters will be processed with increasing automaticity as inter-letter associations are strengthened. This leads ultimately to the automatic recognition of syllabic patterns and whole words which are subsequently stored in the occipito-temporal system, ready for instant retrieval.

¹ Address for correspondence: Mary Immaculate College, South Circular Road, Limerick. Email: martin.gleeson@mic.ul.ie

Consequently, the emergent reader requires frequent exposure to words in a variety of contexts to consolidate this newly acquired skill in the process of accurate and fluent word recognition. This is greatly facilitated through explicit instruction by knowledgeable teachers, to surmount the orthographic avalanche facing the inexperienced reader.

Elements of Effective Early Reading Instruction

The challenge for researchers, policy makers and practitioners alike is the design of appropriate early reading instruction based on insights gained from rigorous research. Fortunately, there is converging evidence from recent influential reports (Snow, Burns & Griffin, 1998; National Institute of Child Health and Human Development, 2000; International Reading Association (IRA), 2000; Center for the Improvement of Early Reading Achievement, 2001) and authors of international repute such as Pressley (2002), Neuman and Dickinson (2002) and Mandel-Morrow *et al.* (2003), indicating the key elements of effective early reading instruction. These include:

- Alphabetic knowledge including names, shapes and sounds of letters
- Phonological knowledge including awareness of syllables, onset-rime and phonemes
- Opportunities to engage in invented spelling through the process of emergent writing
- Systematic phonics instruction
- Frequent and intensive opportunities to read connected text
- Range of appropriate strategies to develop accuracy, fluency and comprehension
- Opportunities to listen to stories rich in vocabulary to improve listening comprehension skills and become increasingly aware of more complex syntactic patterns
- Involvement of parents in children's early reading development
- Appropriate assessment

Word Identification in the English Language Curriculum

The International Reading Association has emphasised the crucial role of knowledgeable teachers, using a range of appropriately designed instructional approaches, as the most important variable in effective primary prevention of reading difficulties (IRA, 2000). In a review of early reading programmes in high poverty schools, Adler and Fischer (2001)

identified effective, powerful and balanced reading instruction as the key to successful early reading achievement. Shiel (2002), in a review of reading reform efforts in England and Ireland, highlighted the essential contribution of theoretical knowledge among the teaching profession as crucial to effective reform, while Collins Block, Oakar and Hurt (2002) cite several recent studies confirming the relationship between teacher expertise and improvements in reading instruction. However, the *English Language Teacher Guidelines* (NCCA, 1999), while reflecting many elements of effective early reading instruction, are somewhat at variance with scientific research on the crucial skill of word recognition. Acknowledging that reading is a complex skill (NCCA, 1999) dependent on efficient word recognition, the guidelines identify the complementary roles of semantic, syntactic and grapho / phonic cues in this process. The significance of the child's oral language development in the application of semantic and syntactic cues is illustrated with appropriate examples. The contribution of phonological awareness training to children's letter / sound knowledge is explained with particular emphasis on the role of onset-rime knowledge as an efficient word identification strategy. The guidelines identify 37 rimes that enable the emergent reader to gain access to 500 primary level words. However, the impact of phonemic awareness training is completely overlooked, apparently on the basis that it is easier to segment "syllables into parts greater than a phoneme" (NCCA, 1999).

The omission of a detailed programme of phonemic awareness instruction, given its prominence in the research literature during the previous decade (Adams, 1990; Ball & Blachmann, 1991; Nation & Hulme, 1997; Juel, 1988; Stanovich 1986) is difficult to understand. Perhaps it is assumed that the translation of sound to print undertaken in the shared writing process might provide sufficient exposure to phonemic awareness training. If this is the case, then one might reasonably expect this process to lead naturally into children's emergent writing through the process of invented spelling. However, the impact of phonemic awareness training and opportunities to develop increasing insights into the internal structure of words through the process of invented spelling are not recognised in the guidelines. Furthermore, while knowledge of letter / sound relationships is encouraged, it seems as if this is to be achieved through onset-rime knowledge rather than systematic phonics instruction. This is surprising given the recommendations regarding systematic phonics instruction in every major report on reading instruction from *The First Grade Studies* (Bond & Dykstra, 1967) to *Preventing Reading Difficulties in Young*

Children (Snow *et al.* 1998). The recommendations regarding the application of letter/sound associations to confirm predictions are not consistent with advances in eye movement studies which indicate that fluent readers fixate on virtually every content word in text and that visual information is carefully analysed in the process of rapid word identification. (Rayner & Pollatsek, 1985 cited in Adams, 1990).

The development of strategies to promote accuracy and fluency as part of an integrated programme of early reading development is not included in the guidelines, despite its prominence in reading research as a fundamental element of effective reading instruction. Interestingly, one of the strategies recommended in the research literature for developing fluency – *Readers' Theatre* – is included in the section dealing with response to fiction (NCCA, 1999), but not in the context of providing much needed motivation and practice at a success level for the emergent reader. Apart from the recommendation to use text that contains natural language, little consideration seems to have been given to the most appropriate form of text for beginner readers. Although a number of activities have been identified to enable parents to support their children's oral language development, the guidelines lack specific recommendations regarding the involvement of parents in their children's early reading development. While early identification of children experiencing reading difficulties is recommended (NCCA, 1999), the lack of emphasis on phonemic awareness training means that one of the most salient indicators of subsequent reading difficulty may not be assessed. Furthermore, in the absence of samples of a child's invented spelling, based on his/her writing portfolio, a significant indicator of early word reading development cannot be observed.

In the interest of balance, it should be noted that the National Council for Curriculum and Assessment, charged with the implementation of the Primary School Curriculum, has addressed some of these issues regarding early reading instruction, through the work of a subsidiary body, *The Primary Curriculum Support Programme*. The web site of this organisation has addressed some of the concerns regarding phonemic awareness and includes a comprehensive article on early writing development, but lacks a rationale regarding the integration of key instructional elements into a coherent early reading programme.

Programme of Research-Based Integrated Instruction

Given the instructional implications arising from the scientific literature and the lacunae identified in the English Language Curriculum,

28 Supporting the Emergent Reader

the author presents research demonstrating the impact of a seamless programme of early literacy instruction on the reading development of 24 children from school entry to the end of first class. This integrated programme includes reading to children; phonological awareness training; systematic phonics instruction; emergent writing; meaningful reading experience with connected text; fluency development; and parental involvement. It was hypothesised that an integrated programme of early literacy instruction could accelerate the reading development of all children, while simultaneously providing primary prevention for the weaker readers, thus enabling all children to progress at their own individual rates in a supportive environment.

As a recurring finding in research identifies phonological awareness skills and letter knowledge at school entry as the most significant predictors of subsequent reading success (Cowen, 2003), it was decided to establish children's prior literacy knowledge through individual assessment in the following areas:

- Letter knowledge
- Phonological Awareness (PhAB, Frederickson *et al.* 1997)
 - Identification of words as units within sentences
 - Syllable Blending
 - Nursery Rhymes
 - Rhyme Detection
 - Rhyme Generation
 - Phoneme Blending
 - Phoneme Segmentation
- Concepts About Print

The group, consisting of 12 boys and 12 girls with a mean age of 54 months, were randomly selected at school entry and displayed:

- Low levels of alphabetic knowledge
- High levels of accomplishment in syllable blending
- Low levels of nursery rhyme knowledge
- Difficulty in the identification, detection and generation of rhyming words
- Inability to blend and segment phonemes
- Little knowledge of the directionality of print, concepts of word, letter and basic punctuation.

The elements of their instructional programme in the first year of the intervention (Junior Infants) were:

- Alphabetic Instruction
- Phonological Awareness Training
- Nursery Rhymes
- Explicit Instruction regarding Concepts About Print
- Shared / Emergent Writing
- Reading to Children
- Home / School Reading Partnerships

Integration of Programme Elements in Year 1

This integrated approach to early reading instruction endeavours to promote the relationship between letter / sound knowledge, phonological awareness training, emergent writing and meaningful reading experience in a coherent manner leading to increasing awareness of the internal structure of words. Writing becomes the major vehicle for the integration of these elements. Exposure to the process of shared writing supports the child's emerging letter / sound knowledge and concept of a word, while simultaneously developing the child's segmentation skills in a meaningful manner. These concepts are further developed in the shared reading experience of big books, charts, nursery rhyme posters and early reading experience with patterned text. The child's growing awareness of word boundaries enables him / her to fixate on individual words, which when complemented with phonemic awareness training and emergent writing enables the development of a systematic understanding of the orthographic structure of the language. Explicit instruction in the identification of initial, terminal and medial sounds in words combined with phoneme segmentation and opportunities to engage in emergent writing enable the child to gain incremental knowledge of the internal structure of words. This approach encourages individual development as all the children will not achieve the same level simultaneously, while the establishment of home / school reading partnerships, which provide reading practice at a 95% success level on a daily basis, allow for individual development with text tailored to the individual child's age and stage of reading development. This flexible approach contributes to the accelerated reading development of many children, while ensuring primary prevention for the weaker children through access to essential research-based early literacy instruction.

The instructional programmes for years two and three continue to emphasise this integrated approach and are summarised in Table 1.

TABLE 1: INSTRUCTIONAL PROGRAMMES FOR YEAR 2 AND 3

Programme Year Two	Programme Year Three
Alphabetic Instruction	Systematic Phonics Instruction
Phonological Awareness Training	Introduction to the Writing Process
Reading To Children	Systematic Spelling Instruction
Emergent Writing	Basal Reader with accompanying workbooks
Basal Reader with accompanying workbooks	Reading To Children
Home / School Reading Partnership	Home / School Reading Partnership

The effectiveness of the programme was assessed through a range of diagnostic and standardised tests identifying children’s attainment in word identification, fluency and comprehension skills. Detailed information of their progress in letter knowledge, phonological awareness skills and concepts of print during their first year in school indicated:

- High levels of letter naming and letter / sound knowledge;
- High levels of proficiency in nursery rhyme knowledge, rhyme judgement, rhyme detection and rhyme generation skills;
- Significant advances in phoneme blending and segmentation skills;
- Increased understanding of concepts of print and basic punctuation.

On completion of the second year of the intervention a detailed assessment of the children’s development in word identification, fluency and comprehension was assessed using a range of standardised tests (Table 2).

TABLE 2: MEASUREMENT OF SKILL AND INSTRUMENTS(YEARS 2-3)

Measurement of Skill	Instrument of Measurement
Word Identification	NARA II – Accuracy
	Non-Word Reading Test
Comprehension	NARA II – Comprehension
	MICRA – T Level 1
	DPRT – Level 1*
Fluency	NARA II - Rate

* Administered in Year 3 only.

The children’s proficiency at word identification is illustrated by the high mean scores recorded for accuracy on the Neale Analysis of Reading

Ability (1999) and by their ability to decode non-words as depicted in Tables 3 and 4 respectively.

TABLE 3: NARA II – ACCURACY – YEAR 2

N	Mean	SD	Min	Max
20	107.1	11.2	86.0	128.0

TABLE 4: NON – WORD READING TEST - YEAR 2

N	Mean	SD	Min	Max
19	105.8	5.7	93.0	114.0

The high mean scores recorded for word identification are reflected in similarly high scores for comprehension, (see Table 5), indicating an ability to understand connected text. It should be borne in mind that the average age of the class at this stage was 6.5 years.

TABLE 5: NARA II – COMPREHENSION – YEAR 2

N	Mean	SD	Min	Max
19	106.2	12.4	77.0	123.0

As can be seen in Table 6, the lower mean score for rate of reading can be explained by the children’s word analysis skills, which had not yet reached the level of automaticity.

TABLE 6: NARA II – RATE – YEAR 2

N	Mean	SD	Min	Max
20	101.3	9.1	84.0	114.0

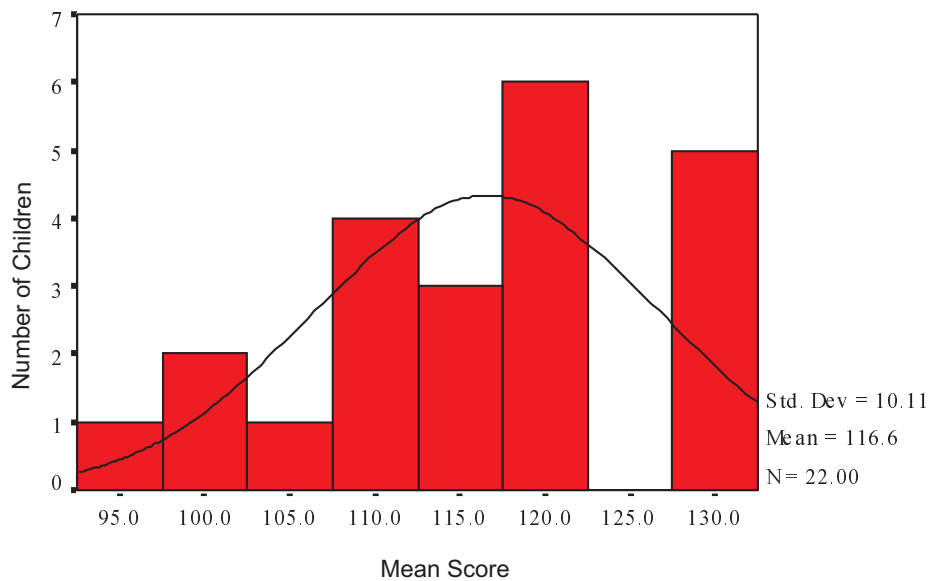
The results from NARA II - Year 3 are summarised in Table 7.

TABLE 7: NARA II – YEAR 3

	N	Mean	SD	Min	Max
Accuracy	23	101.4	10.4	75.0	121.0
Comprehension	23	100.0	8.8	81.0	115.0
Rate	23	109.7	11.5	83.0	130.0

The children’s overall proficiency at reading was endorsed by their high mean score on Micra-T level 1 (Wall & Burke, 1991) (see Figure 1). It should also be noted that the lowest score recorded for the group was in the fortieth percentile, thus emphasising the effectiveness of the programme as an agent of prevention.

FIGURE 1: MICRA T LEVEL 1 – YEAR 2



Given the rate of progress achieved by the children in the first two years of the intervention in terms of word identification, fluency and comprehension, it is not surprising to observe continued improvement in

reading development on completion of the third year, as the results of the following standardised tests illustrate (see Figures 2, 3, and 4).

FIGURE 2: MICRA-T LEVEL 2 – YEAR 3

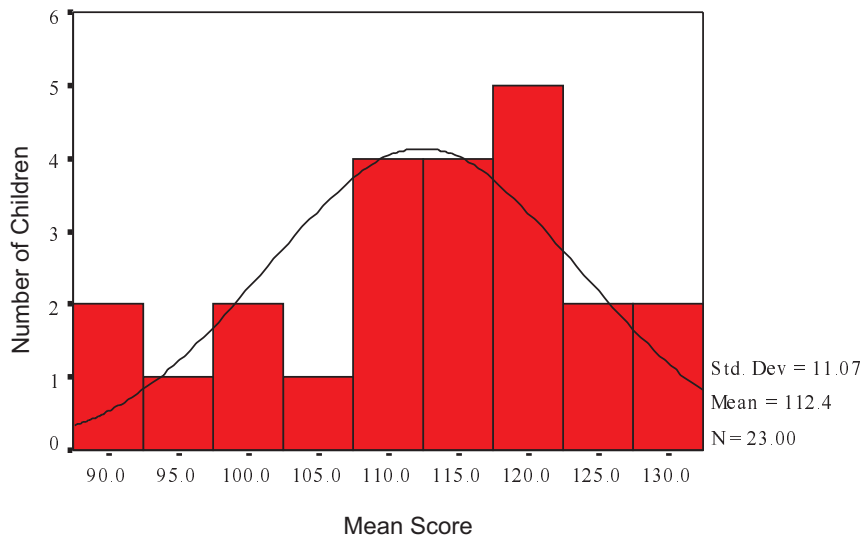


FIGURE 3: NON-WORD READING TEST – YEAR 3

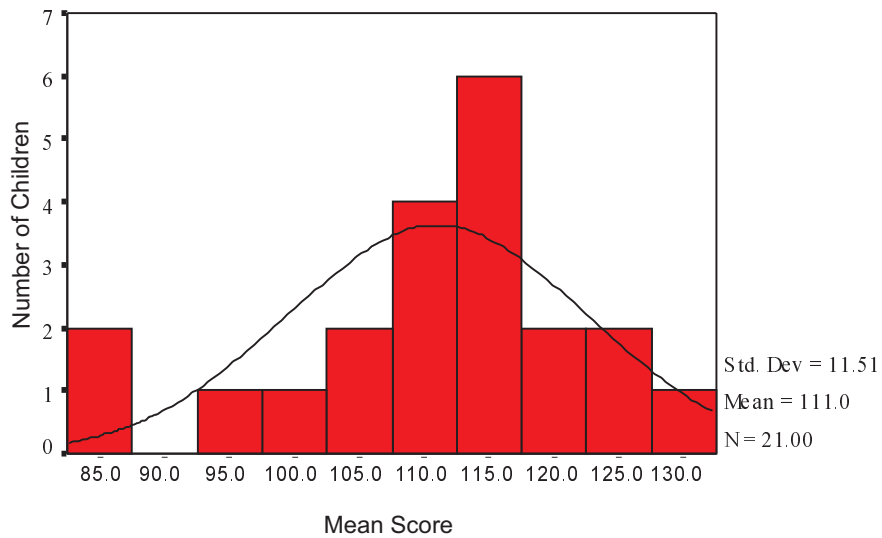
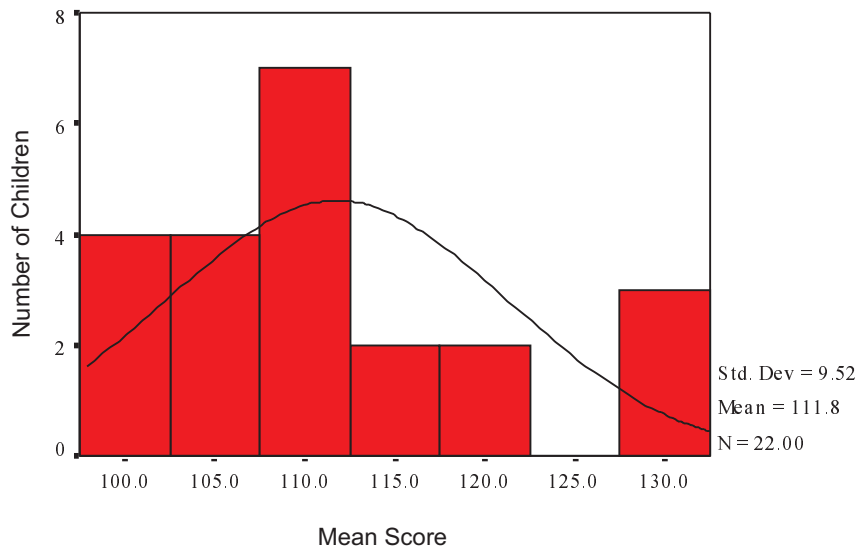


FIGURE 4: DRUMCONDRA PRIMARY READING TEST LEVEL 1 – TOTAL READING - YEAR 3



Conclusion

This study evolved in response to the experiences of the researcher as a learning support teacher, during which time an appreciation of the significance of effective early reading instruction was gaining momentum in the research literature. The elements of effective instruction were identified as an integrated programme of alphabetic instruction, phonological awareness training, emergent writing, meaningful reading experience with connected text and appropriate parental involvement. The results of this longitudinal study produced some interesting data, in an Irish context, on the impact of such instruction on the individual attainment levels of the participants. Notwithstanding these achievements, the limitations of the study suggest that these findings are provocative rather than definitive. Such limitations include the sample size, the homogenous nature of the group and the high levels of parental support afforded to the participants. Nevertheless, some noteworthy findings emerged in response to the research question. Throughout the intervention, the classroom of the

experimental group reflected high levels of engagement, with children purposefully involved, working at the edge of their competencies on a range of literacy tasks. Analysis of the literacy practices observed and early reading attainments generated, suggests a number of instructional implications for effective practice:

- The necessity for explicit phonological awareness training, particularly at the level of the phoneme.
- The seamless integration of phonemic awareness training and invented spelling in the first year of instruction.
- The reciprocal nature of early reading and writing instruction.
- An appreciation of the diagnostic significance of children's phonemic awareness knowledge and emergent writing development on completion of junior infants as key indicators of word identification skills.
- The development of one-to-one correspondence between spoken and written words to stabilise concept of a word and allow for analysis of constituent letters.
- The purposeful involvement of parents in their children's early reading development.
- The provision of meaningful reading material with patterned language and decodable text to support children's word identification and fluency skills.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Massachusetts: Massachusetts Institute of Technology.
- Adler, M.A. & Fischer, C.W. (2001). Early reading programs in high-poverty schools: A case study of beating the odds. *The Reading Teacher*, 54(6), 616-619.
- American Federation of Teachers. (1999). *Teaching reading is rocket science: What expert teachers of reading should know and be able to do*. USA: Author.
- Ball, E.W. & Blachman, B.A. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly*, 26, 49 –66.
- Bond, G. I. & Dykstra, R. (1967). The cooperative research program in first-grade reading instruction. *Reading Research Quarterly*, 2, 5-142.
- Center For The Improvement of Early Reading Achievement (2001). *Teaching every child to read: Professional development guide*. Michigan: Author.

36 Supporting the Emergent Reader

- Collins Block, C., Oakar, M., & Hurt, N. (2002). The expertise of literacy teachers: A continuum from preschool to grade 5. *Reading Research Quarterly*, 37(2), 178-206.
- Cowen, J.E. (2003). *A balanced approach to beginning reading instruction: A synthesis of six major U.S. research studies*. New Jersey: International Reading Association.
- Educational Research Centre. (1997). *Administration manual Drumcondra Primary Reading Test Level 1*. Dublin: Author.
- Ehri, L.C. (1999). Phases of development in learning to read words. In J. Oakhill and R. Beard (Eds.), *Reading development and the teaching of reading: A psychological perspective*, 79–108. Oxford: Blackwell Publishers.
- Frederickson, N., Frith, U., & Reason, R. (1997). *PhAB Phonological Assessment Battery: Manuals and test materials*. England: NFER-NELSON.
- Frith, U. (1985). Beneath the surface of developmental dyslexia. In K. Patterson, J. Marshall and M. Coltheart (Eds.), *Surface dyslexia: Neuropsychological and cognitive studies of phonological reading*, 301-330. Hillsdale, NJ: Erlbaum.
- International Reading Association. (2000). *Making a difference means making it different: Honouring children's rights to excellent reading instruction*. Delaware: Author.
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*. 80(4), 437-447.
- Mandel-Morrow, L., Gambrell, L. B., & Pressley, M. (Eds.). (2003). *Best practices in literacy instruction*. 2nd ed. New York: Guilford Press.
- Nation, K. & Hulme, C. (1997). Phonemic segmentation, not onset-rime segmentation, predicts early reading and spelling skills. *Reading Research Quarterly*, 32(2), 154-167.
- National Council for Curriculum and Assessment (NCCA) (1999). *Primary School English Curriculum. Teacher Guidelines*. Dublin: Stationery Office.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. (NIH Publication No. 00-4769)*. Washington, DC: U.S. Government Printing Office.
- Neale, M, Whetton, C, Caspale, L. & McCulloch, K. (1997). *Neale Analysis of Reading Ability. 2nd Revised British Edition*. London: NFER-NELSON.
- Neuman, S. B. & Dickinson, D.K. (Eds.). (2002). *Handbook of early literacy research*. New York: Guilford Press.
- Pressley, M. (2002). *Reading instruction that works: The case for balanced teaching*. 2nd ed. New York: Guilford Press.
- Shaywitz, S. (2003). *Overcoming dyslexia*. New York: Vintage Books.

- Shiel, G. (2002). Reforming reading instruction in Ireland and England. *The Reading Teacher*, 55(4), 372-374.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington D.C. : National Academy Press.
- Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360-407.
- Stanovich, K.E. (2000). *Progress in understanding reading: Scientific foundations and new frontiers*. New York: Guilford Press, 2000.
- Wall, E. & Burke, K. (1991). *MICRA-T Reading Attainment Tests Levels 1-3: Teacher's Manual*. Dublin: CJ Fallon.