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What are kindergarten to third grade teachers' beliefs and practices regarding Scientifically Based Reading Research?

Findings from the 2005 Delaware Educator Poll

“Effective classroom teachers are the only absolutely essential element of an effective school” (Allington and Cunningham, 1996, p. 81).¹

“Excellent instruction is the best intervention for children who demonstrate problems learning to read” (Snow, Burns, and Griffin, 1998, p.3).²

The centerpiece of education policy in America today, No Child Left Behind, has the federal Reading First program as its model for early literacy instruction. Within this context, the Delaware Department of Education faces the challenge of advising and guiding those districts struggling to make reading progress. Delaware’s Reading First (DE RF) proposes to effect widespread change through teacher training in Scientifically Based Reading Research (SBRR) practices. As part of the DE RF program evaluation, this Delaware Educator Poll examines the practices and beliefs of Delaware’s kindergarten to third grade teachers regarding SBRR and the literacy component of their teacher education and training.

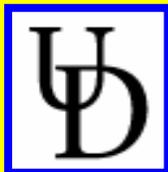
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INTRODUCTION

Delaware’s application for the federal Reading First program states that two of the project goals of Delaware Reading First, (DE RF) are to “establish a statewide cohesive framework for early reading programs in K–3 that is based on scientifically based reading research” and to “institutionalize a seamless early reading curriculum (*coordinated literacy services*) for all children in Delaware’s schools” (pp. 3–4).³ One method of measuring this system-level impact is to look for change in the practices of all Delaware schools during and following the implementation of Delaware Reading First.

To this end, random samples of teachers across Delaware were surveyed by telephone in fall 2003, the first year of DE RF, and in fall 2005, at the start of the program’s third year (of five). The 2003 data provided the baseline against which the 2005 and future surveys will be compared⁴. Questions were developed to capture these program subgoals:

- ✚ Is “seamlessness” shown in the use of one curriculum for all students, regardless of handicapping conditions, home language, poverty level, or previous history of low achievement?
- ✚ Are teachers’ knowledge, practices, and beliefs changing to reflect this seamless SBRR framework?

Background information on the 2006 poll, survey design, and data collection and analysis techniques, can be found in Appendix A. Item by item results of the 2003 and 2005 Delaware Educator Polls can be found in Appendix B.

PART 1 BELIEFS AND PRACTICES: QUESTIONS ASSOCIATED WITH SCIENTIFICALLY BASED READING RESEARCH (SBRR)

The notion that reading practices could be or should be “scientifically based,” “scientifically researched,” or “research-based” is not new; however, the phrase “Scientifically Based Reading Research” came into use with the development of the federal guidance documents for the 1998 Reading Excellence Act. It grew to greater prominence through the public and professional debate surrounding the 2000 Report of the National Reading Panel (NRP), the 2002 reauthorization of ESEA—the No Child Left Behind Act (NCLB)—and the federal requirements of the Reading First Grant.⁵

Although SBRR is defined as research that “applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading,”⁶ in its application to reading instruction and materials, it has become operationalized to include the five components of instruction identified by the NRP report. “A high-quality reading program that is based on scientifically based research must include instructional content based on the five essential components of reading instruction integrated into a coherent instructional design” (pg. 6).⁷ These components are *phonemic awareness, phonics, fluency, vocabulary, and comprehension*.

As illustrated in Figures 1 through 6, poll questions sought to gauge teacher familiarity and understanding of SBRR and teacher use of SBRR-supported teaching practices. The question illustrated in Figure 7 sought to gauge how well the goal of “seamlessness” is being addressed between general education and special education students

Figure 1: How familiar are you with Scientifically Based Reading Research? (K-3 Teachers, 2005, n = 106)

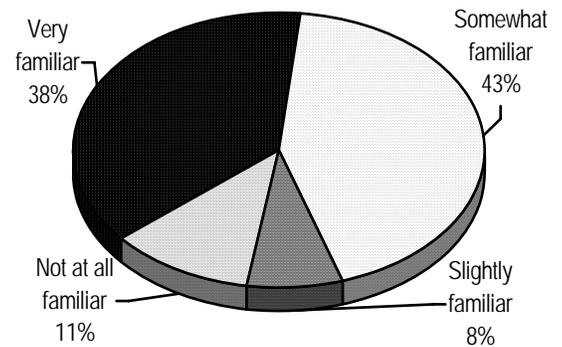


Figure 2: How important is direct teaching of phonemic awareness to future reading success?

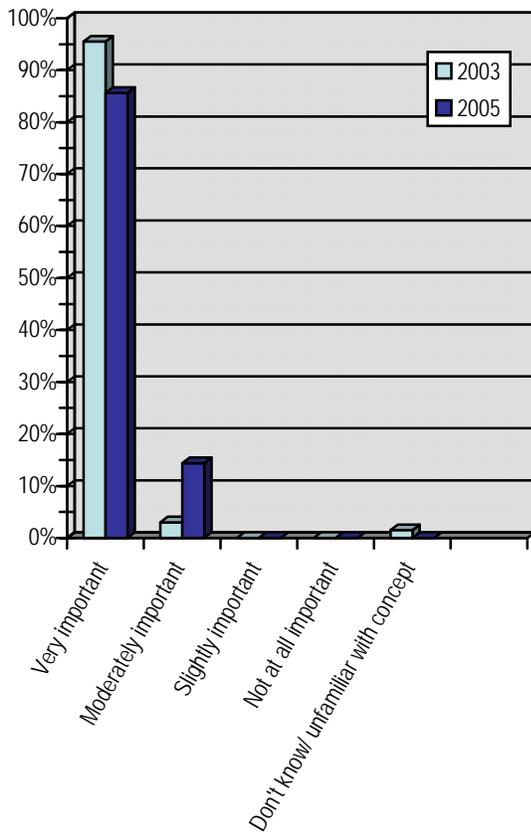


Figure 3: How important is it to demonstrate to struggling readers how to segment words into phonemes when reading and spelling?

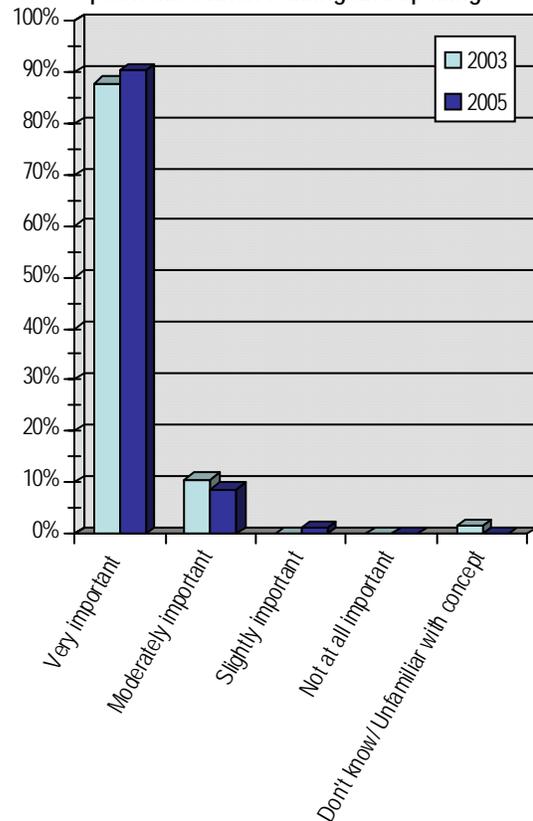


Figure 4: How often do you use phonics to teach early reading?

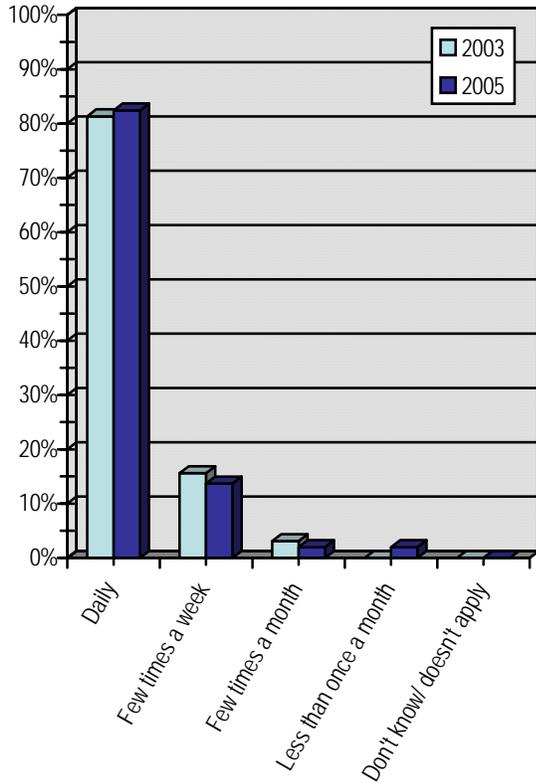


Figure 5: How often do you use guided reading when teaching early reading?

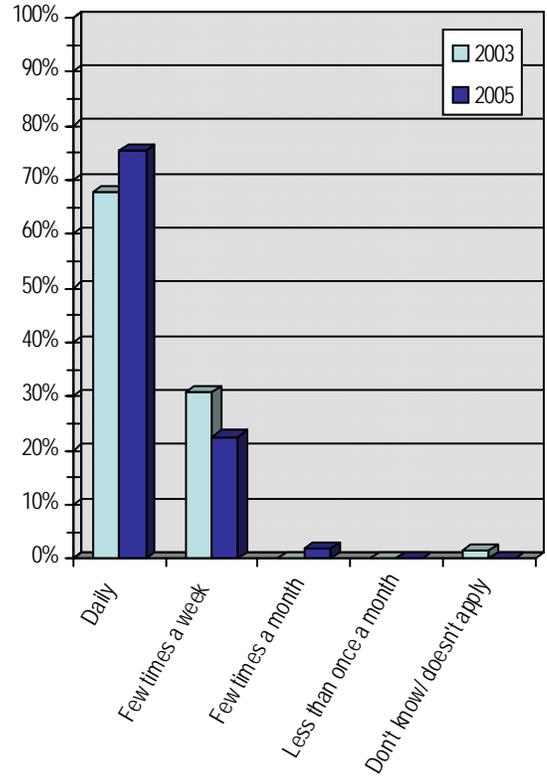


Figure 6: How often do you use "before, during, and after reading strategies" that explicitly focus on comprehension?

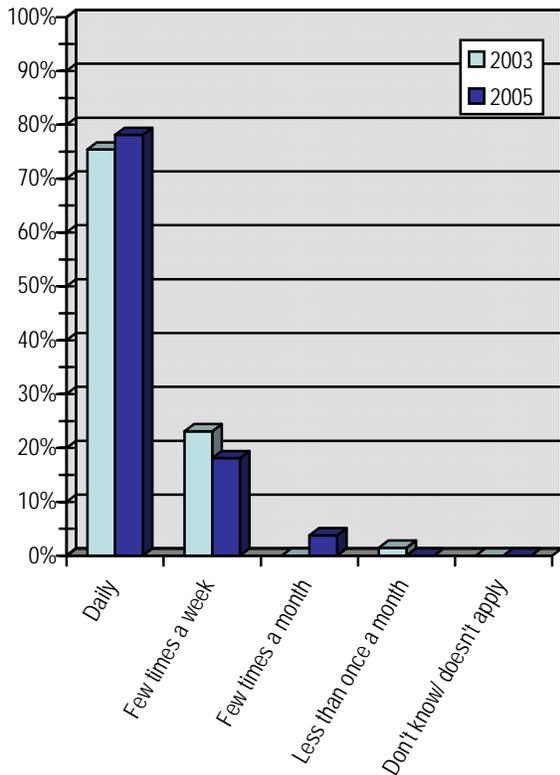
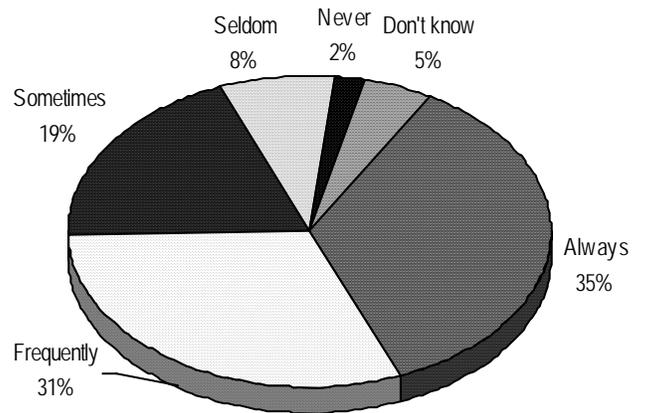


Figure 7: How often are general education and special education teachers using the same reading curriculum? (2005)



✚ *Findings: Beliefs and Practices*

As shown in Figure 1, about one-fifth (19%) of K–3 teachers polled reported they are “slightly” or “not at all familiar” with SBRR. Nevertheless, the percent of teachers reporting that they understand, use, and value practices considered to be components of SBRR is noticeably higher. For example, Figure 2 illustrates that 85.6% of K–3 teachers consider the direct teaching of phonemic awareness to be “very important,” and the remaining 14.4% consider it to be “moderately important.” Similarly, 96.1% use phonics to teach early reading at least a few times per week, and 97.1% use guided reading to teach early reading at least a few times each week. If we consider that third-grade teachers might not need to use phonics on a daily basis or focus on phonemic awareness, these figures are quite positive.

The most striking finding in the Reading First items on the 2005 educator poll is the lack of difference from the 2003 poll. Only one of the differences between 2003 and 2005 is statistically significant. (Significance was assessed using the Mann-Whitney *U* test; details are reported in Appendix A.) There are many possible reasons for this. First, many of the questions that ask about teacher awareness (e.g., “how important is it for teachers to demonstrate to struggling readers how to segment words into phonemes when reading and spelling?”) or about frequency (e.g., “how often do you use guided reading when teaching early reading?”) had, in 2003, desired responses above 90%. Therefore, any increases will tend to be very small. Second, almost twice as many teachers were polled in 2005 (n=106) as in 2003 (n=64), a difference that will tend to cause the 2005 results to be more finely detailed—different, and in many cases, smaller, than 2003.

Third, however, is the possibility that information about Scientifically Based Reading Research and about Reading First needs to be disseminated more thoroughly and/or that teachers need further professional development in these areas. This last possibility is also relevant to the one area in which the difference was statistically significant: the question illustrated in Figure 2. In 2003, 95.5% of respondents reported that they considered the direct teaching of phonemic awareness “very important” for future reading success, but in 2005, only 85.6% respondents selected the answer “very important.”

Finally, teacher reports about the curricula used by general education and special education teachers indicates that while 35.6% of special education teachers “always” use the same curriculum as general education teachers, this means that about two-thirds of the time, special education teachers are not using the same curriculum as general education teachers.



PART 2 SELF-EFFICACY:

QUESTIONS REGARDING TEACHERS' PERCEPTIONS OF THEIR OWN INSTRUCTIONAL PROFICIENCY

✚ What do effective reading teachers do differently?

In 1998, Pressley, et. al., observed, interviewed, and described the most and least effective first grade classrooms in a variety of settings across five states. They compared classrooms nominated by their administrators as either “typical” or “outstanding.” (They specifically asked that no “ineffective” classes be nominated.) Six children in each classroom were targeted: two each representing high, average, and low achievement levels.

The resulting case studies provide a richly detailed glimpse into the classrooms of highly effective reading teachers. The best teachers had classrooms that were engaging, well-managed and positive. Students were productively reading and writing most of the time. There was an emphasis on literature, cross-curricular connections, explicit instruction of skills (with an emphasis on a balanced approach), reteaching and scaffolding.

End of year achievement test scores were compared for the students of teachers judged to be most and least effective. “Although descriptive differences favored the students of the most effective teachers across all achievement levels . . . it was the lower achieving students . . . [who] showed the clear advantage” (p. 8–9).⁸

Figures 8 through 12 illustrate Delaware K–3 teachers' perceptions about their own efficacy at teaching reading in general and at using teaching strategies specifically recommended by SBRR and Reading First.

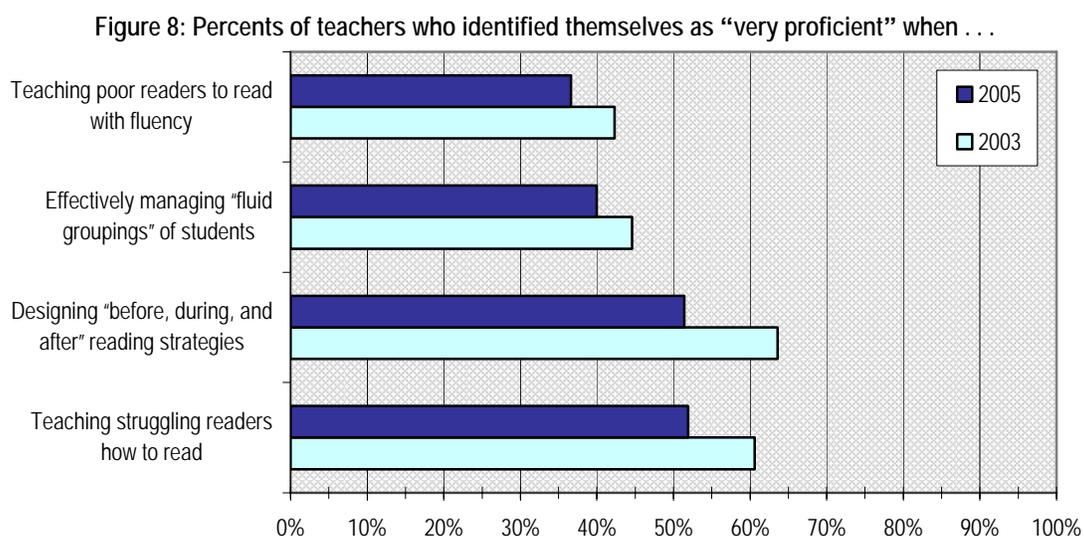


Figure 9: How proficient are you at teaching struggling readers how to read?

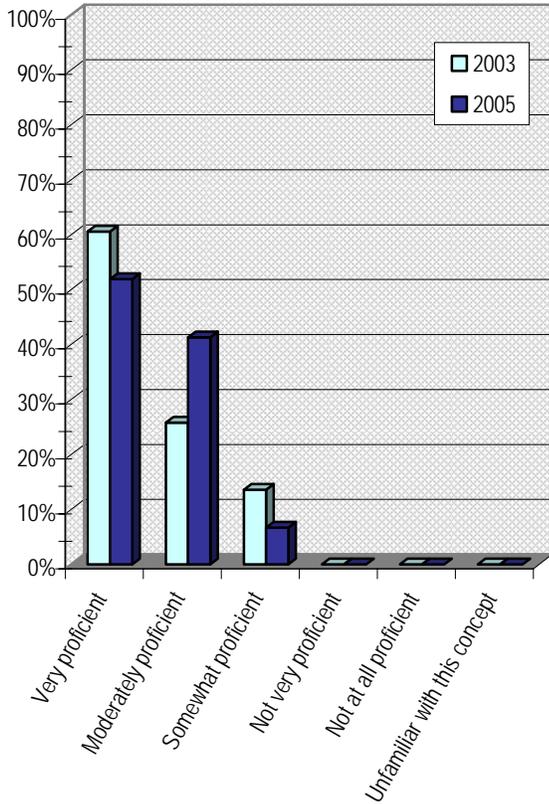


Figure 10: How proficient are you at designing “before, during, and after” reading strategies?

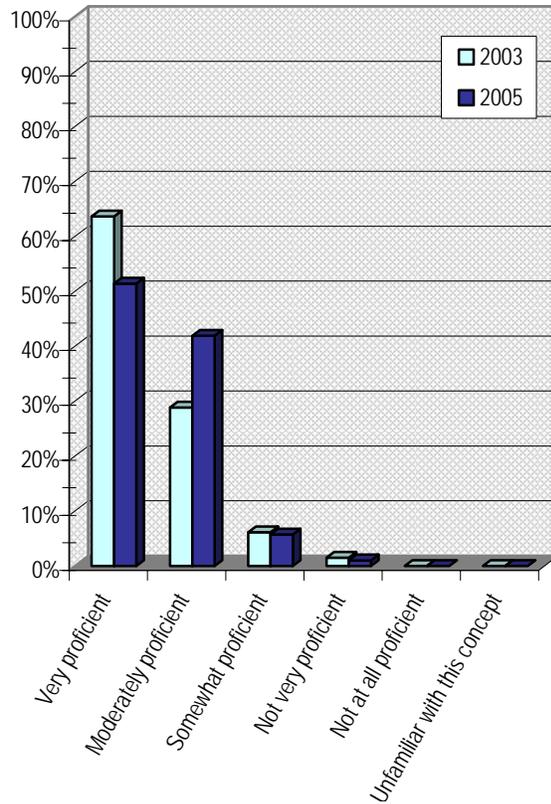


Figure 11: How proficient are you at effectively managing “fluid groupings” of students?

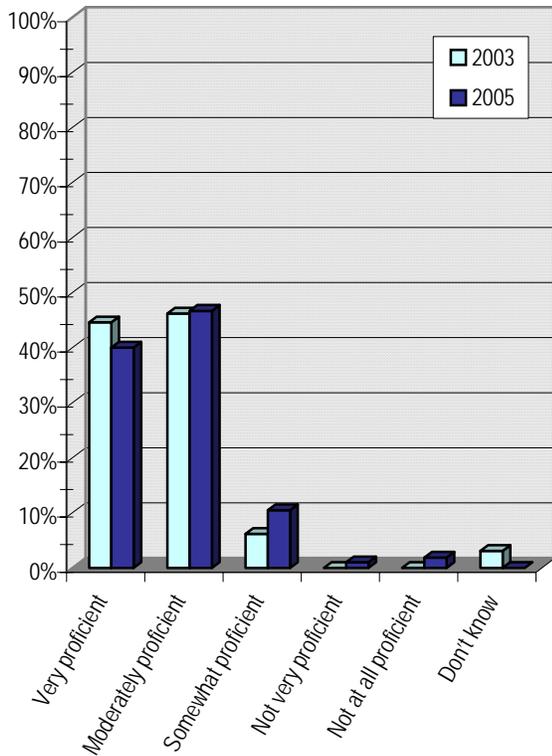
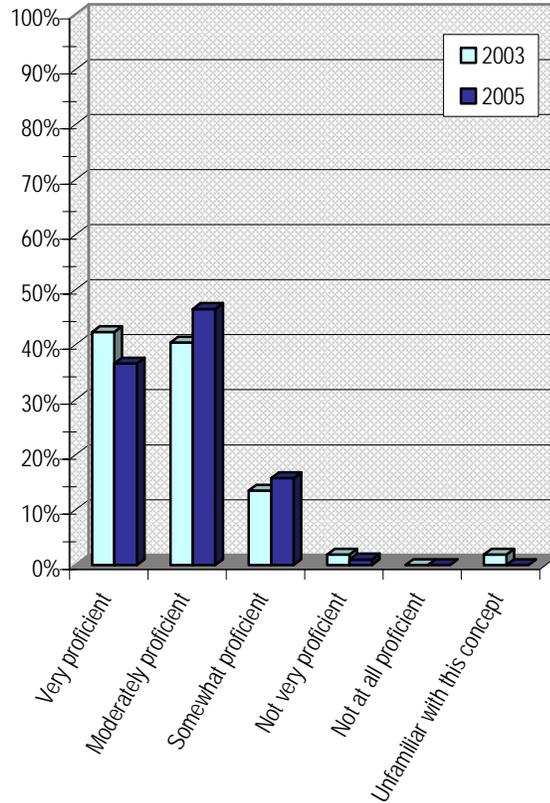


Figure 12: How proficient are you at teaching poor readers how to read with fluency?



Self-efficacy: Teachers rate their instructional proficiency

Changes in answers to these questions between 2003 and 2005 are, like those noted in Section 1 above, not statistically significant. Still, examining the 2005 results alone does provide some insight. In 2005, while rating their own proficiency, only about half of the teachers (at most) self-reported as “very proficient” in the areas of designing “before, during, and after” reading strategies for comprehension, for managing fluid groupings of students, for teaching struggling readers how to read—and, more specifically, for teaching poor readers how to read with fluency. The noticeable room for improvement in these areas seems to indicate the need for more or better professional development.

Still, it is also worth noting that those teachers who identified themselves as “moderately proficient” in 2005 rose compared with 2003. It seems unlikely that teachers would lower their self-ratings without reason. Two possibilities seem likely. One is that the results are a statistical anomaly with no meaning. The second is that teachers are learning more about the areas identified and realizing that their overall knowledge is less than they thought. This possibility could indicate that professional development efforts have begun to work and need to be continued and/or expanded.

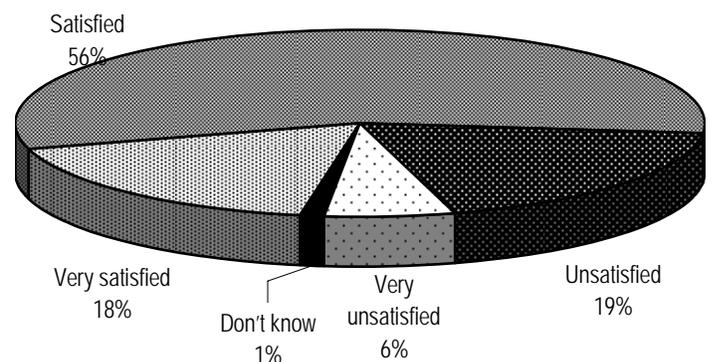
**PART 3
K-THIRD GRADE TEACHERS’ ADVICE TO IMPROVE TEACHER LITERACY TRAINING**

Because learning to read is a complex process, and because today’s classrooms contain more children from more varied backgrounds and cultures, there is no one-size-fits-all answer to ensuring the reading success of all children. Teacher knowledge may hold the key to effective, differentiated instruction. Teachers “need to understand language, literacy, and learning well enough to adapt teaching and learning environments, materials, and methods to particular situations, groups, and individuals” (Pearson, 1996, p. 304).⁹

Teacher education: Putting it in context

Lyon, et. al., (2001) reason that teacher education and preparation will play a critical role if their recommendation for prevention of reading difficulties is to become reality. “Much evidence exists that teachers are not trained to address individual learning differences in general, and in particular, are not prepared to teach reading to students who arrive in their classrooms from highly diverse backgrounds and a range of initial abilities” (p. 280).¹⁰ This evidence is borne out by the responses of 25% of Delaware K–3 teachers, who reported they were “unsatisfied” or “very unsatisfied” with the literacy component of their undergraduate teacher preparation.

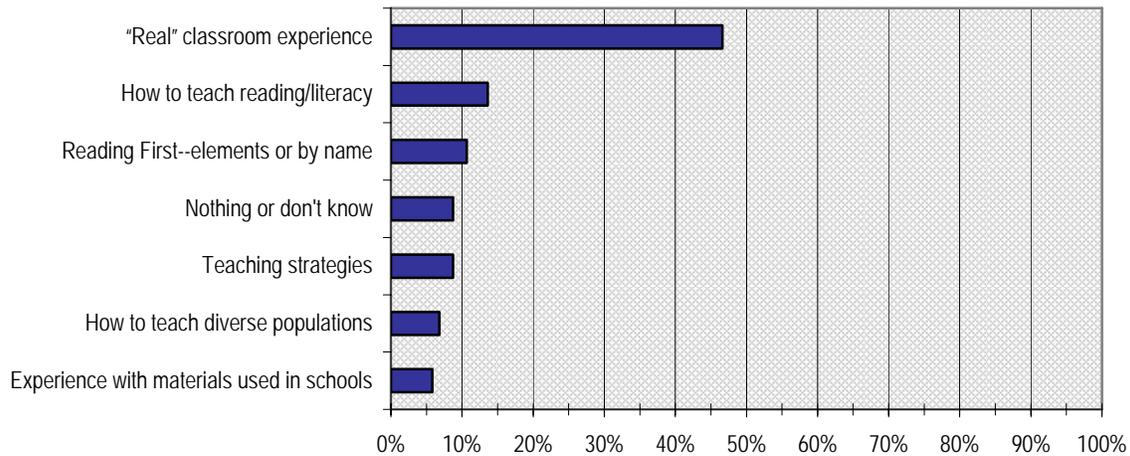
Figure 13: How satisfied are you with the literacy component of your undergraduate teacher preparation? (2005)



Even those who responded that they were “satisfied” or “very satisfied” with the literacy portion of their undergraduate teacher preparation had suggestions for how higher education could improve that literacy component: All of the K–3 teachers who were asked this open-ended question responded with some type of suggestion. A breakdown of the categories into which most of the answers fell appears

below. As indicated, almost 50% of teachers reported that additional “real” classroom experience would be beneficial. These responses ranged from the more general suggestion for “more hands-on experience” to more specific requests such as “more hands-on activities to use to teach the phonemic awareness as soon as they get in the classroom,” “by demonstrating and using the different reading programs that are in the area, that schools are using and by spending more time actually teaching reading,” and “more hands-on classroom prep.”

Figure 14: K- 3 teacher suggestions for how institutes of higher education could improve the literacy component of teacher preparation programs



Other responses included requests for further instruction in how to teach reading, requests for specific teaching strategies, and instruction in teaching classrooms with students who vary in ability and disability, academic preparation, and/or sociocultural backgrounds. Some examples of these responses include the following:

- ✚ modeling the specifics of components of successful reading lessons and providing practice
- ✚ making sure future teachers are well versed in teaching phonics and understanding how struggling readers need phonics instruction every day
- ✚ giving more training in differentiating instruction
- ✚ [helping preservice teachers learn how to use] different teaching strategies and [how] to make [them] flexible for different ages
- ✚ providing more varied centers for multiple intelligences and levels of knowledge to meet the needs of different styles of learners

These responses underscore that many teachers know what is important for them to know and be able to do (in fact, more than 10% specifically mentioned Reading First or the five components of reading). They also indicate that many teachers would like to have had a better understanding of the theory behind the teaching of reading, additional concrete tools for teaching and creating their own lessons, and a more practiced ability to teach using these methods.

Appendix A. Design, Data Collection, Significance Testing, and Sampling Error

Design and data collection

In November and December of 2005, telephone interviews were conducted with 106 kindergarten through third-grade teachers (2003 interviews were conducted in October and November 2003). The sampling plan for the polls was scientifically developed and data were collected using random digit dialing to obtain a random sample of residents.

Significance Testing

The following table shows the z -scores and p values for the Mann-Whitney U analysis of comparisons between 2003 and 2005 results. As mentioned, only one question yielded statistically significant differences from 2003 to 2005.

Table 1: Significance indicators from the Mann-Whitney U test

Poll Question	z	p^*
How proficient are you at teaching struggling readers how to read?	-0.591	0.554
How often do you use guided reading when teaching early reading?	-0.913	0.361
How often do you use “before, during, and after” reading strategies?	-0.325	0.745
How often do you use phonics to teach early reading?	-0.618	0.537
How proficient are you at designing “before, during and after” reading strategies?	-1.366	0.172
How proficient are you at effectively managing fluid groupings of students?	-0.750	0.453
How proficient are you at teaching poor readers how to read with fluency?	-0.430	0.667
How important is direct teaching of phonemic awareness to future reading success?	-1.988	0.047
How important is it for teachers to demonstrate to struggling readers how to segment words into phonemes when reading and spelling?	-0.546	0.585

Asymp. Sig. (2-tailed)

Sampling Error

When using a sample, all measurements are subject to sampling error; that is, the extent to which the results may differ from what would be obtained if the entire population of Delaware K–3 teachers had been surveyed. It is important to remember that small differences may not be statistically significant. The size of the sampling error depends largely on the number of people surveyed. The sampling error for this section of the 2005 educator poll ranges from $\pm 3.9\%$ to $\pm 10.1\%$ at the 95% confidence level.

Appendix B. Item by item results: 2003 and 2005 DE Educator Polls

How important is direct teaching of phonemic awareness to future reading success? (Fig. 2)						
	Very important	Moderately important	Dont know	Total		
2005	85.6%	14.4%	0.0%	100.0%		
2003	95.5%	3.0%	1.5%	100.0%		
How important is it for teachers to demonstrate to struggling readers how to segment words into phonemes when reading and spelling? (Fig. 3)						
	Very important	Moderately important	Slightly important	unfamiliar with concept	Total	
2005	90.5%	8.6%	1.0%	0.0%	100.0%	
2003	87.9%	10.6%	0.0%	1.5%	100.0%	
How often do you use phonics to teach early reading? (Fig. 4)						
	Every day	A few times a week	A few times a month	Less than once a month	Total	
2005	82.4%	13.7%	2.0%	2.0%	100.0%	
2003	81.3%	15.6%	3.1%	0.0%	100.0%	
How often do you use guided reading when teaching early reading?(Fig. 5)						
	every day	a few times a week	A few times a month	Dont know	Total	
2005	75.5%	22.5%	2.0%	0.0%	100.0%	
2003	67.7%	30.8%	0.0%	1.5%	100.0%	
How often do you use "before, during and after" reading strategies that explicitly focus on comprehension? (Fig. 6)						
	Every day	A few times a week	A few times a month	less than once a month	Total	
2005	78.1%	18.1%	3.8%	0.0%	100.0%	
2003	75.4%	23.1%	0.0%	1.5%	100.0%	
How proficient are you at teaching struggling readers how to read? (Fig. 9)						
	Very proficient	Moderately proficient	Somewhat proficient	Total		
2005	51.9%	41.3%	6.7%	100.0%		
2003	60.6%	25.8%	13.6%	100.0%		
How proficient are you at designing "before, during and after" reading strategies? (Fig. 10)						
	Very proficient	Moderately proficient	Somewhat proficient	Not very proficient	Not at all proficient	Unfamiliar with this concept
2005	51.4%	41.9%	5.7%	1.0%	0.0%	0.0%
2003	63.6%	28.8%	6.1%	1.5%	0.0%	0.0%
How proficient are you at effectively managing fluid groupings of students? (Fig. 11)						
	Very proficient	Moderately proficient	Somewhat proficient	Not very proficient	Not at all proficient	Don't know
2005	40.0%	46.7%	10.5%	1.0%	1.9%	0.0%
2003	44.6%	46.2%	6.2%	0.0%	0.0%	3.1%
How proficient are you at teaching poor readers how to read with fluency? (Fig. 12)						
	Very proficient	Moderately proficient	Somewhat proficient	Not very proficient	Not at all proficient	Unfamiliar with this concept
2005	36.6%	46.5%	15.8%	1.0%	0.0%	0.0%
2003	42.3%	40.4%	13.5%	1.9%	0.0%	1.9%

NOTES

- ¹ Allington, R. L., & Cunningham, P. M. (1996). *Schools that work: Where all children read and write*. New York: HarperCollins College Publishers.
- ² Snow, C., Burns, M., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- ³ Delaware Department of Education. (2002). *Delaware's Reading First Grant Application*. Available from <http://www.doe.k12.de.us/reading/rfol/RF%20Grant/READING%20FIRST%20APPLICATION.pdf>
- ⁴ Ackerman, C.M. (2004). *2003 Statewide Educator Poll on the Condition of Education in Delaware*. Available from http://www.rdc.udel.edu/tech_reports.asp.
- ⁵ Sweet, R. (2004). The big picture: Where we are nationally on the reading front and how we got here. In P. McCardle & V. Chhabra (Ed.), *The Voice of Evidence in Reading Research* (pp.13-44). Baltimore, MD: Paul H. Brooks.
- ⁶ US Department of Education (April 2002). *2002 Reading First Guidance*. Available from <http://www.ed.gov/programs/readingfirst/guidance.pdf>
- ⁷ US Department of Education (April 2002). *2002 Reading First Guidance*. Available from <http://www.ed.gov/programs/readingfirst/guidance.pdf>
- ⁸ Pressley, M., Wharton-McDonald, R., Allington, R., Block, C.C., & Morrow, L. (1998). *The nature of effective first-grade literacy instruction*. Albany, NY: National Research Center on English Learning and Achievement.
- ⁹ Pearson, P.D. (1996). Six ideas in search of a champion: What policy makers should know about the teaching and learning of literacy in our schools. *Journal of Literacy Research*, 28 (4), pp. 302-309.
- ¹⁰ Lyon, G.R., Fletcher, J.M., Shaywitz, S.E., Shaywitz, B.A., Torgeson, J.K., Wood, F.B., Schultz, A., & Olsen, R. (2001). Rethinking learning disabilities. In C.E. Finn, R.A.J. Rotherham, & C.R. Hokanson (Eds.) *Rethinking Special Education for a New Century* (pp. 259-287). Washington, DC: Thomas B. Fordham Foundation and Progressive Policy Institute.