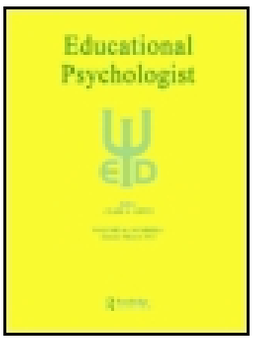

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Michael Pressley's Educational Legacy and Directions He Identified for Future Research in Reading Instruction

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The purpose of this article is to document the legacy and continuing influence of Michael Pressley's work in the field of reading research and instruction. Descriptions are provided to demonstrate how he translated his data from the cognitive sciences into highly effective pedagogy. A second component of this article discusses how Michael Pressley, throughout his career, continuously collected converging evidence through multiple research methodologies to examine single, complex educational issues. The article concludes by presenting research agendas that Mike was pursuing near the end of his career and how these initiatives provide new directions for reading research, policy, and classroom practices today. His contemporary research focused on how to improve multiple comprehension strategy instruction so it could become an even greater, central component in K–12 curricula; how to expand the application of basic research in cognitive strategy instruction to classroom practices; and, how to assess reading comprehension more effectively.

Introduction to Poetry

I ask them to take a poem
and hold it up to the light
like a color slide

or press an ear against its hive.

I say drop a mouse into a poem
and watch him probe his way out,

or walk inside the poem's room
and feel the walls for a light switch.

I want them to waterski
across the surface of a poem
waving at the author's name on the shore.

But all they want to do
is tie the poem to a chair with rope
and torture a confession out of it.

They begin beating it with a hose
to find out what it really means.

—Billy Collins

(From *The Apple That Astonished Paris*, 1996, University of Arkansas Press, Fayetteville, Arkansas. Copyright © 1988 by Billy Collins. Reprinted with the permission of the University of Arkansas Press)

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Michael Pressley, hereafter referred to as Mike, frequently recited this poem in professional presentations. It illustrated his critique of contemporary reading practices—too much dependence on rote memory activities and too much teacher domination during instruction. Mike ended his reading of this poem by stating that "the field of reading instruction has come so far that no [teacher] should expect only one interpretation of this poem" (Pressley, 2008, p. 501).

The purpose of this article is to describe how this critique and the permanent influences of Mike's work have changed reading research and instruction today. The first section summarizes his seminal studies in reading comprehension and balanced reading instruction. It points out how his research provided new directions for contemporary reading research and classroom instruction. The second section demonstrates his ability to examine challenges from several perspectives. The third discussion presents the goals of his work in the years before his death. In the fourth section, I describe how his studies continue to influence contemporary reading research, policy, and practice today.

MIKE'S SEMINAL STUDIES IN READING RESEARCH

To write this article, I reread 63 of Michael's most widely cited books and refereed articles, written from 1977 through

2007. Throughout this review, I was reminded again and again of the depth of Mike's knowledge. Many peers claimed that his productivity was unbridled and unmatched (Brown, Gaskins, & Almasi, 2006). In his last presentation Mike stated, "I plunged into reading completely and was literally sucked into the vortex that was the whole language and skills instruction reading wars in 1990" (Pressley, 2008, p. 504). However, even as early as 1977, Mike was involved in many research studies that led to the creation of a scientifically based theory that would permanently advance and improve reading instruction.

Mike's first reading-related study was published in 1979. This investigation suggested that the manipulation of attention in a wide variety of learning settings for students of varying learning ability levels altered the manner and depth at which these pupils regulated their own learning. This finding was monumental. It led Mike to design studies translating data from cognitive science's laboratory settings into experimental, authentic contexts. He wanted to identify how students actually learned cognitive strategies in naturalistic, classroom environments. The need for such research became particularly evident to him when his son, Tim, was born. Through his son's kindergarten and first-grade years, Mike saw firsthand how much cognitive energy was needed and necessary for young children to learn how to process printed text.

From 1976 to 1983 (Pressley, 1976, 1979, 1980; Pressley, Reynolds, Stark & Gettinger, 1983), Mike continued to work to better understand how mental processes developed and were refined. He conducted classroom-based and laboratory experiments that explored various methods designed to build young students' metacognition. It is important to note that during the 1970s, many scientists believed that kindergarten through Grade 2 students could not think or process texts on a metacognitive level. Those who knew Mike well were not surprised that it took him only a few years to dispel this misconception. By 1983, he had convincing evidence that even second-grade children could "execute metacognitive strategies" (Pressley et al., 1983, p. 277), and he had built methods that increased these younger readers' metacognitive strategy use (Ghatala, Levin, Pressley, & Lodico, 1985; Pressley et al., 1983). His data further suggested that these young readers *must* learn *how to* monitor their own learning. This monitoring must not be taught as skill drills in isolation of actual text reading but rather taught directly during actual reading experiences.

From 1984 to 1988, Mike focused more directly on basic reading and reading comprehension research. In 1986, he found that training children to compare different parts of a text that were read aloud would improve their detection of errors in that text and strengthened their comprehension (Elliott-Faust & Pressley, 1986). He also related his work on memory, cognitive strategies, and imagery to reading comprehension instruction (e.g., Peters, Levin, McGovern & Pressley, 1985; Pressley, Borkowski & O'Sullivan, 1984, 1985). These works examined (a) textual sentence learning tasks (Hunter-Blanks, Ghatala, Pressley, & Levin, 1988), (b) multiple-choice comprehension tests (Pressley & Ghatala, 1988), and (c) the need to improve reading comprehension materials (McCormick, Miller, & Pressley, 1989).

He was among the first researchers to document the need to go beyond what he called "procedures and specific strategy knowledge." For, as he stated,

> bare bones instruction simply does not produce durable or flexible strategy use especially with disadvantaged learners. . . . We are not convinced that techniques like discovery learning and simple modeling of strategies will be effective. It is far from certain that students will deduce what strategies are from these teaching procedures, let alone their advantages and information about where or when to use them. (Pressley, Johnson, & Symons, 1987, pp. 84–85)

These data led Mike to edit a series of books that were designed to translate his and others' cognitive strategy research into classroom instructional techniques. This commitment coincided with his acceptance to become the cognitive strategies' consultant for Richard C. Anderson's (president, American Education Research Association) and Irene Gaskins's (founder and director, Benchmark School [Media, PA]) James S. McDonald Foundation Cognitive Studies in Education Grant.

To summarize, Mike's early work on students' abilities to learn sentences, memory, imagery, and cognitive strategies were precursors to his insistence that reading comprehension instruction must include elaborations, direct teacher instruction, and think alouds at the exact points in a text in which specific strategies were needed so that readers could comprehend that text deeply and personally (Pressley, Johnson, et al., 1987; Pressley & Levin, 1987; Pressley, McDaniel, Turner, Wood & Ahmad, 1987). Similarly, Mike's early studies of multiple-choice comprehension tests illuminated his later work in comprehension assessment (Hunter-Blanks et al., 1988; Pressley & Ghatala, 1988). He identified reasons why answering a question after a reading was ineffective at increasing comprehension abilities, even for adults. Although Mike credits 1990 as the year in which he dove completely into the "Reading Wars," from an outside perspective, evidence exists that Mike's passion to increase children's literacy began many years earlier.

VIEWING THE SAME COMPREHENSION CHALLENGE THROUGH MULTIPLE RESEARCH METHODOLOGIES

Mike strove to collect converging evidence to address complex research questions. He was one of the first scientists to

use several, distinct qualitative and quantitative procedures to investigate a reading comprehension problem. I could demonstrate Mike's leadership in this area by selecting from almost any single year in his career, as he was constantly engaged in various research methods to examine single issues. I selected 1989 as the exemplar for this article because it was the first one in which Mike's daily work focused almost exclusively on reading comprehension, and led him to "plunge" totally into reading research by 1990.

In 1989, Mike used nine different research methods in a single year. (Dates cited throughout this section were attained by the author through personal communication with Mike Pressley in 1989.) It is a testament to his extreme capabilities as a scientist, leader, and thinker that even in this, his *first* full year of researching a domain of knowledge, he approached it full throttle, using different scientific methods.

Mike's first research methodology to study reading comprehension instruction was a meta-analysis of past experiments concerning comprehension strategy instruction (Lysynchuck, Pressley, D'Ailly, Smith, & Cake, 1989). He analyzed the 31 peer-reviewed comprehension studies that had been published to date to determine the quality of their theoretical review, methodology, research design, data collection procedures, and statistical analyses, using American Psychological Association criteria for high-quality research. His goal was to complete a comprehensive review of comprehension research to determine how strong the theoretical underpinnings were for present instructional methods and to analyze the sizes of the effects of the results in each study. In this work, he found that all studies fell short on three or more criteria of validity and that severe methodological problems existed in past reading comprehension research.

This finding led Mike to begin his second methodological approach in the same year (1989) to better understand comprehension instruction. Through this work, he found that only the following strategies had enough scientifically validated data to support their inclusion in classroom instruction: summarization, representational and mnemonic imagery, story grammar, question generation, question answering, and prior knowledge activation (Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989).

In the same period, Mike employed a third scientific method. He used qualitative research to analyze current comprehension classroom practices. This observational research study included 31 academic teachers and 9 researchers in Benchmark School, Media, PA (Pressley, Gaskins, Wile, Cunicelli, & Sheridan, 1991; Pressley, Goodchild, Fleet, Zajchowski & Evans, 1989). His findings enumerated many challenges faced by teachers and students as they engaged in classroom reading instruction.

To unravel the instructional complexities that his observational data had illuminated, Mike initiated a fourth research method—case studies. In this study, he and his research team sat in reading classrooms as comprehension was being taught. Mike and his team completed field notes and marked entries on a seven-part tally as to the types of actions and statements that were made by teachers and students during these instructional periods. After each observation, researchers also interviewed teachers, using a set of standardized questions. The researchers in this grounded, qualitative study were observers and documenters, not participant-observers. The study continued throughout one entire school year. Data from these case studies suggested that single actions distinguish highly versus less highly effective comprehension strategy teachers (Pressley et al., 1991).

Immediately following the analyses of these case studies, Pressley began his fifth research methodology. It was a replication study to cross-validate if the actions that had led to highly effective instruction (documented in his case studies described in the previous paragraph) would be found in a different school in which highly effective comprehension instruction was occurring. Highly effective comprehension instruction was determined by the highly successful student performances on the Stanford Achievement Test Comprehension and Reading subtests, when these performances were compared to school-based peers of the same socioeconomic backgrounds (Pressley, El-Dinary, et al., 1992). This analysis resulted in a positive cross-validation.

Based on these data, Mike built a quantitative, laboratory curricular intervention study at Montgomery County Maryland Public Schools. This sixth research method was designed to determine if the types of instructional actions he was observing could be translated into curriculum materials. He continued this research methodology until 1992. Each year he examined new curricular and instructional treatments and their effects on student achievement (Brown & Coy-Ogan, 1993; Woloshyn, Paivio, & Pressley, 1994; Woloshyn, Pressley, & Schneider, 1992).

At about the same time that Mike was examining reading comprehension using the six methods just described, he convened an expert panel to review data that he and others had accumulated concerning the application of cognitive research to reading instruction. This colloquium became his seventh method employed in 1989. Researchers shared the successes they were having, compared the complexities inherent in teaching reading, discussed the significant effects in their studies, and analyzed the challenges they faced in taking their data to larger scale trials. The results of this colloquium became the basis for articles selected for the themed issue of transactional strategy instruction in the *Elementary School Journal*, which was published in 1993 (e.g., Gaskins, Anderson, Pressley, Cuncelli, & Satlow, 1993).

During the next few months, Mike continued his controlled, laboratory research (his eighth research lens). He designed highly specific quantitative experiments outside of the classroom setting to better understand the effects of

elaborative questions on single student's comprehension (e.g., Martin & Pressley, 1991; Wood, Pressley, & Winne, 1990). Mike determined that it was important for readers to construct their own reasons "why" specific facts held true and to confirm or explain why a fact was expected or unexpected to occur in a paragraph.

The ninth research methodology that Mike employed in 1989 was to create and analyze taped transcripts of instructional dialogues that six teachers held as they engaged in individualized and small-group comprehension instruction (Gaskins et al., 1993). These data enabled Mike to document the exact actions teachers took *to help children use comprehension strategies*. The most important measures that these educators took were to (a) tell students what, why, when, and where to implement strategies; (b) model a strategy's use through a think aloud of how to implement an entire strategic thinking process; (c) share their own personal experience of what they gained by using a strategy; and (d) give clues to guide students' practice of a strategy independently as they read (Gaskins et al., 1993).

Results from these nine research methods enabled Mike to build a theoretical model of best practices to improve comprehension instruction called Transactional Strategy Instruction (TSI; e.g., Pressley, Brown, Van Meter, & Schuder, 1995; Pressley, El-Dinary, et al., 1992; Pressley & Harris, 1990). TSI is

> an interpersonal and interdependent way of promoting the long-term goal of developing active, strategic readers—readers who go well beyond the information given in texts and who habitually process texts in ways that increase the likelihood they will achieve personal literacy objectives. (Pressley, El-Dinary, et al., 1992, p. 523)

TSI offers students a repertoire of diverse reading strategies and opportunities to practice them with other cognitive strategies. Students learn how to apply their background knowledge and elicit their metacognition. They are also taught how, when, where, and why to use a comprehension strategy at specific points in a text though teachers' explicit instruction, modeling, and think alouds.

TSI occurs in whole class and small-group settings. It is transactional in the sense that activities of the group are determined jointly by teachers and students as they interact with text. A high priority of TSI is building readers' motivation to use strategies independently. Individual students are expected eventually to internalize the use of comprehension strategies through regular discussion of their metacognitive information.

TSI was later endorsed by the National Reading Research Panel (National Institute for Child Health and Development [NICHD], 2000) as one research-based, multiple comprehension strategy approach that had a strong scientifically validated basis for inclusion in classroom instruction. It has also been cited as one of Mike's major career contributions. It dominates reading comprehension instruction today. This work also led to Mike's book titled *Reading Instruction That Works: The Case for Balanced Teaching* (3rd ed.; Pressley, 2006).

NEW GOALS FOR READING INSTRUCTION

In this section, I highlight the reading research agendas that Mike pursued near the end of his career: (a) multiple comprehension strategies instruction, (b) effective implementation of TSI, (c) metacognitive instruction, (d) comprehension strategy instruction as a component in all K-12 curricula, and (e) better comprehension assessment.

Championing the Concept of Teaching Multiple Comprehension Strategies

From 1990 until his death, Mike was a leader in exploring the best methods of teaching several comprehension strategies together. He collected evidence that isolated, single-strategy instruction was less effective than multiple strategy lessons, even when teaching students with learning disabilities (Brown, Pressley, Van Meter, & Schuder, 1996; Harris & Pressley, 1991; Pressley, Schruder, SAIL Faculty & Administration, Bergman, & El-Dinary, 1992). His evidence concerning the number of essential strategies to be taught varied from 1989 to 1995 and then again in 2006. The strategies he found to be important in 1995 differed from the six reported in 1989. By 1995, he had collapsed several cognitive skills into larger and fewer categories of essential reading processes: summarizing, associating what is read to one's prior knowledge and beliefs, constructing images, knowing when you don't know, seeking clarification, using fix up strategies, and evaluating critically.

This list was dramatically altered again in 2007. It was published in Block and Pressley (2007). In their work, Block and Pressley (2007) collected data to suggest that the seven processes identified in 1995 could be further refined and categorized into four divisions. The first grouping was the set of comprehension processes involved in understanding single words, such as reading words fluently in a sentence without pausing, using background knowledge to make sense of words, and being aware if a words' meaning made sense in a particular context. The second division of comprehension processes was the strategies necessary to interpret sentences in paragraphs, such as ensuring that a paragraph's content can be recalled as well as the author's important points. These processes involve selecting, deleting, condensing, and integrating key information in every paragraph.

The third division was the comprehension processes needed to understand bodies of text that are longer than seven pages. When comprehending such texts, readers must

understanding characters; recognize motives and settings; use story grammar, action sequences, and sensory images (to make a movie in one's mind of the ongoing steps in a nonfiction or fictional book); and identify textual features so as to follow authors' trains of thought. More advanced readers must also learn to look for a particular author's writing style; follow the comparisons/contrasts and causes/effects; analyze clues in plot structure; detect descriptive or problem solution organizational patterns; interpret; predict; update their knowledge by scanning titles, headings, pictures, and relating information gained in prior chapters; summarize a text; eliminate duplication; restate ideas in fewer words; reread for clarification; and initiate fix-up comprehension strategies.

The last division of comprehension processes involves readers' shaping and use of the knowledge gained from whatever sources were read, including computers and the world itself. Mike believed that students must be taught how to reflect on how their understanding is different now that they've completed a reading. They must realize a need to acquire more knowledge in a particular area or devise a plan to seek new knowledge. Readers must also connect ideas in a text to their personal knowledge without diverting attention away from the text being read. Last, students must recognize any cultural knowledge that was used to comprehend a text and how their unique cultural, social, or historical context may have shaped their interpretation.

It is also important to note again here that Mike was always concerned about the fact that prior to 1990 most reading instruction employed students' rote memorization. His first discussion of how *not* to depend on such memorization appeared in Pressley and Harris (1990) and continued until his death (e.g., Pressley & Harris, 2006; Rich & Pressley, 1990). These investigations led to the conclusion that think alouds were necessary in comprehension instruction (Pressley, El-Dinary, et al., 1992). He also discovered that when students were taught to ask themselves why it made sense for events to occur where they did, these subjects initiated their prior knowledge more frequently, and their retention increased significantly (e.g., Martin & Pressley, 1991; Pressley & Hilden, 2006).

How to Effectively Implement TSI

Mike's research on TSI examined how to transfer specific comprehension processes across different content areas (e.g., Pressley & El-Dinary, 1997; Pressley & Wharton-McDonald, 1997); (b) transfer the control of TSI from teachers to students (e.g., Pressley & Yokoi, 1994; Wyatt, Pressley, El-Dinary, Stein, & Brown, 1993); improve students' abilities to explain their use of comprehension strategies (e.g., Wood et al., 1990; Van Meter & Pressley, 1994); enhance students' abilities to elicit prior knowledge (e.g., Symons & Pressley, 1993; Woloshyn et al., 1994); help students develop self-regulation (Pressley, 1995); increase readers' comprehension of factual context (Woloshyn et al., 1992; Wood et al., 1990); help least able readers learn comprehension strategies (Brown et al., 1996); and determine the difference between the effects of Reciprocal Teaching, TSI, and Reading Recovery (e.g., Marks & Pressley, 1993; Roehrig, Pressley, & Sloup, 2001).

As Mike engaged in more qualitative observational research, he became convinced that students (even those who read at a readability level below their grade placements) could be taught complex comprehension strategies (Morrow, Pressley, Smith, & Smith, 1997; Pressley & Wharton-McDonald, 1997; Pressley, Wharton-McDonald, Mistretta, & Echevarria, 1998; Wharton-McDonald, Pressley, & Hampston, 1998). Mike's research expanded our understanding of young children's comprehension potential. Prior to these studies and others by Mike's contemporaries, many researchers did not believe that comprehension strategies should be taught to young children. Mike recalled a professor who in 1977 repeatedly stated that it made no sense at all to teach any kind of comprehension strategies to young children, presenting the case that reading was solely the processing of words. Once children could read all words in a text fluently, they needed only to listen to themselves read and that powerful comprehension and understanding of that text would occur. Today, many children are taught to use several comprehension strategies as early as age 5 and that the application of these strategies are assisting them to understand a wide variety of texts. Mike's research to further increase young students' abilities to transfer comprehension processes to novel text continued until his death.

How to Teach and Think Metacognitively

Mike stated that one of the works that he judged to be most important was published in 1993 (Wyatt et al., 1993). This work suggested that skilled readers had metacognitive habits of mind and were "massively active as they read and continuously responded to ideas in text" (Pressley, 2005,, p. 294). These findings were elaborated upon in his book that examined verbal protocols (Pressley & Afflerbach, 1995).

Mike's latest works concerning metacognition appeared from 2002 to 2005 (e.g., Pressley, 2002a). His data suggested that metacognitive comprehension processes should be engaged before, during, and after reading. He called these cognitive abilities to be "the front-to-back reading of a text [which comes] after the front-to front-reading of a text is completed [a skimming and re-skimming]" (Pressley, 2002a, p. 294). This research led him to conclude that a prereading skim to reveal information about the length and structure of the text, where the important parts of the text are located, and whether the text is relevant to a reader's goal was an important component of metacognitive comprehension skill development (the before-reading-metacognitive component in effective reading). He also believed that a great deal of

what he called "'here-and-now comprehension' can be developed through this prereading mental engagement—making the reader aware of which parts of the text should be read in detail and which parts [can] be ignored" (Pressley, 2002a, p. 294).

The necessary "during-reading metacognitions" were to activate prior knowledge and relate main ideas to readers' own purpose and application of text to their lives. Such applications assisted good readers to make unconscious, metacognitive inferences during reading and more accurate conscious inferences as they read. For example, he found that good readers differed from less metacognitively active comprehenders in that the former tried to figure out the reference for a pronoun and what new vocabulary terms meant as they read. They also used these metacognitions to integrate ideas within a paragraph to get to the main idea (Pressley, 2002c, 2005a, 2005b). The "after-reading-metacognitions" that proved most valuable were to immediate apply what was read to specific evens or plans in a readers life (e.g., Pressley, 2005a).

The work Mike did on metacognition assisted the field of reading and individual students to realize which strategies readers were learning and using. He found that knowledge of when and how to use specific strategies was a stronger predictor of whether students would independently use a comprehension strategy than students' reading ability level or the readability level of the text read (Pressley, 2005b; Pressley et al., 1984, 1985). Moreover, Mike's Good Strategy User Model (Pressley, 1986) was also among the first comprehensive models to integrate cognitive, strategic thinking, with metacognitive, self-regulated motivational elements, a coupling that now appears in most theoretical models of how best thinking occurs (Pressley, 2005b).

Infusing TSI Comprehension Strategy Instruction Into K–12 Curricula

Mike worked tirelessly

> to move what we know about improving comprehension to the larger world—into many more classrooms and schools . . . applied to many more types of text by many more learners, with strategies becoming metacognitively-aware habits of mind for young readers, who explore new text and return again and again to their favorites. (Pressley, 2002b, p. 393)

His work revealed that in the 1990s most teachers did not believe it was absolutely essential to include comprehension instruction into every school day (Pressley, 2002c). Partly because of these findings, Mike spent a large portion of the last 10 years of his career building curricula designed to increase comprehension for all readers, teaching comprehension that could be used to read for different purposes, developing more critical comprehenders who would make intelligent decisions, enabling more readers to preview and predict based on personal prior knowledge and to summarize and to review more frequently at the end of their reading, and developing new methods of comprehending diverse texts such as scientific discourses and hypertext (e.g., Pressley, 2005b).

He was a Principal Investigator and/or co-director at the National Reading Research Center from 1992 through 1997, National Center for English Language Arts Achievement from 1997 to 2000, and the Literacy Achievement Research Center from 2002 to 2006. As a result of these leadership positions, he was asked to make policy recommendations to the U.S. Department of Education, Office of Educational Research and Improvement, and the NICHD. Many of his recommendations were enacted into legislation and Requests for Funding Proposal guidelines.

One of the most far-reaching influences of Pressley's work was evident in the 2002 legislation in the United States Federal Education Acts of Reading First and No Child Left Behind, 107th Congress, 2002, and 108th Congress, 2003. As a result of his and others' research, these laws stated that reading materials can not be purchased with federal funds unless they included the explicit instruction of comprehension strategies. As of 2002, all major core reading programs included comprehension strategy instruction.

The No Child Left Behind legislation also created a need for new professional texts and college textbooks to discuss research and best practices of comprehension strategy instruction. These methods texts enabled present and preservice teachers to learn how to teach comprehension strategies. Today, for the first time in history, all reading pedagogical texts are obliged to have a substantial number of pages dedicated to comprehension strategy instruction. Mike's work spearheaded this initiative, and he authored and edited several of these books (e.g., Block, Gambrell, & Pressley, 2002; Block & Pressley, 2002; Gambrell, Morrow, & Pressley, 2007; Pressley, 2008).

Improving Comprehension Assessment

Mike was often asked, "Can you recommend a good comprehension assessment?" Even as late as 2005, his answer was, "No. I want comprehension tests that make clear whether or not readers are metacognitively active like excellent readers. . . . There is not an assessment out there that captures reading comprehension as I think it should be captured" (Pressley, 2005b, pp. 401–402). His research documented that not much progress had been made in the last 25 years relative to comprehension assessment. He found that most teachers test only literal comprehension, simply measuring students' recall after they read. He also found that present tests do not provide enough valid evidence of what students are capable of doing to self-regulate their understanding as they read (Pressley, 2002c).

As Mike moved into the educational policy arena with even greater force in the last years of his life, he became one

TABLE 1
Scientifically Validated Comprehension Strategies

- Use many comprehension strategies to decode words.
- Size up a text in advance.
- Generate interpretations that make sense and change your interpretations if they don't.
- Stop to reread and initiate comprehension strategy when a sentence or paragraph is unclear.
- Come to a fictional text expecting to (and making certain to) note features of story grammar early on, and watch for problems, attempted solutions, and resolutions continuously as one reads.
- Come to a nonfictional text watching for textual features, important points, sequence of details and conclusions as one reads.
- Connect ideas in a text to your life, general world knowledge, and other texts.
- Summarize the text and if you can't, this is a signal to reread.
- Reflect on the text after reading, deciding how to shape the knowledge base for your personal use.

of the major researchers to provide data concerning the ineffectiveness of the Dynamic Indicators of Basic Early Literacy Skills Assessment (DIBELS; Good & Kaminski, 2002). This test was then, and remains today, the most frequently used evaluation of early literacy skills in kindergarten through Grade 2. Mike's research suggested that its measurement of comprehension was invalid for many children. The assessment did not evaluate if children could tie ideas together, if they were using comprehension strategies, or if they inferred. DIBELS required single word answers that could be given without a true comprehension of the text or its intra- or intertext connections.

DIRECTIONS FOR FUTURE RESEARCH, POLICY, AND PRACTICE

In this last section, I summarize the directions for future research, policy, and practice that Mike posited near the end of his career. These directives speak to present and future literacy researchers.

Mike continued to find new needs for more reliable comprehension assessment. His research reported that teachers wanted testing tools to more rapidly identify their students' reading strengths and weaknesses. They needed comprehension evaluations to become a regular component in their daily instructional routines (Pressley, 2005b). Mike also found that the profession needed better measures of students' metacognitions. One method he proposed to do so was to develop a test in which learners could watch video tapes of their reading aloud and report on the processes they were using when they read (Pressley, 2005a).

TABLE 2
Mike Pressley's Latest Works in Reading Instruction: Keep & Invent (Block, 2006)

Keep	*Invent*
Keep teaching comprehension strategies and processes daily, lots of them	Evaluate what is required to transform schools to build more metacognitively able comprehenders
Keep lots of scaffolded teaching in whole and small groups as students read and write in their Zone of Proximal Development (Vygotsky, 1978); teacher directed, explicitly delivered strategy instruction before the whole class in only the beginning of what is needed in a comprehension program	New methods to teach students how to internalize & initiate comprehension processes
Keep high positive, academic engagement so teaching can be aimed at motivating students	Research a new classification of Comprehension Processes that are needed to: (1) understand words (2) interpret sentences/paragraphs (3) understand full texts well (4) shape and use the knowledge gained from reading
Increase demands to learn more mature comprehension processes in higher grades	How can we enhance comprehension lessons to better meet the needs of less able readers and English language learners
	Need to develop more instructionally dense, small-group, guided practice experiences such as reciprocal teaching, teacher-reader groups, and student-led groups
	How can we extend the modeling which teachers give think alouds, and explanations students over time so that these statements come from more voices than a single teacher can supply
	Create new methods that can increase the value of independent silent reading sessions
	Help students learn how to find information they want and how to retain and use that information once it is found
	Examine the specific age level that single comprehension process can be most effectively and efficiently introduced and mastered
	Because many teachers find it difficult to learn how to teach comprehension, we must increase our research base concerning best methods of building teacher education programs that strengthen all teachers comprehension repertoires

A second charge Mike placed before the reading research community was to substantially advance teachers' professional development opportunities and comprehension repertoires. One method he used near the time of his death was to ask teachers to share their reflections as they mentored less experienced teachers. His data indicated that such introspective statements increased some experienced teachers' metacognitive thinking about their classroom instruction, but it did not increase others (Ingersoll & Kralik, 2004; Pressley & Hilden, 2005b). He challenged future researchers to find why these inclusive findings occurred and to create more effective professional development methods that worked for all literacy teachers.

The last list of comprehension strategies that Mike's research demonstrated to be scientifically valid is shown in Table 1. This list grew from six strategies to nine during the 30 years of his career. He challenged future researchers to continue to validate the processes listed in Table 1 and to discover if others could be added to ensure that all children achieve their highest levels of literacy success. He wanted all educators to push the field forward, at all times, by "challenging the status quo." Block (2006) further summarized what the reading field should keep and what it still needed to "invent," based Mike's work at the time of his death. This summary is presented in Table 2.

Throughout his career, Pressley created a strong database that teaching elementary, middle school, and high school students to use a repertoire of cognitive and metacognitive strategies increased their comprehension. Mike repeatedly demonstrated that teachers should *model* and *explain* comprehension strategies, create opportunities for students to practice using such "sense-making" strategies with teacher support, and let students know that they are expected to continue using the strategies when reading on their own.

He concluded his career by suggesting that several research studies still needed to be conducted to provide answers to even more questions, such as those that follow. What can we do to measure how long instruction has to continue before all readers master and initiate independently one or more comprehension, vocabulary, decoding, or fluency strategies? How can we better teach students to self-regulate and monitor their comprehension as they read? How can we teach what to do when text does not make sense?

SUMMARY

The purpose of this article was to document the research that Michael Pressley contributed to the field of reading and the continuing influence of his work. The ways in which he utilized numerous research methods to understand the cognitive and meta-cognitive processes involved in reading were also depicted. The specific literacy research goals that he was working toward near the end of his career were presented. The new challenges that he presented to future reading researchers were outlined.

Mike's contributions to advance the field of reading were significant. He was deeply respected and admired by many. He was humble. Whenever you asked him how he accomplished so much for so many, he would say, "Well, we're just doing the best we can." If you told him you were going to try something to advance the field, he always responded, "You're going to do just great!" I close this article with a paragraph he wrote concerning his life's work. May his words challenge many researchers to carry on in his footsteps.

> The directions covered in this volume (Israel, Block, Bauserman & Kinnucan-Welsch, 2005) [and in this article] got their start more than a quarter of a century ago. They have proven to be enduring ideas. I suspect they will endure for another quarter century. With a great deal of research effort, the ideas showcased [here] could go far in defining teaching and learning for the next quarter century. I feel very fortunate to have started my graduate school in 1973. It was the dawning of a new age that seemed to have the potential at least to span my professional life time. My on-time retirement is scheduled for 2016, but I plan to stick it out longer, guessing that when I clean out my last University desk, there will be some recent papers on comprehension instruction, comprehension assessment, monitoring metacognition and teacher improvement that will be part of the final clean up. (Pressley & Hilden, 2005a, p. 408)

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