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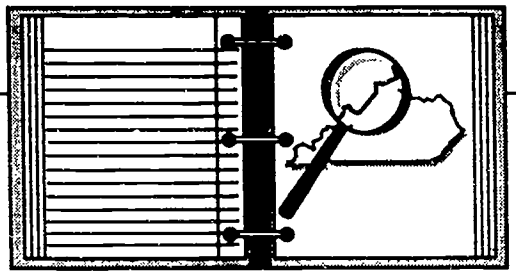
ABSTRACT

As part of a qualitative study of education reform in four rural Kentucky school districts, this report examines instructional changes that have occurred in the upper primary grades as a result of the Kentucky Education Reform Act (KERA). Researchers interviewed 13 principals, 37 teachers, and 14 eighth-grade students; observed 73 teachers working with students in fourth, fifth, and eighth grades; and reviewed data on schoolwide improvement plans. The report discusses the general effects of KERA and specific areas related to use of textbooks, worksheets, and teacher lectures; student and teacher reactions to an increased emphasis on writing; group work efforts; hands-on activities; and the use of authentic literature. Findings indicate that: (1) for most teachers, the state assessment program was the driving force behind their instructional changes; (2) the major change at both accountable (subject to state testing) and nonaccountable grade levels was an increased emphasis on writing and the writing process; (3) teachers had mixed reactions to the increased emphasis on writing, with those who had received the most training on writing being most enthusiastic; (4) there was a wide spectrum of other innovative instructional strategies; and (5) there was little evidence of effective efforts to plan and implement instructional changes on a schoolwide basis. Teachers in upper-elementary grades need ongoing and focused professional development on appropriate instructional strategies, and entire school faculties need training and technical assistance in learning to operate as cohesive teams to help all students achieve KERA goals. (RAH)



NOTES FROM THE FIELD:

Education Reform in Rural Kentucky

Volume 4, Number 1 December 1994

AEL

Instruction and Assessment in Accountable and Nonaccountable Grades

Major Findings

In 1992-93, our research on Kentucky's new nongraded primary program in four rural school districts indicated that instructional and assessment changes had occurred in nearly every primary classroom we visited. In 1993-94, we wanted to know how much instructional change, if any, had occurred in the upper grades as a result of the Kentucky Education Reform Act (KERA). At these grade levels, KERA is designed to be assessment-driven. For this reason, we looked at two grades that participate in the accountability component of the new statewide assessment (Grades 4 and 8). In these "accountable" grades, one might expect teachers to change their instructional strategies to prepare students for the test. To see if similar changes were occurring elsewhere in the upper-elementary grades, we looked at one nonaccountable grade (Grade 5). Major findings in the four rural school districts indicate:

1. For most teachers, the state assessment program—which emphasizes portfolios and open-response questions—appeared to be the driving force behind their instructional changes.
2. The major change at both accountable and nonaccountable grade levels was an increased emphasis on writing and the writing process. At the 13 schools we studied, we saw and heard about writing activities that required students to think and create. Interviews with teachers, principals, and students indicated this emphasis on writing was relatively new, in most cases.
3. Teachers had mixed reactions to the increased emphasis on writing. Generally, teachers who received the most training on writing and portfolios were the most enthusiastic; however, many were unenthusiastic. The most common remarks we heard from teachers, listed in order of frequency, were these:
   - Portfolios are time-consuming and burdensome.
   - Students are burned out on writing and portfolios.
   - Time spent on portfolios takes time away from teaching other skills.
   - Students' writing and thinking skills have improved tremendously.
   - Portfolios are an asset to the classroom and worth the extra effort.
   - Portfolio standards are too high for most children to attain.
4. Although the only across-the-board instructional change in the upper-elementary grades appeared to be the emphasis on writing, we saw and heard about a wide spectrum of other instruc-

This synthesis of findings is part of a qualitative study of education reform in rural Kentucky being conducted by the Appalachia Educational Laboratory (AEL) to provide feedback to educators and policymakers on the implementation of the Kentucky Education Reform Act (KERA) of 1990. Four researchers are documenting reform efforts in four rural Kentucky districts that have been assigned the pseudonyms of Lamont County, Newtown Independent, Orange County, and Vanderbilt County. For more information about this project, contact Pam Coe (800/624-9120) or Patty Kannapel (502/581-0324), State Policy program, AEL, P.O. Box 1348, Charleston, WV 25325-1348.

tional strategies. These included both traditional and nontraditional uses of textbooks and worksheets, group work, hands-on activities, and use of authentic literature to teach reading.

5. Although KERA holds entire schools responsible for student achievement, we saw few effective efforts to plan and implement instructional changes on a schoolwide basis. Such efforts were underway to varying degrees at most schools, but only one school appeared to have implemented a cohesive curriculum and instructional plan schoolwide.

Recommendations

Just as primary teachers have received extensive training on instructional strategies that incorporate the seven critical attributes of the primary program into their classrooms, teachers in the upper-elementary grades need ongoing and focused professional development on instructional strategies that will help students achieve KERA goals, and on how to incorporate assessment techniques into regular classroom instruction. Entire school faculties need training and technical assistance in learning to operate as cohesive teams to help all students achieve KERA goals.

Overview of the Law

KERA Goals and Expectations

Although KERA mandates a new nongraded primary program, it specifies few specific instructional changes in Grades 4-12. All schools are required to achieve six broad goals, one of which encompasses specific learning goals students must reach. It is largely left to schools to determine how to accomplish the goals. The learning goals focus on: (1) basic communication and math skills, (2) the core concepts in the disciplines, (3) self-sufficiency, (4) responsible group membership, (5) thinking and problem solving, and (6) integration and application of knowledge from all subject areas. The six learning goals were defined into 75 learner outcomes, which were adopted by the State Board for Elementary and Secondary Education. In response to criticisms that the outcomes were unclear, the state board revised and adopted into regulation 57 "academic expectations" that replace the outcomes for Goals 1, 2, 5, and 6. The outcomes listed under Goals 3 and 4 (self-sufficiency and responsible group membership) were eliminated because the 1994 General Assembly, in response to pressure from groups that feared the state was teaching and testing values, passed legislation that prohibited the state from testing students on Goals 3 and 4. The goals themselves, however, are still in effect.

KERA mandates that the state department of education design a model curriculum framework to address KERA goals, outcomes, and assessment strategies to provide direction to districts in developing curricula. The model framework, called *Transformations*, was disseminated to districts in the summer of 1993.

Assessment and Accountability

KERA mandates development of a performance-based assessment program—to be fully implemented no later than 1995-96—to ensure school accountability for student achievement of the learning goals. Students in Grades 4, 8, and 12 were administered an interim test during the 1991-92 school year. This assessment, which consisted of portfolios, a "transitional" test containing multiple-choice and open-response questions, and group performance events, was meant to serve as a bridge between the old standardized test and a strictly performance-based assessment still being developed. Student data on these tests are reported in terms of four performance categories: novice, apprentice, proficient, and distinguished.

Results of this assessment, along with measurement of the noncognitive goals (such as reduction in dropout and retention rate and increase in attendance rate) were used to establish a baseline "accountability index" for all schools in the state. The baseline was used to set an incrementally increased "threshold" or goal score that each school was required to meet by the 1993-94 school year in order to obtain rewards or avoid sanctions. The severest sanctions were delayed for two years, however, by the 1994 legislature. Thresholds are based on the expectation that all schools will reach 100 percent proficiency over a 20-year period.

Students at the accountable levels (Grades 4, 8, and 12) were assessed in 1992-93 and again in 1993-94. Scores from both years, along with measurement of noncognitive goals, will be averaged to determine if schools have reached their thresholds. This new score—the average of 1992-93 and 1993-94—will be combined with new test data to serve as a new baseline from which a new threshold will be computed for schools to achieve by 1995-96. This measurement is ongoing; i. e., a school accountability index is determined biennially and schools are expected to show improvement over their baseline scores. Schools will receive financial rewards if they score above their thresholds by one or more points and move at least 10 percent of the students scoring "novice" to "apprentice" or better. Schools not achieving their thresh-

olds will receive varying levels of assistance and/or sanctions, depending upon how close they come.

Expected Instruction and Assessment Changes in Grades 4-8

KERA does not specify what teachers must do to help students achieve education goals. As we wrote this report, therefore, we were troubled by the same question that plagues many teachers: What sort of instruction should be occurring in upper-elementary classrooms in response to KERA?

A Kentucky Department of Education official expressed the view that the driving force behind all instruction in Kentucky should be helping all children achieve at high levels. This issue is addressed at least three times in KERA: KRS 158.645, the introductory section, states that the legislature's intent is to create a system of public education that will allow ***all*** students to acquire specified capacities. KRS 158.6451, which identifies KERA goals, requires schools to expect a high level of achievement of ***all*** students. KRS 158.6455, which defines the accountability measures, states that the legislature intends for schools to succeed with ***all*** students (Kentucky Department of Education, 1992).

The state department official expressed the view that it is up to teachers to determine how to help all students achieve KERA goals. He rejected the notion that the state "should be in the business of telling people how they should teach." He asserted:

> What we think educators should be doing is using the craft and research knowledge that's already out there. The department, content-area professional associations, professional development organizations, colleges and universities, and other partners need to facilitate teacher access to existing knowledge about effective instructional practices, both old and new. However, teachers must decide what strategies are most appropriate for their students.

The nature of KERA goals and academic expectations provides some direction to teachers. The goals and academic expectations focus strongly on communication, core concepts in the disciplines, real-life application of skills, critical thinking, problem solving, and integration of knowledge from all subject areas. The state curriculum framework suggests numerous strategies for teaching to KERA goals, with a heavy emphasis on activities that require students to think, plan, design, research, and present. Hands-on activities, group work, applications across the curriculum, and community-based instruction are also stressed in the framework. All activities and strategies in the framework are strongly grounded in real-life application of skills (Kentucky Department of Education, 1993).

Given these guidelines from the state, one would expect to see teachers teaching skills and concepts in real-life contexts rather than in isolation, and engaging students in thinking and problem solving. Teachers would also work together both within and across disciplines to teach skills and concepts in an integrated way.

The nature of the KERA assessment program itself is another factor that cannot be ignored in examining the question of what Kentucky teachers should be doing in their classrooms. KERA was designed as an assessment-driven reform (Guskey, 1994; Kifer, 1994). A consultant who helped design the assessment system noted that the assessment is "based on the premise that exemplary assessment procedures will produce optimal instruction," and that "teaching to the assessments . . . will not only produce increasingly high test scores but will also drive desirable instructional practices" (Kifer, 1994, p. 18). During initial briefings about the interim test, state officials made it clear that teachers should teach to the test. They pointed out that test items should orient teachers to the sort of instruction that is likely to help students attain KERA goals and expectations. The high-stakes nature of the accountability component of the assessment program is designed to provide a strong incentive for teachers to align their instruction with the assessment program.

Methodology

We have been studying these same four districts since the 1991-92 school year; data gathered over the past three years informs our analysis of how schools are responding to KERA. In all interviews, we ask about changes in instruction.

In 1993-94, to add to our existing database on instruction and assessment in the upper-elementary grades, we interviewed 64 people in 13 schools in four districts: all 13 principals, 37 teachers, and 14 eighth-grade students. We also observed 73 teachers working with students in the fourth, fifth, and eighth grades; some combined classes also included sixth-grade students. In addition, data on schoolwide plans (or lack of plans) for improvements in instruction and assessment in the intermediate grades were obtained at school-based decisionmaking (SBDM) council

meetings, which we attended semi-regularly at the seven schools implementing SBDM.

Our focus was on Grades 4, 5, and 8 to learn the effects of KERA on accountable and nonaccountable grade levels. At the fourth- and fifth-grade levels, we spent a full instructional day conducting interviews and classroom observations in half of all elementary schools in each district: the school located in each district's major population center, along with others located in outlying communities. At each school, we observed two fourth-grade and two fifth-grade teachers for at least two 15-minute blocks. Every attempt was made to select teachers with contrasting teaching styles at each grade level. The selection was made on the basis of our prior knowledge of teaching styles, walk-by observations prior to selecting teachers, or principal recommendation. In many cases, the schools had only one or two teachers at each grade level. Also at each school, we interviewed the principal, one of the observed fourth-grade teachers, and one fifth-grade teacher, also observed.

At the eighth-grade level, two schools in each district were selected for observation: one centrally located and one outlying school. At each school visited, we randomly selected an eighth-grade student on the morning of our visit and shadowed that student for the entire instructional day. Based on these observations, we selected two teachers with contrasting teaching styles to interview. We also interviewed the student who was shadowed and the principal. Additional students were interviewed at some schools, if time and circumstances permitted. In one district, only one elementary and one middle school were observed, since that district has only one school at each level.

We supplemented district-level inquiry with interviews, observations, and document review at the state level. Over the past three years, we regularly attended meetings of the state board of education, we observed two training sessions on the assessment program provided by the Kentucky Department of Education, and we reviewed a large number of documents issued by the department and others at the state level. We have periodically interviewed department staff members.

Limitations of the Research

Interviews provided a major source of data about changes in instruction in the upper-elementary grades and the degree to which KERA influenced those changes. Classroom observations supplemented what we learned in the interviews and served as a useful check on what we were told; however, our one-day observations do not necessarily reflect what occurred in those classrooms throughout the year.

What we saw in classrooms was influenced by the time of day, day of the week, time of year, and sheer chance. Classrooms observed shortly before the state testing may have been spending more time than usual practicing with open-ended questions, while classrooms observed after portfolios were completed may have spent less time on the writing process. Some of the differences we observed between grade levels may have been because we observed eighth-grade classes during the spring and fourth- and fifth-grade classes during the fall.

We have exercised caution throughout to report simply what we saw and heard and to avoid generalizing our findings without proper evidence. It should also be noted that these findings are based on work in four rural districts and cannot be generalized to the entire state.

Effects of KERA

Our interviews and observations indicated that instructional approaches did not differ dramatically at the fourth, fifth, and eighth grades, although the eighth grade was more often departmentalized. One might expect to see the bulk of KERA-inspired instructional changes at the accountable grade levels; however, we observed and heard about dramatic differences between accountable and nonaccountable grade levels at only one of the 13 schools. In this school, the fourth-grade teachers had many ties to the primary program and emphasized both writing and problem-solving activities, while the fifth- and sixth-grade teachers appeared to rely heavily on more traditional textbook-driven instruction.

Because the differences we saw were not usually major, the following report concentrates on findings that were generally true of the grade levels and schools we observed. Where appropriate, we report differences among grade levels; if none are reported, it was because we were not aware of any substantial differences.

We observed teachers using traditional techniques—such as textbooks, worksheets, and teacher lecture—in a great variety of ways. The major change in instruction at all grade levels was an increased emphasis on writing and the writing process—a change clearly motivated by KERA, especially by the new state assessment. We also observed such less-traditional strategies as group work, hands-on activities, and use of authentic literature to teach reading. In some cases, teachers reported that they had used these strategies prior to the passage of KERA; in other cases, they appeared to be a response to the challenge of teaching in more "KERA-like" ways

Use of Textbooks, Worksheets, and Teacher Lecture

The great preponderance of lessons we observed used traditional materials and techniques: textbooks, worksheets, and teacher lecture. We actually saw textbooks being used much more often than we observed any other instructional practice: just over half of all the teachers we observed used textbooks at some point during the time we were observing, and teachers or students told us about the use of texts even when we had not observed them in use. At the fourth- and fifth-grade levels, just over half of all observed teachers used or reported using textbooks. In the eighth grade, about three-fourths of all observed teachers either used or reported using textbooks.

The use of worksheets was less common; we observed or heard about worksheets in a little more than one-third of all classrooms visited. Teacher lecture--though seldom lasting for an entire lesson—was observed or reported in about one-third of all classrooms visited and seemed slightly more prevalent at the eighth-grade level and in the teaching of social studies at all levels.

These traditional materials and techniques were used in a wide variety of ways. For instance, worksheets were sometimes used to help students organize small group or hands-on assignments requiring problem solving and real-life application of knowledge, and sometimes used for traditional drill and practice. In some classrooms, textbooks were used as a resource rather than as the sole dispenser of knowledge. Some teachers taught lessons through demonstration or hands-on activities and then assigned related homework from the textbook. Some reported that they did not work through textbooks chronologically and systematically, but pulled only the material they needed for lessons they designed. In other classrooms, the emphasis appeared to be on obtaining correct answers from textbooks. In some classrooms, we observed students taking turns reading aloud from textbooks or searching for information to answer factual questions.

The textbooks we saw in use also varied considerably in the degree to which they encouraged problem solving and application of facts to real-life situations. We observed one small-group, eighth-grade math lesson that posed a real-life problem with multiple correct answers; this problem came from the textbook being used in that class.

Many teachers expressed frustration or confusion about the use of textbooks. Many felt that the state department of education wanted them to stop using texts and to develop all lessons from scratch, but they were reluctant to do this. Although the KERA goals and many of the strategies suggested to teachers in the state curriculum framework might well suggest that teachers should not rely on texts, department staff deny any intention of forbidding teachers to use textbooks or any other instructional material or strategy. In interviews with us, they said that teachers should use whatever strategies helped a specific group of children achieve the KERA goals and that, for some children, traditional strategies might work best.

Increased Emphasis on Writing

Writing in the classroom. We heard reports of increased writing at nearly all schools, and we observed many writing activities. Our observations found students writing in over one-third of all classrooms visited. In addition, many teachers and students reported that writing was a frequent activity in their classrooms. We also saw displays of student writing on classroom or hallway bulletin boards at several schools. When interview and observational data were combined, about 60 percent of all teachers reported or were observed using writing as an instructional activity.

Not only were students writing more, but the nature of writing activities appeared to be in keeping with KERA goals. Rather than filling in the blanks or copying answers from books, students were often creating their own compositions. We saw or heard about students writing essays; responding to open-ended questions; writing in journals; and composing poems, short stories, letters, and persuasive papers. Many of the writing assignments given by teachers required students to think: to analyze information, create answers, and use information for decisionmaking and evaluation.

Steps in the writing process were posted in many classrooms, and it appeared that most students were being taught to use these processes in their writing. We saw instances of teachers leading pre-writing discussions and of students writing first drafts of portfolio assignments, working in small groups or with partners to revise drafts of writing assignments, and revising compositions based on teacher input.

We observed a range of approaches to teaching writing, some of which appeared to engage students and elicit creativity and others that appeared programmed and perfunctory. In a fourth-grade classroom just prior to Christmas, for instance, the teacher led a pre-writing activity in which she encouraged students to share aloud their memories of Christmas. She encouraged and reinforced the use of detail as students told their stories aloud. Laughing and enthusiasm were evident as students shared their memories with one another. Students appeared

excited and ready to write by the time the teacher asked them to write a personal narrative about a past Christmas. In contrast, another fourth-grade teacher led a pre-writing activity on the same topic by listing questions about Christmas on the board. Students copied the questions and quietly wrote their answers with little interaction for 15-20 minutes.

Writing activities and portfolios served as a tool for curriculum integration. For instance, eighth graders at one school were observed working on a math portfolio assignment in a social studies class. Using a map of the Lewis and Clark expedition, students computed the distance traveled, determined the average number of miles traveled per day, and determined how long the trip would take in a car traveling 55 miles per hour. At another school, an eighth-grade science class completed a math portfolio assignment in which students estimated the cost of repairing storm damage to the gymnasium.

Teacher reactions to portfolios and writing. We found mixed reactions to the increased emphasis on writing. The most common issue raised—even by teachers who valued portfolios—was the burden they posed. Many teachers reported little time for anything besides portfolios and enormous pressure to bring up student scores. Fourth-grade teachers were especially pressed because they often carried responsibility for both math and writing portfolios. At one school, two of the three teachers who taught fourth grade in 1992-93 switched to fifth grade in 1993-94 to escape the pressure of portfolios and accountability. (In response to a directive from the 1994 legislature to alleviate the burden on teachers at the accountable grade levels, the state department of education moved the math portfolio to Grade 5.)

While teachers generally agreed that portfolios were burdensome, a few reported that the load was reduced as they learned to incorporate portfolios into classroom instruction. The following insight was not common among the teachers we interviewed but illustrates a process experienced by a few:

> Portfolios . . . consume so much of your time inside and outside of your class. You've got to give the kids opportunities in class to do the assignments. . . . That's why I rearranged a lot of my assessments. If I can make a portfolio my outcome, then I'm killing two birds with one stone. . . . I'm using that as my assessment of the kids but, in turn, I'm getting a good quality portfolio piece. . . . Last year I didn't do that—I didn't know to. . . .

Many of the teachers who felt portfolios and writing were being overemphasized reported that students had become burned out on writing. Among the eighth-grade students we spoke to, however, the majority who mentioned portfolios said they enjoyed and had learned from the writing and math portfolio activities. For instance, an eighth-grade student identified math as one of the subjects where she is learning the most, and attributed this partially to math portfolios:

> We learn more out of portfolios, I think, because it shows us how to work out more problems instead of taking the easy way out and just working it in our heads. We have to write it out on paper. [Math portfolios] helped me out a lot this year. Last year, I didn't really do math well, but this year I'm doing better. I understand it more.

A principal's description of one eighth-grade teacher illustrates how the teacher's attitude influences student attitudes toward portfolios and writing:

> The kids love her. They come in the mornings and write for her. Students who don't do another blooming thing, who end up in these referrals, never come in [the office on] a referral from her. . . . Some of the worst disciplinary kids I've got have the best portfolios I've ever seen.

Another common fear expressed by some teachers in every district was that the time spent on writing and portfolios would result in students not learning "the basics." Slightly more fourth-grade than eighth-grade teachers expressed this fear. While some of these teachers were aware that basic skills could be taught in the context of teaching writing, they were not sure that students would actually learn these skills without some drill and practice. Some teachers reported that they had actually seen signs of students not learning basic skills, but most were simply fearful that this might be an outcome of the time spent on portfolios. A fourth-grade teacher expressed fear in December that her students were not learning the basics. At the end of the school year, however, she reported that her fears had been unfounded.

The number of teachers who complained that portfolios were taking away from basic skills was about the same as the number who said the increased emphasis on writing had resulted in great improvement in students' writing and thinking abilities. The latter expressed the view that portfolios were worth the extra effort. Interestingly, these teachers were often cluster leaders for their districts—teachers who received regional- and state-level training and information on

portfolios, which they passed along to their colleagues. An eighth-grade writing portfolio cluster leader explained why she had become a portfolio enthusiast:

> For years we have been so concerned with [teaching] English in parts. You did a unit and then you went to another one and you never brought it all together. Somehow the kids never understood, "Why am I doing this?" So to me, actually seeing that they can communicate and use these skills is great.

Another portfolio cluster leader spoke of the need for *all* teachers to be trained in the writing process:

> We had teachers who did not even know what the writing process was, and they're supposed to be working on the writing process? We should have been trained on every aspect before we were asked to implement it. . . . I think if teachers were better trained, stress would not be at the level it is.

A few teachers in all four districts and from both the fourth- and eighth-grade levels felt portfolio standards were too high for most children to attain. A fourth-grade teacher remarked:

> Years ago, in the fourth grade, we were doing real well if we had a main idea sentence, several detail sentences that supported the main idea sentence, a good closing sentence, and a title that related to that. Nowadays, that's not good enough, that's not nearly good enough. And we couldn't even do that years ago, so how in the world are we supposed to do two- and three-page reports today? They're asking a lot of skills, in my opinion, that fourth graders don't have.

Group Work

We saw or heard about students working semi-independently in pairs or groups in about half of the classrooms visited. In one classroom, fourth-grade students worked in small groups to compose mathematics story problems, solve them, and explain the process; while fifth graders in a nearby classroom worked in small groups to research the use of light in various types of technology. Fifth and sixth graders at a school in another district worked in pairs to research and create a timeline of American History up to the Revolutionary Period.

At the eighth-grade level, students were observed taking group tests on parts of speech in an English class. Each group categorized by their parts of speech all the words from an assigned passage in a magazine. Each group produced one product. An eighth-grade social studies class in another district conducted research about Native American tribes; each small group prepared a comprehensive report for the class about a specific tribe, including artifacts and visual aids, and the entire class was tested later on the content of the reports.

The extent to which the tasks assigned to groups actually required a cooperative effort varied considerably from one classroom to the next. In one eighth-grade classroom, students were divided into groups, and all students in the class were given an identical worksheet to complete. Students were told to work together to complete the worksheet. Some groups did, but others did not. In checking the worksheets, the teacher called on individuals rather than group to give their answers.

Hands-On Activities

We observed or heard about hands-on activities in slightly less than half of all classrooms visited Hands-on activities appeared to be most common in math classrooms at the fourth- and fifth-grade levels and in science classrooms at the eighth-grade level. We did not observe or hear much about science instruction at the fourth- and fifth-grade levels, but the science lessons we did observe employed hands-on materials and/or worksheets more than textbooks. For instance, fourth graders at one school worked in groups to demonstrate ways to create electrical circuits using batteries and steel wool filaments. Fifth graders in another district dissected owl pellets and glued the skeletons found within onto poster board. In a fifth/sixth-grade classroom in another district, students worked in groups of three to combine household chemicals, and write about the results on a worksheet.

At the eighth-grade level, we heard more reports about the use of hands-on materials than we observed directly. It appeared that many eighth-grade science teachers occasionally engaged students in hands-on experiments, but mostly relied on demonstrations, textbooks, and worksheets. Some teachers reported that the lack of adequate lab facilities and supplies made it difficult to regularly perform experiments.

Authentic Literature

We observed or heard from some teachers in all four districts who employed authentic literature—such as paperback books, newspapers, and magazines—in the teaching of reading. The use of authentic literature appeared to be more widespread among fourth- and fifth-grade teachers than among eighth-grade teachers. It appeared that fourth- and fifth-grade teachers

employed authentic literature at least as much as they employed basal readers. Many of the basal readers, however, contained authentic stories. A few fourth- and fifth-grade teachers appeared to use authentic literature as their primary instructional resource for teaching reading. A veteran teacher who used basals for more than 20 years before switching to trade books expressed her enthusiasm for the new approach:

> I've never in all the years of my teaching—and it's been several—had children reading like they do now; never, never. I started this program last year. I don't use the basal any more; it's on the shelf. . . . The way we were told to teach [before], you go by the manuals. We would read one day a week; the rest of the week we spent on skills. But that wasn't teaching them to love to read. [Now] I hear them discussing authors: "Have you read a book by so-and-so?" I just beam. I hear parents say, "I go in their room and the kid's reading a book!" Wonder of wonders! I've never had anything I feel more content with.

At the eighth-grade level, use of a literature textbook appeared to be more common than use of paperback books. The literature textbooks employed by the eighth-grade teachers we observed, however, contained authentic literature in the form of actual short stories, poems, and abridged novels. Even so, some eighth-grade students said they would prefer to choose their own literature. One student commented:

> We read dull, dumb stories. . . . I can't relate to them. That's something I can't cope with because I don't even like to read stories like that. The only thing that we do . . . that's fun in there is go to the library and pick out the books that we like.

School-Wide Attempts at Instructional Change

The KERA accountability program recognizes the school as the unit of measure, and also holds entire districts accountable. Therefore, one might expect to see entire districts and schools working together to implement instructional approaches compatible with KERA. In fact, the state department of education has, for the past two years, strongly encouraged schools to develop a "school transformation plan," which lays out specific plans for helping students achieve KERA goals.

In spite of the accountability program and the push for school transformation plans, we found that the level of instructional programming aimed at achieving KERA goals varied within districts and even within schools. While most of the schools in our study had developed school transformation plans, the cohesiveness of these efforts, as well as the content of the plans, varied widely from one school to the next.

Of the 13 schools we studied, only one appeared to have undertaken a strong, cohesive, schoolwide attempt at change that carried over into most classrooms. The SBDM council at this school developed the school transformation plan, which was being implemented schoolwide. We heard frequent reports on the transformation plan at council meetings we observed. Of the nine teachers (Grades 4, 5, and 8) observed at this school, eight were using instructional practices that appeared to be designed to help students achieve KERA goals; the ninth was using somewhat traditional strategies to help students understand the state testing program.

Leadership and encouragement by the building principal played a strong role in the schoolwide effort. Schoolwide changes began prior to the passage of KERA. When KERA was passed, the principal was enthusiastic about implementing SBDM. She has carefully routed all key decisions through the council since that time. Largely because of her efforts, the school has used SBDM as a vehicle to organize itself to implement KERA. The principal demonstrates a solid understanding of KERA goals and expectations. She has encouraged her faculty from the start to change in ways that will assist students in achieving KERA goals. She has made sure that her faculty takes advantage of the many professional development opportunities made available by the district.

At the remaining 12 schools, differing levels of schoolwide effort at instructional change are producing varied results. A relatively strong schoolwide effort spearheaded by principals was underway at a few schools, but these efforts did not always carry over into all (or even most) classrooms. The principal at one school, for instance, instituted a requirement that all teachers include open-response questions on their tests. He sent two teachers to visit a school that performed well on the state assessment, and he and the two teachers devised a plan for teachers from different subject areas to engage their students in writing activities each Wednesday. These directives from the principal, however, appeared to be resented by some teachers and ignored by others. For instance, on the day we observed, one teacher administered a test that contained no open-response questions. Another returned a test to students that contained an open-response question, and explained to us that the principal required inclusion of such questions. She expressed

the view that including open-response questions on all tests amounted to "programming" students.

At another school, the schoolwide effort was less top-down, but still spearheaded by the principal. The principal organized school improvement meetings for various interest groups at the school: teachers at each grade level, parents, the SBDM council, custodians, secretaries, instructional assistants, bus drivers, and lunchroom workers. Each group listed the school's strengths and weaknesses and made suggestions for improvement. These lists were given to the SBDM council, and plans were made for improvement in some areas. Also at this school, occasional faculty meetings were held in which teachers visited one another's classrooms to learn about instructional approaches their colleagues were using. The school transformation plan required teachers to implement a minimum number of various instructional approaches aimed at helping students achieve KERA goals. In spite of this strong schoolwide effort, changes have come slowly to some of the veteran faculty at the school. Classroom observations suggest that, beyond meeting the minimum requirements of the school transformation plan, the amount of instructional change varied widely from one teacher to the next.

At the majority of schools we studied, the level of schoolwide planning appeared to be minimal. Faculty at most of these schools had developed school transformation plans, but we saw little overt use of the plans once they were in place. In fact, when we asked some teachers if they were implementing the transformation plan, they were unsure what the plan was. Some teachers in these schools appeared to be implementing instructional practices designed to achieve KERA goals, while others did not. These schools differed in terms of the type of instructional leadership provided by principals. Some schools were led by principals who appeared to be weak instructional leaders, but others had strong principals who chose not to try to force changes on teachers. None of these principals, however, appeared to have bought into the KERA philosophy and approach to the same extent as did the few principals who were leading strong schoolwide efforts at change.

Motivations for Change

Earlier, we suggested several factors that might guide teachers in choosing their curricula and instructional methods: the requirement that schools must expect a high level of achievement of all students, the nature of KERA goals and expectations, the state curriculum framework, and the assessment program. It appeared to us that the state assessment program played the strongest role in guiding teacher change, followed by KERA goals and expectations and the curriculum framework, which was just beginning to be used at some schools. The goal of helping all children learn did not appear to be a guiding force for teachers.

Assessment-driven reform. For the majority of teachers we studied, the new assessment program appeared to be the driving force behind their instructional choices. This was true in the nonaccountable as well as accountable grades, although teachers at the nonaccountable grade levels reported they felt less pressure from the assessment program than did their counterparts at the accountable grade levels. The strong emphasis on writing appeared, in most instances, to have been sparked by the need to prepare students for the state assessment. Many of the writing activities we saw or heard about were portfolio assignments or writing in response to open-response questions similar to those on the state assessment. Of the teachers we interviewed, the majority indicated they were engaging students in writing activities in an effort to improve assessment scores, or because it was required. A few teachers, however, reported that writing had always been a major part of their teaching strategies.

KERA goals and expectations. We saw and heard evidence that some teachers designed at least part of their instruction around KERA goals and expectations. In addition to writing activities, we saw some teachers incorporating group work, hands-on activities, and authentic literature in their lessons. Several teachers said they used these activities because KERA appeared to call for them, although others said they had used them before the passage of KERA.

Curriculum framework. The state curriculum framework had not begun to play a major role at the schools we visited in 1993-94. The framework is a relatively recent resource. Teachers at some schools were just receiving professional development on how to use the document. At other schools, teachers had begun the process of curriculum alignment using the framework.

Expecting high levels of achievement from all students. Usually, we did not ask educators directly if they believed that all children can learn at high levels, but a few people offered their opinions. Most of the teachers and principals who spoke to the issue stated outright that they did not believe that all children can learn at high levels. A principal used an analogy to illustrate

this point: he said a 12-ounce cup will never hold as much as a 16-ounce cup, no matter how much water is poured in. Some teachers expressed the view that not all children are capable of scoring at the proficient level on the state assessment.

While few educators told us that they *did* believe that all children can learn at high levels or that achieving this goal was the motivation behind their instruction, it appeared that the assessment-driven instructional changes teachers had made were convincing a few educators that high performance was possible for nearly all students. The following quotations are not representative of the bulk of comments we heard, but illustrate the process that led some to begin to change their belief systems. An elementary school principal remarked:

> We anticipate the movement from "novice" to "apprentice" [at our school] to be about 25 percent; the state asks for 10. . . . We already feel we have five "distinguished" portfolios in the eighth grade. . . . I looked at one piece that was 17 pages in length. . . . This is amazing to me . . . the way we have allowed these minds *not* to expand. . . . This is the one thing I think we mention every meeting we have: "Don't forget to expand your expectations of children." The more we see those results, the more we can expand our expectations.

An eighth-grade teacher described how one of her students had progressed through working on portfolios:

> I had a kid last year who couldn't write a sentence . . . not, "The dog bit," nothing. . . . I read a short story in his portfolio the other day and it was almost five pages long. In his letter to the reviewer he said, "I never thought I would be able to do this." I look at him, and I think, "What if all I had stressed had been grammar skills and punctuation skills but he had never transferred that?" I can tell you he would have failed. He has failed before. He's 16 years old and in the eighth grade. . . . Last year he was the slowest kid I had, and I thought, "I'll never get a portfolio out of him." We had no problem. He was the first one to hand his portfolio in. But I know if I give him anything where he has to have rote memorization, he won't pass it.

We also saw evidence that even teachers who did not profess a belief that all children were capable of learning at high levels were pushing all to do so because of the accountability measures. One teacher commented:

> I've always felt like I had enough experience with children to know which ones to push, which ones to encourage, which ones to say, "I can't accept this." Now I have to push every one of them because it's not that they're accountable, I'm accountable. I have to.

Discussion

Our interviews and observations suggest that nearly all teachers in the study schools have made some changes in their instruction in response to KERA—if only by giving occasional open-ended writing assignments. Even though many teachers appeared to be trying to change their instruction in ways designed to achieve KERA goals, the extent and quality of their instructional changes varied widely. Many teachers seemed to rely chiefly on teacher-directed approaches involving memorization and repetition, except for occasional portfolio assignments in writing and math. Others attempted to engage students in group activities, but were not clear about how to assist students in working together in a cooperative group effort. This suggests teachers could benefit from professional development in instructional approaches that encourage student self-direction, critical thinking, problem solving, cooperative group effort, and the application of skills to real life. A stronger emphasis in all training sessions on the need to ensure that *all* students achieve KERA goals may help teachers understand the need to vary their instructional approaches, and may expand teachers' expectations of students.

The fact that most of the changes we observed appeared to be assessment-driven is not surprising when one considers that KERA was meant to be an assessment-driven reform. The most positive outcome we saw of this approach was the widespread use of writing across the curriculum, attributed to the assessment program. Even though many teachers complained that writing was being overemphasized, some conceded that students' writing and thinking abilities improved tremendously because of the emphasis on writing.

Still, the assessment driven approach is not without problems. Many teachers resented the mandate to keep portfolios, as well as a perceived mandate to throw away the textbook and every other "traditional" instructional approach ever used. Many teachers were in the mind-set described by Nobel and Smith (1994) as behaviorist: they believed it was their role to present

knowledge and information to the students until they learned it. They had not bought into the cognitive-constructivist philosophy (Nobel and Smith, 1994) embodied in KERA, which holds that students must actively participate in and construct their own learning. Thus, teachers were being forced to utilize instructional approaches that were, to them, of questionable value.

This came through most strongly in the context of math and writing portfolios. Many teachers were concerned that the time they were forced to spend on portfolios left little time for teaching "basic skills" such as punctuation, spelling, grammar, and math facts. While these skills could be taught as part of the writing process and portfolio development, many teachers seemed unsure or unknowledgeable of ways to integrate instruction and assessment—a purported goal of performance-based, assessment-driven reform (Winograd & Webb, 1994).

Clearly, teachers need more training on how to combine instruction and assessment in the classroom if they are to implement KERA effectively. While the accountability aspect of the assessment program might force teachers to implement certain strategies to help students achieve KERA goals, instruction could certainly be more effective (and pleasant) if teachers understood and supported the need for implementing those strategies. As Haertel (1994) notes, "Something is lost when teachers and students work for grades themselves instead of the intellectual attainments those grades are meant to represent" (p. 70).

Finally, it appeared to us that the majority of schools we visited had *not* engaged in a coordinated, cohesive effort at helping students achieve KERA goals. Those that had were often struggling to move plans into practice. Given that most schools in the past were not organized to allow school faculties to operate as cohesive teams, it is not surprising that educators in the schools we visited were having difficulty adapting to their new role. Such radical change will not only require time for assimilation but may need to be cultivated through training on group process and leadership.

State policymakers have provided a mechanism for helping whole schools bring about change by moving the responsibility for professional development planning—as well as a large portion of professional development funding—to the school level. Schools may need assistance in learning how to use their newfound resources and responsibilities to achieve total school improvement.

Conclusion and Recommendations

Our discussion is replete with suggestions that teachers in the upper-elementary grades could use more training on how to assist their students in achieving KERA goals. To the credit of the legislature and the state department of education, a great deal of professional development funding and resources have been made available to Kentucky teachers. The legislature funded professional development at $1 per pupil the first year of KERA, $5 the second year, and $16 each of the next two years. This amount was increased even more for the 1994-96 biennium. Much of this money is made available to individual schools to spend at their discretion. Also, since the 1992-93 school year, districts have been permitted to take five additional days (beyond the four mandated days) for professional development.

Several resources and opportunities have been provided by the state department of education to help teachers design instruction aimed at KERA goals. These include the model curriculum framework *Transformations*, the 1994 summer training for elementary teachers on designing instructional units using the framework; the Kentucky Writing Project, which trains teachers to write and to teach writing; and a leadership program entitled "KERA Fellows."

Resources are also available from other sources. For instance, the state department of education in partnership with the Kentucky Science and Technology Council, colleges and universities, and local districts and businesses, is reshaping science and math education through a project known as the Partnership for Reform Initiatives in Science and Mathematics (PRISM), a five-year systemic change initiative funded by the National Science Foundation. The Kentucky Education Association has instituted a program known as Teachers to the Power of Two, in which teachers with successful KERA programs are given release time to assist other teachers in the classroom. These and other resources are routinely advertised and described in the state department's monthly newsletter to teachers.

Given the comprehensive nature of KERA and of the changes required of teachers, it is essential that *all* teachers be provided with training and resources in all areas in which they must provide instruction. This will take time, but it will also take a continued effort on the part of the legislature, the State Board for Elementary and Secondary Education, and the Kentucky Department of Education to continue making professional development funding and opportunities available and easily accessible to all teachers. Local schools and teachers, too, need to work toward obtaining ongoing professional development that will assist them in understanding and

implementing needed changes. It is tempting to assume that, now that KERA has been in effect for four years, everyone should be fully and effectively implementing the reform. We have seen that change is beginning to happen in Kentucky schools, but that many schools and teachers have only made a start. In addition, many teachers have made only the required changes up to this point. Full and effective implementation of KERA will take many more year. and can only be accomplished as teachers themselves come to understand the need for reform and how to implement it.

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