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Analyzing the Virginia Department of Education's Response-to-Intervention Statewide Pilot: Year Two 2009-10

Year two report
November 19, 2010

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ANALYZING THE VIRGINIA DEPARTMENT OF EDUCATION'S
***RESPONSE-TO-INTERVENTION* STATEWIDE PILOT:**
YEAR TWO 2009-10

1.0 SUMMARY

Beginning with the 2008-09 school year, the Virginia Department of Education began to support 15 elementary schools with their implementation of *Response-to-Intervention* (RtI). The initiative emphasizes early and frequent assessment of a student's performance in order to diagnose particular learning needs and to direct the grouping, re-grouping, and targeted instruction for the student. The technique is applied to all students and its results nationally have motivated 61% of American schools to adopt some version of RtI.

The following discussion summarizes the findings the second year analysis of Virginia's initiative, by Interactive, Inc., a third-party research firm identified by the US Department of Education as a 'gold standard' evaluator of education programs.

Implementing components of RtI. The biggest gains in school-based implementation of RtI features from the first to the second years have been in "universal screening" (for 2010, 100% of the schools), "group-based analysis of data from student progress monitoring data" (86%) and "students grouped and/or re-grouped according to analysis" (80%). Schools reported declines from the first to the second year in the following: "core instruction reaches 80% of students" (53% down from 66%); "local norming, cut scores" (13% down from 22%); and "student progress monitoring" (80% down from 86%). In order to facilitate RtI, the pilot schools re-scheduled the school day and the teachers acknowledge that they now have the time to implement RtI.

Reading instruction. In the pilot schools, Reading instruction is now organized by Tiers 1 and 2; Tier 3 remains largely unspecified in the pilot schools. Data from students supports the teachers' responses that they are more likely in the second year to differentiate instruction than in the first year. Students report less "teacher talk" instruction – down from 83% of the time to 74% (a statistically significant decrease).

Progress monitoring. Ten of the 15 pilot schools are now doing progress monitoring. A growing fraction of teachers report that they are changing their record-keeping and their principals agree. Students report a large increase in the incidence of testing for 2009-10 compared to the prior year and they say they are getting test results back more quickly.

Differentiated instruction. There are several proxy indicators that suggest that instruction is being increasingly differentiated by groups and/or by individuals. Students recognize that there are now additional specialists in the classroom, they report moving to different settings for different purposes and they praise their teachers for being

responsive. Interactive, Inc.'s analysis of classroom-based paper records partly supports and partly questions the shift toward differentiated instruction. Pilot school teachers are more active at the end of year two in determining curriculum than they were in the first year. Administrators are supervising RtI.

Grouping students according to test data analysis. The proportion reporting analysis of progress monitoring data has gone up from 66% to 86%. The proportion of teachers reporting grouping and re-grouping has jumped from 66% to 80%. Virginia's RtI implementation has largely ameliorated the barriers ordinarily cited to re-grouping - the solo-practice classroom, the unavailability of support personnel for the classroom teacher (i.e., a para-professional, an aide, or a colleague doing co-teaching) and the logistics of paper-and-pencil testing and analysis.

Math instruction and behavior applications. RtI's accomplishments in Reading have not yet been repeated for math. Only four schools have begun to apply RtI to math and teachers remain puzzled about how they would differentiate math instruction. Although discipline referrals are down in the pilot schools, RtI has yet to be directly and systematically applied to behavior interventions.

Pilot school and comparison school performance. This second year evaluation included comparing RtI pilot schools to other schools in the same division that were as closely matched to the pilot schools as possible. In fact, the two groups were not equivalent at baseline (2008-09): several of the comparison schools began with higher performance. On comparison, the pilot schools did not outperform the others in reading or mathematics and in several other RtI-related areas, the comparison schools did better than the RtI pilot schools.

School adoption of RtI as supported by business process re-engineering. The results of the two-year adoption of RtI are partly a testament to the detailed attention that the Department paid to the process of implementation, e.g., the 'blue-prints', the required school teams, the central awareness training, etc. At the end of the second year, more than half the schools have moved RtI school-wide. Compared to the first year, the biggest gains in implementation features are: "infrastructure supports" (especially the much appreciated handheld computers); the search for additional funding; class re-scheduling; a shared vision; and moving RtI school-wide. Teachers report and principals agree that the organizational capability of their schools has been enhanced by this initiative. Teachers have gone from wanting more professional development to acknowledging the near-sufficiency of what has been provided although they continue to want more. Six of the 15 pilot schools did not report close cooperation and support from their division offices.

School adoption supported by the addition of coaches. Four coaches have been assigned among the 15 pilot schools. During the partial year in which they were deployed the coaches have made an average of five visits to their schools: the range of visits per school is from 1 to 12 – a wide variation.

Referrals to special education and to discipline Eight pilot sites reported decreases in the number of special education referrals in 2008-09 (the planning year). In 2009-10 (the implementation year), seven schools reported decreases in the number of special education referrals. When comparing 2007-08 to 2008-09, the schools reported an average of 33 less discipline referrals. And when comparing 2008-09 to 2009-10, the schools reported an average of 74 less referrals.

Commendations. The stability and responsiveness of the VDoE's support for this initiative has contributed school and division progress. In return for that state support, the divisions and schools have implemented RtI with fidelity that is all the more remarkable because it has been pursued in an environment of budget cuts and staff reductions.

Recommendations

- Schools should start applying RtI to math and to student behavior.
- RtI's ambitious expectations for change in conventional teaching need particular support as implementation moves from universal screening ➔ core instruction ➔ local norming ➔ progress monitoring ➔ group-based analysis ➔ grouping and re-grouping ➔ differentiating instruction. The provision of handheld computers to the pilot schools was helpful: more needs to be done.
- The coaches need more conscious and systematic management.
- The nature of the coaches work (and the state's) changes as schools move from initiation (awareness) to implementation (change in practice) to institutionalization (stable and continuing practice). The pilot's early successes can be continued but expectations and capacity-building needs should be revised to reflect the new stage.
- RtI needs to be distinguished from school reform and especially from school turn-around strategies.
- The R&E design for the third year needs to reflect the increased scale of adoption, the addition of new organizational levels, especially high schools and the change in the interventions and support.

2.0 NATIONWIDE TRENDS IN RTI ADOPTION

Virginia's experience with RtI is tracking and in important ways leading other states. In April 2010, Spectrum K12, AASA, CASE and NASDSE conducted a web-survey of K-12 district administrators to measure the extent to which RtI has been adopted and implemented nationwide. Since 2007, RtI adoption has increased. Currently, 61% of respondents indicate they are in the process of implementation, compared to 24% in 2007. Fifty-five percent of the respondents reported that their RtI implementation involves a unified effort between general education and special education. Implementation is concentrated in elementary schools. Reading is the predominant content area for implementation, followed by Math and behavior.

The most frequently cited obstacles to implementation are:

- Insufficient teacher training;
- Lack of intervention resources for teachers (e.g., tiered curriculum);
- Lack of resources for progress monitoring; and
- Teacher lack of data, knowledge, and skills to implement tracking and charting.

In districts that reported RtI impacts, 76% indicated improvements in AYP and 87% indicated implementation has reduced the number of referrals to Special Education.

Funding for RtI has come from a variety of sources, including general funds, Title I, and IDEA. Forty-three percent responded that ARRA (stimulus) funds were used. Forty-eight percent indicated that they have a formal district RtI implementation plan. When asked to what degree is RtI incorporated into the district curriculum, only 15% responded it is fully incorporated and 69% indicated it is partially incorporated.

3.0 VIRGINIA'S RTI PILOT

3.1 How the Virginia Department of Education organized and supports the RtI Pilot

In February 2008, the DoE invited school divisions to identify candidate schools willing to pilot RtI for two years beginning with academic year 2008-09. "The purpose of the pilot is to help school divisions implement the RtI process and to glean best practices to share with school divisions statewide. The department [agreed to] provide federal funding for the technology and software needed for RtI data collection, training and ongoing technical assistance in each pilot division." (DoE, 2008).[1]

The table below [next page] summarizes what was provided by the Department of Education and by the pilot schools and divisions in each of the initial two years. The Department has continued its support for the schools and divisions that have continued their implementation. For year two, the major change was that four Department-provided coaches were each assigned to specific schools and that embedded, on-site coaching has largely replaced the first year's whole-group awareness and initiation training. The coaches provided assistance that was more school-specific than the previous central training sessions and also saves the divisions and schools on travel costs (see section 6.0 for outcomes related to the school coaches).

[1] Note: The enthusiasm for RtI has now gone beyond the initial pilot schools and the Department is extending eligibility for a third year to a new group of schools.

Table 1. Division of Responsibility between the DoE and Pilot Schools: Years One and Two	
The Virginia Department of Education…	**The Pilot Divisions and Schools…**
Year One 2008-09	
Designed the pilot and selected schools	Identified candidate schools and prepared applications
Provided capacity-building, problem-solving school visits by a full-time Department specialist	Implemented (differing) components of RtI process (see below)
Recruited and paid for expert speakers, meeting space and refreshments	Paid for travel and lodging for school and division professional development participants
Paid for some data collection hardware and software	Allocated and re-allocated responsibility by various personnel specializations, e.g., school psychologists, reading specialists
Paid for a third-party, external statewide evaluation	Cooperated with data collection, interviews and observations
Year Two 2009-10	
Continued the DoE full-time specialist	Made revisions to their RtI process
Discontinued the frequent, centralized training	Continued RtI implementation
Recruited, trained and deployed (Spring semester) four regionally-based RtI coaches for individual schools	Accepted coaching services
Continued to support the third-party, external statewide evaluation	Cooperated with data collection, interviews and observations

Schools in the pilot, while provided with training and frameworks about how RtI should be implemented, designed and planned their RtI process individually and without additional staff or resources. For all schools, this meant changing the master schedule to allow for interventions and for many schools this meant re-defining job descriptions for specialists and school psychologists. In many cases, schools were implementing RtI amidst budget cuts and staff reductions. Virginia's pilot is a good test of the ability of some schools to add RtI to their repertoire largely within existing resources.

3.2 The Substance of RtI as defined by the Virginia Department of Education

The Department of Education's succinct description of RtI is as follows:
"By definition, RtI is essentially the practice of offering interventions provided by the general education teacher and then evaluating the child's response. Interventions can also be delivered as supplemental instruction provided by other trained interventionists in the school." (Commonwealth Dept. of Education, 2008)[2].

[2] There are several configurations of what constitutes RtI. The DoE used a short description in inviting schools to participate. That brevity maximized local autonomy, local definitions, local choice in implementing local versions of "RtI".

In the original 2008 application package for interested school divisions and schools, the Department provided more detail about its expectations (which were also reflected in the selection criteria).

"Since this model supports general education, Title I, and special education services, it will require focused and collaborative leadership to enhance student achievement and to ensure program integrity. Components for successful implementation include:

- Strong school-based and school division leadership for effective and consistent instruction, intervention and professional development
- Comprehensive intervention approaches for meeting the needs of students
- Well-defined, scientifically-based core instruction in the general classroom
- A commitment to universal screening and individual student progress monitoring for the systematic and continuous collection of intervention data
- Collaborative, problem solving processes and practices at the school and classroom level
- School improvement plan that includes the components of successful RtI implementation" (Trulove, 2008).

The Department continues to rely on local judgment about curriculum and RtI-related applications. There are not, for example, lists of state-recommended third-grade math interventions that would support RtI instruction.

4.0 METHODS FOR THIS EVALUATION

For the first year of the evaluation, Interactive, Inc. documented the 15 schools that were part of that year's cohort. The data collection included on-site interviews and observations, web-surveys with self-reported beliefs, attitudes, and opinions plus measures of RtI-related declarative knowledge. For the second year, we repeated the first year's data collection procedures and added a group of roughly matched schools for comparison purposes.

Interactive, Inc. distributed web-surveys to students, teachers, and administrators twice in year one to pilot sites (pre-post) and once in year two to pilot and comparison sites (post only). In addition, we conducted face-to-face interviews with division representatives, school administrators, RtI team members, and teachers in each pilot school twice in year one (pre-post) and once in year two (post only). At the end of year one, we conducted a document review in the pilot schools, in which we measured the extent to which RtI has been documented and represented in school or division policies, procedures, job descriptions and curricula. In the end of year two, we conducted a review of student level documentation from each school by requesting reports and indicators of student progress monitoring data in order to measure which schools are using what kinds of data collection and management.

In both years one and two, for both pilot and comparison sites, we collected data from each school about the number of referrals to special education, the number of students found eligible for special education services, and the number of discipline referrals

reported in each year. Additionally, Interactive, Inc. collected *Standards of Learning* test results on each school from the Department of Education website to compare student test scores by school, by year, and to compare pilot sites to the selected comparison sites.

The schools and divisions that have been implementing RtI are partners with the state in testing the feasibility and desirability of the process. They have invested the training, committed and reallocated local resources, and made themselves available to this evaluation scrutiny in order, jointly to advance the profession's understanding of RtI, its requirements and its outcomes. Second, all the schools volunteered themselves into extra work and without significant extra resources. Nonetheless, and to the credit of the schools, they regard themselves as accountable for the RtI initiative and its quality.

Interactive, Inc. is tasked with contributing to the Department of Education's understanding of the pilot's implementation and outcomes[3]. Our purpose was to illuminate what features of RtI are used by the pilot schools (as a group), why, and to what effect.

5.0 OUTCOMES OF VIRGINIA'S SECOND YEAR RTI PILOT

5.1 How did divisions and schools prepare to implement RtI in 2008?

In the spring of 2008, schools that wanted to join the pilot wrote proposals for consideration by the Department. That proposal required the school and the county to specify a sequence of activities related to RtI features. The pilot schools appreciated the frequent counsel and practical advice from the state-sponsored professional development sessions. The extent to which schools enacted that training is represented in the various features and components that they enacted. Each school was required to complete a division and school blueprint to assist with planning for full implementation in year two, and iterations of these blueprints were reviewed by the Department of Education for feedback and recommendations.

5.2 How was school participation in RtI implementation and analysis coordinated and with what communication?

For the launch year, Interactive, Inc. documented an uneven pattern of coordination and communication between divisions and schools. Some divisions were more systematic than others. Schools that had regular visits from division personnel or regular meetings at the division offices appreciated the assistance. Coordination has not been an issue for schools within divisions where only one school is doing RtI. Coordination is more needed in divisions where other schools are adopting RtI in parallel with the pilot school but without the resources available to the pilot schools. RtI is a demanding, ambitious departure from schooling-as-usual. In every instance of multi-RtI school adoptions within divisions, the divisions recognized what they were asking of their schools and

[3] Department staff have opportunities to form their own judgments about programs. They deploy coaches for the pilot schools, visit schools, and review progress reports.

provided central meetings and dedicated staff and procedures for advancing those volunteer schools.

5.3 What worked for planning and why?

The Department set aside 2008-09 as a planning year. Five schools focused on planning but did not move to implementation in the first year but seven schools were both planning and implementing in that year and three schools moved directly to implementation. Interactive, Inc. concluded in the end of year one that almost all of the pilot schools had made substantial and encouraging progress in planning (if not necessarily in planning + adopting[4]) RtI. Thus, the jointly submitted proposals (divisions and schools), the state's professional development series, the capacity-building visits from state personnel, and the required school-level 'blueprints' have all contributed to wholesome modifications in assessment, teaching, and learning[5].

5.4 What did not work for planning and why?

There is only one component of the originally planned pilot that was not useful. That is the posited difference between the *standard protocol* and *problem-solving* models for RtI. In year one, only nine percent of the teachers could tell them apart on one of our fact-level web-survey items. Virtually all of the schools created a hybrid with some features from each. The decades of program implementation literature predict that result – practical needs always displace theoretical purity – and RtI is not an exception.

Some others of the planned features have an ambiguous record. For example, the Department expected that RtI would be fielded in close collaboration between divisions and schools. That useful goal cannot be realized in every jurisdiction given the diversity of division – school relationships in the state. In both years we found that division assistance is more welcome in some schools than others: some schools are more collaborative than others; some schools and some divisions have more available resources to devote to special projects than do others.

Interactive, Inc. remains concerned about the ability of RtI to penetrate and to transform classroom instruction. Each successive RtI feature is justified because it informs or improves practice in the next feature, i.e., universal screening ➔ core instruction ➔ local norming ➔ progress monitoring ➔ group-based analysis ➔ grouping and re-grouping ➔ differentiating instruction. Said differently, if more frequent assessment does not result in more finely-grained decisions about teaching, then why bother? Each successive feature is more challenging to realize.

[4] We suspect that progress toward implementation is as much a function of prior experience with evidence-based teaching as it is of formal planning. Schools move faster where they can build on an increment and on existing organizational capability.

[5] It may be that the evaluation activity also contributed to planning and implementation fidelity for some schools.

5.5 What worked and did not work for professional development and why?

For the first year, the state's professional development series was the major lever for encouraging the use of RtI in the pilot schools: there was no grant program, no extensive school-embedded technical assistance program. The several, central successes of RtI implementation documented in the first year were due to the professional development series and to the professionalism of the participating educators. Because most of the pilot schools had relatively little prior experience with RtI in the launch year, the state-provided, centrally-convened series of "awareness" workshops was appropriate. For the second year, the state began to provide school-specific and often embedded coaching services.

At the end of the first year, pilot school teachers wanted more practical, operational, "Do this Tuesday" recommendations. The central training successfully created awareness and built enthusiasm and consensus. Those year-one sessions facilitated planning and team building. Teachers knew what they were supposed to do, but at the end of year one, they did not yet know how they were supposed to accomplish those RtI components. For example, they understood the idea of tiered instruction: but they did not yet have copies of a particular publisher's text materials that are appropriate for Tier 2, small group work in 3rd grade mathematics.

Almost all the schools commented on the expense to local budgets incurred by supporting travel, lodging and substitute teacher costs for participating. Participants wanted more classroom-based "practical" help to be able to meet and share with other schools during the session's flexibility about 100% team member participation in the sequence of meetings. The state's addition of coaches was directly responsive to that expressed needs (see section 7.0 for summary results of the state-provided training evaluations).

5.6 The Implementation of RtI components among the pilot schools

This section discusses how much or how little of the RtI features have been implemented. The discussion is based on: (1) web survey self reports from teachers, administrators, and students; (2) site visits, interviews, and observations; and (3) document reviews. We visited schools in December 2008, April 2009 and March 2010: the discussion reflects the two-years of data we collected from each school, and the data we collected from 14 comparison schools in 2010. (Refer to Appendix 1 for measurement/analysis details and web-survey items).

RtI has several components and they vary in how easy they are for schools to implement. This section discusses ten generally-accepted components of RtI and reviews the various kinds of evidence that we have about the extent to which each of those components is present in the group of pilot schools as a whole.

We introduce the discussion of how pilot schools implemented RtI with an all-school summary of the most-to-least implemented features. That is followed by evidence about each of the individual components.

For each school, Interactive, Inc. scored the presence or absence of 10 features of RtI implementation. For the table below, we coded qualitative data to indicate whether or not each feature was discussed by school personnel or whether or not we saw evidence of the feature during our visits. For example, respondents in almost three-fourths of the schools asserted that instruction was being differentiated.[6] The table below presents the total summary scores of all pilot sites for each feature.

Table 2. SUMMARY FEATURES of RtI IMPLEMENTATION – ALL PILOT SCHOOLS (Listed from most-to-least percent change)

RtI Features	Year one	Year two	Percent Change
Universal screening	60% (9)	100% (15)	+40
Instruction differentiated by groups or individuals	73% (11)	100% (15)	+27
Group-based analysis of data from student progress (interim) monitoring data	66% (10)	86% (13)	+20
Reading instruction organized by tiers	86% (13)	100% (15)	+14
Students are grouped and/or re-grouped according to analysis	66% (10)	80% (12)	+14
Student progress (interim) monitoring	86% (13)	80% (12)	-6
Core instruction reaches 80% of students	66% (10)	53% (8)	-13
Math instruction organized by Tiers	40% (6)	27% (4)	-13
Behavior intervention organized by Tiers	13% (2)	0	-13
Local norming, cut scores	33% (5)	13% (2)	-20

On self-report evidence from school personnel, “reading instruction by tiers,” “differentiated instruction,” and “universal screening” have been implemented by the all 15 pilot sites, followed by “progress monitoring,” “student data analysis,” and “student grouping based on analysis,” which has been implemented in most schools. There is corroborating evidence that reading is in fact most implemented and behavior and math least implemented. Local norming has only been done in two pilot sites in year two, but it is important to note that the state did not require this of schools and *AIMSweb* makes it unnecessary to do so.

5.6.1 Universal screening

The proportion of administrators reporting universal screening has jumped from the original 66% (2008) to 86% at the end of 2010 (AQA3).

After looking at all the qualitative data from two site visits in 2008-09, Interactive, Inc. concluded that nine of the fifteen schools were using universal screening. Schools define “universal screening” differently. The metrics include *AIMSweb*, *SOL* scores, *DIBELS*, *STAR* tests, district and even teacher-generated benchmark tests. However, in

[6] In the text, we note where Interactive, Inc. has reason to question the validity of those characterizations.

2009-10 all schools reported using universal screening to assess and group their students in the beginning of the school year.

In neither year did pilot school teachers believe that they had more data than can be used (TQ57). In the comparison schools, a bigger fraction of the faculty believes that they have more data than they can use (TA16, 2.25 to 2.04, $p = .001$). Similarly, teachers in the pilot schools continue to want to add additional assessment information: they reject the idea that they "already knew what students need without having to constantly assess them" (TQ 60). For the teachers in the non-RtI schools, there is a pattern similar to the "too much data" response. A bigger fraction of teachers trusts their gestalt judgment and discounts the need for more assessments (TA18, 2.24 to 1.92, $p = .000$). At the same time, teachers have consistently objected to testing - "My students need more time learning and less time spent testing" (TQ 61, 2.71). Comparison group teachers are more unanimously in agreement with the objection (TQ19, 3.10 to 2.82, $p = .000$).

5.6.2 Instruction is differentiated by groups or individuals

In 2008-09, 73% of the schools credited themselves with "differentiating instruction" and in 2009-10, all schools reported they were doing this. Differentiation can refer to instruction adopted to small groups and/or to individuals.

RtI is at core, evidence-based teaching. Although that is an expectation for teachers, it is also unlikely to be fully realized without encouragement (or enforcement) from administrators. Interactive, Inc. asked about that supervisory practice and the majority of teachers in the pilot school have consistently acknowledged its presence. They agree that, "If my students are not performing, I am required to show supervisors evidence that I have changed my instructional process at least quarterly" (TQ18). Large majorities of the pilot school faculties have, from the beginning, strongly disagreed that "If my teaching is aligned to the SOLs, nothing more should be required of me" (TQ49).

Students report an increase in the pace of instruction. In 2008, 43% of the students thought that, "Sometimes the teacher goes too fast for me": by 2010, that had increased to 53%. The average value of their responses went from "no" to "yes" (1.43 to 1.53, $p = .000$). Student responses to the same idea – the pace of instruction – but worded differently is not consistent with their responses to earlier item. In 2008, 30% of the students thought "…the teacher goes too slowly" and in 2010, 40% of the students reached that conclusion (SQ13, 1.30 to 1.37, $p = .003$).

These students commend their teachers for their responsiveness although the trend line is down from the first year. In 2008, 84% of students said that, "Every time I ask for help, my teacher helps me" in 2008: in 2010, 75% reached that conclusion (SQ 10). Consistently over the two project years, a majority of students have reported that they would ask for help if they needed it (SQ 19).

RtI recommends concentrating the help of specialists and other support personnel in regular classrooms. While that is good pedagogy, it creates a conundrum for students who may have to choose between their "regular" teacher and someone else. Not surprisingly, students prefer the "regular" teacher. Eighty percent of students have consistently said they'd rather have extra help from their "own teacher" (SQ20). RtI encourages the availability of additional adult help in regular classrooms. We asked students, "I want help from my teacher, not from someone else" (SQ12, 1.56 to 1.63, *p* = .003). The percent insisting on help from their own teachers is up from 56% (2008) to 63% (2010). Students have become a little more adamant about wanting help from their own teachers over the two years and that tendency to favor their "own teacher" is corroborated by student answers to a second, similarly worded question (SQ20, 1.61 to 1.66, *p* .000). Pilot school students, more than their comparison school counterparts endorse this "own teacher" preference (SQ12, 1.63 to 1.58, *p* = .001). That preference from pilot school students compared to the non-RtI group is confirmed by a second and related item (SQ20, 1.66 to 1.58, *p* = .000). It is possible to conclude that the presence of other adults in a classroom is not diminishing the bond between students and their 'regular' teacher. By the way, in a solo-practice conventional classroom, students would not have anything to compare to. In this instance, RtI practice may be penetrating classroom instruction and students' experiences.

One of the precepts of RtI is that enrichment and services are brought to regular classrooms. We asked students some related questions to tap their perception of what was available. For example, "If I was going to get extra help on my school work, I would rather stay in my class than go to another room to work". Three-quarters of the group responded that way. The average response to that has stayed in the "yes" interval and become a little more emphatic (SQ21, 1.71 to 1.74, *p* = .000). We asked students to respond to, "I had to move to different classrooms a lot". The item is a proxy for pull-out instruction (although we recognize it may also reflect moving to "Band" or other co-curricular locations). Currently, 30% of students report a lot of moves among classrooms: in 2008, the comparable figure was 26%. The average of student responses stayed in the "no" range but moved slightly toward "yes" (SQ 11, 1.25 to 1.29, *p* = .001).

Control group students reported more movement to other classrooms (SQ11, 1.39 to 1.29, *p* = .000). Students in RtI schools, compared to the other group, would prefer to stay in their own classroom and get extra help (SQ21, 1.74 to 1.67, *p* .000).

The shift toward slightly more differentiated instruction is confirmed by responses to another item – "Sometimes, I went to another classroom for help this year". While the average student continues to report, 'No, I don't go to other classrooms', the percent that do go to other classrooms has more than doubled over the project from 12% to 26% (SQ15, 1.12 to 1.26, *p* = .000).

The percent of students reporting that "There are fewer than 10 kids in my class" has dropped from 11% to 7% (SQ18, *p* = 1.11 to 1.07, *p* = .000).

The comparison group students are slightly more likely than the RtI students to report that they are in pull-out classes ("…less than 10") (SQ18, 1.09 to 1.07, *p* = .023).

5.6.3 Group-based analysis of student progress (interim) monitoring data

In 2008-09, five schools were planning for student data analysis, three had begun to implement analyses and seven were both planning and implementing. In 2009-10, 13 schools reported that they analyze student data and 12 reported that they use student progress monitoring data to group and re-group their students.

RtI expects teachers to be more active in deciding about instruction and the data support the pilot's positive impact on teachers. In 2008, they agreed that "In this school, curriculum decision making is concentrated with administrators and specialists" and two years later, they rejected that (TQ29, 2.52 to 2.16, *p* = .000, n = 183). The comparison group teachers are not as unanimous that they, the teachers can take part (TQ13, 2.48 to 2.24, *p* = .004).

Pilot school teachers are even more agreed now (2010) than they were in 2008 that they are "…part of a team that analyzes student performance and decides on student placement and instruction." (TQ4, 2.68 to 2.89 *p* = .003). That is corroborated by their consistent responses over the two years that, "Decisions about diagnosing my students are made by a group of teachers…" (TQ17). And, they emphasize the flexibility they have in determining their own materials and processes (TQ15).

Teachers from the comparison schools are even more likely than RtI school teachers to report being part of team for analysis, placement, and instruction (TQ2, 3.16 to 2.89, *p* = .004).

Time is a chronic obstacle to school improvement but teachers in the pilot schools did not report that. The teacher average response began (2008) by rejecting the excuse "I do not have the time to implement RtI" and teachers are now adamant about that (Q22, 2.18 to 1.71, *p* = .000, n = 186). And similarly, teachers in the pilot schools reject, "The press of other business keeps us from finding time to plan as a faculty for RtI". (Q7, 1.72 to 1.97, *p* = .000, n = 188). Creating that time is a credit to their school's administrators and to the teachers for making themselves available to RtI practices.

Teachers are more willing to give tests than to analyze the test results. They have consistently believed that it is practical to test students monthly (Q52). But they do not believe that they have enough planning time "…to look at student records on a quarterly basis" (Q16, 2.03 to 2.30, *p* = 000, n = 187). Comparison group teachers reported themselves to be even more pressed for planning time than did the RtI teachers (Q7, 2.09 to 2.32, *p* = .005).

5.6.4 Reading instruction organized by Tiers

In 2008-09, 13 of the 15 schools were doing this although only a few schools had gone beyond Tiers 1 and 2. Schools were probably building on the lessons learned from *Reading First* and on the preference of elementary teachers for language arts over mathematics. In 2009-10, all 15 pilot sites reported they had organized reading instruction into tiers.

There is continuing uncertainty about differences between the Tiers and the practical consequences of those differences. In general, the Department defined the Tiers as follows.

Tier 1: Primary interventions, universal core instruction – assessment, diagnosis, prescription and delivery for general education classrooms

Tier 2: Secondary interventions – assessment, diagnosis prescription and delivery with smaller and more frequent group meetings for example, *Reading First* interventions

Tier 3: Tertiary interventions – assessment, diagnosis, prescription and delivery with intense, frequent and often individual instruction for example, *Reading Mastery.*

However, the schools have differing definitions of the tiers and not all schools demonstrate evidence of more intensive instruction beyond tier 2 and before special education services.

Students responded to three web survey items that can be interpreted in connection with reading instruction[7]. RtI emphasizes that different students will be taught differently. Students have consistently reported that, "My teacher treated everyone the same this year" although the numerical value of the average response has changed slightly in the direction encouraged by RtI practice – more differentiated instruction. At the beginning of the pilot project, 81% of the students in these schools said the 'teacher treats everyone the same': at the end of the two years, 71% said their teachers treated everyone the same (SQ2, 1.83 to 1.71, $p = .000$)[8].

[7] In the project's first two years, RtI procedures have been more completely implemented in reading than in math. We report the student data about their perceptions of the general topics of 'differentiated instruction' or 'individualization' in connection with reading.

[8] We have data from two samples. First, we have responses from students in the pilot schools from 2008 and from 2010: the students are in cohorts, they are not the same students responding year-over-year. Second, we have non-RtI, otherwise similar comparison student responses. The text identifies the source of the data being discussed. Where there is no treatment/control discussion, the absence signals a lack of statistically significant differences between the two groups. Only a few of the questions have prompted different responses from the 2008 student group compared to the 2010 student group. But, despite the general stability of the responses – or, despite the general similarity of how students view their experience of schooling – the average value of the responses does change within the "yes" or "no" intervals and because of the large sample sizes, many of those small shifts are statistically significant.

We also used student reports of the amount of conventional, 'teacher-talk' instruction as an indictor of new teaching methods. Students were less likely over the two-year project period to report that their teachers "…talk most of the time in class this year": the percents that reported "teacher-talk" instruction started at 83% (2008) and dropped to 74% (2010) (SQ4, 1.83 to 1.74, p = .000). Compared to the pilot school students, the comparison group students reported even less 'teacher-talk' conventional instruction (SQ4, 1.66 to 1.74, p = .000).

Students responded to the statement, "I mostly worked alone in my class this year". Average responses declined slightly (from 65% to 58%), a shift we interpret as likely related to more group work and less solo work (SQ5, 1.64 to 1.58 p = .000). In response to another question about group vs. individual work, 44% and 46% (2008 and 2010) of the students said they worked "mostly in groups" (SQ3). Both responses suggest (only suggest) a trend toward "group" work and probably away from whole-group instruction. To the extent that the generalization is supportable, it trends in the direction recommended by RtI.

Comparison group students reported more group work than the pilot school students (SQ3, 1.55 to 1.46 p = .000)

5.6.5 Students are grouped and/or re-grouped according to analysis

Interactive, Inc.'s conclusion from last year's report was that,

> "…(O)n teacher self-report evidence, they have changed their record-keeping but don't have enough time to translate the new information into action. One application of the analysis they say they lack the time to do, would be grouping and re-grouping students and then differentiating instruction according to those group needs. On the one hand, teachers told us they lacked the time to do the analysis: on the other, they said they were grouping students and differentiating instruction."

If analysis is not followed by re-grouping, then RtI is achieving less of its promise. RtI assumes that teachers will pay attention to student performance – during the school year – and adjust what they do according to those data. In general, the pilot school teachers have consistently agreed about the desirability of altering instruction in the middle of the year (TQ58). Interactive, Inc. has a continuing concern about how much instruction is, in fact, being differentiated.

Interactive, Inc. interpreted "grouping" as more than the initial placement of students at the beginning of a year. We credited schools with "grouping" if there was evidence that they changed the early group membership later in the year. We defined "re-grouping" (which is less common) as group formation and re-formation at more than one interval in a school year. In 2008-09, two-thirds of the pilot schools reported "grouping" during the school year. This proportion increased to 86% (12 of the 15) in 2009-10. A common barrier to grouping was the solo-practice classroom, the unavailability of support personnel for the classroom teacher (i.e., a para-professional, an aide, or a colleague

doing co-teaching) – Virginia's RtI implementation has largely ameliorated those barriers.

Most pilot school teachers endorse RtI's departure from previous practice with regard to special education grouping. They disagreed with both of the following statements: "Tier 3 students should be grouped only with other similarly classified students" (TQ50) – an endorsement of inclusion; and also with "Tier 3 students should be in self-contained classrooms" (TQ51) – a rejection of the previous exclusively 'pull-out' practice.

RtI also emphasizes individualized attention to students. While that is pedagogically desirable, students may experience the practice differently. We asked students to respond to the statement, "My teacher had favorite students". While they disagreed – 'no favorite students' – their responses have shifted in the positive, RtI-endorsed direction (SQ8, 1.41 to 1.49, p = .000). In 2008, 41% of the pilot school student respondents said, 'yes, favorites', in 2010, the percent saying 'yes' has increased to 49. And pilot school students were more likely to report this sort of individual attention than the comparison group (SQ8, 1.49 to 1.45, p = .021).

The proportion of students responding that some of their peers "have a lot of trouble with school work" has stayed constant at about three-quarters (SQ17). Students report a small increase in the number of times their class gets interrupted by other kids (SQ7, from 62% 'yes' to 66% 'yes': 1.62 to 1.66, p = .000).

Pilot school students are more likely to report peers with academic difficulties than the comparison group (SQ17, 1.77 to 1.72, p =.006).

5.6.6 Student progress (interim) monitoring

On the evidence summarized from our qualitative sources in 2008-09, we concluded that one school was doing advanced work monitoring student progress; four had begun; and ten were planning progress monitoring. In 2009-10, 10 of the 15 schools were using progress monitoring to measure student progress and keep tiered group membership fluid.

Record-keeping is one of RtI's critical departures from conventional classroom practice. From the beginning of the pilot project, teachers in the RtI pilot have been acknowledging that they have changed their record keeping and the proportion reporting that new practice has grown (TQ21, 2.28 to 2.05, p = .000, n = 184). [Teachers in the comparison schools are more likely to report recent changes in their record keeping practice – a signal, perhaps, that evidence-based teaching is spreading (TQ10, 2.39 to 2.11, p = .001).] Administrators continue to believe that RtI is changing "The way teachers keep student records (assessment scores, courses attempted, discipline referrals)…" (Q12).

As much as teachers object to the loss of instructional time to testing, it is the students that are being tested. Pilot school students report a very large increase in the incidence of tests. In 2008, only a third said "I have to take a lot of tests". By the end of 2010,

88% said they were taking a lot of tests. (SQ1, 1.34 to 1.88 "no" to "yes", p = .000). Students report that they are getting test results back in a more timely fashion (SQ 6, 1.41. to 1.36, p = .000).

Students in the comparison schools report even more tests than do the pilot school students (SQ1, 1.90 to 1.88, p = .038)

About a third of the students currently report "a lot of trouble with my school work", up from 30% in 2008 (SQ14). The two-thirds plurality does not report trouble with school work. The oppositely-worded question ("School is pretty easy for me") drew 66% in agreement in 2008 and 73% in agreement for 2010. (SQ16, 1.66 to 1.73, p = .000) and so did their responses to the parallel item "Mostly, school was pretty easy for me this year" (SQ22, 1.74 to 1.78, p = .000). Finally, students continued to believe that "Everybody in my class could do the work the teacher gave us this year" (SQ23, 1.61 to 1.54, p = .002) although there's a little less unanimity about that cheerful conclusion than there was in 2008 (the percents saying 'yes, everyone can...' fell from 61 to 54).

5.6.7 Core instruction reaches 80% of students

In 2008-09, ten of the fifteen schools said that they had reached this goal. The most credible of the group described reviewing (1) AYP scores, (2) referral percentages, (3) the performance of all students every quarter, or (4) scheduled meetings of all teachers on a grade level to consider the records of all students. But in 2009-10, eight (two fewer than the previous year) of the schools reported that their core instructional programs were successful for at least 80% of their students.

Core instruction is Tier 1 instruction and all the schools were attending in some fashion to that Tier. In 2008-09, 9 of the 15 schools had produced written descriptions of Tier 1 curriculum: 10 of the 15 had written descriptions of Tier 2 curriculum; and 6 of the 15 had descriptions of Tier 3 curriculum (although attention to Tier 3 was infrequent). In 2009-10, 13 schools had evidence of Tier one, 13 had evidence of Tier 2, and 8 had evidence of tier 3. In several instances, schools were setting aside time and resources for their students who needed additional instruction and interventions, but there was no evidence that two additional tiers of instruction were occurring.

5.6.8 Math instruction organized by Tiers

In 2008-09, six schools had begun to reorganize math instruction. Most faculties were puzzled about how to differentiate math instruction and in 2009-10, four of the schools reported that they had organized math into tiers.

5.6.9 Behavior intervention organized by Tiers

RtI has not yet been applied to student behavior and the teachers acknowledge that in their web survey responses. We asked teachers about the effect of RtI on collateral areas like student behavior. Since the first year of the pilot, behavioral referrals in the pilot schools have decreased. Teachers began by thinking RtI might help with that but now – despite the drop in school-wide numbers – they are less sure (Q54, 2.80 to 2.39, p = .000, n = 172).

It is more likely that their disagreement reflects a lack of opportunity than a judgment about the technique's utility. Teachers acknowledged that the state-recommended *Positive Behavior Support Systems* program was already doing this work. Second, they commented that when students are more successful with schoolwork, they are less likely to act out. While schools have yet to apply RtI systematically to behavior, it is likely that there are already some external benefits from the academic progress to the behavior area and that surmise is supported by our data (see below). In year two, none of the schools reported they were organizing behavior interventions by tiers using RtI. Rather, schools are using other programs and processes to address behavior, and some are in the process of merging RtI features into their current behavior management repertoire. Many teachers and administrators have reported that RtI for academics has reduced the number of behavior incidents, since students who are less frustrated in the classroom as less likely to "act out." See section 5.8.3 below for quantitative evidence that behavior referrals have decreased.

5.6.10 Local norming, cut scores.

This is a desirable but not required feature of RtI. It encourages schools to benchmark their student's performances, not by national criteria or distributions, but by local distributions. The Virginia Department of Education has not featured local norming as one of its recommended core components.

In 2008-09, five schools were working on this and most of those schools had enlisted division specialists and additional help to determining the cut scores. In 2009-10, two schools were doing local norming. Principals are daunted by the analytic demands of local norming, they report it to be a psychometrically exacting process and they conclude that it is beyond the organizational capability of their schools. Without help from outside, this is not getting done and one consequence is that referrals to Tiers and group formation are less evidence-based than they might otherwise be. It is important to note that the state did not require this of schools and *AIMSweb,* however a majority of schools purchased subscriptions to *AIMSweb* using the progress monitoring funding allocated to each school by the DoE. Because *AIMSweb* has national norms built into its system, it is unnecessary for schools using the program to create cut scores using local data.

5.7 The Implementation of Business Process Re-Engineering among RtI pilot schools

5.7.1Summary of implementation of business process re-engineering features for all schools

RtI is a substantial departure from the conventions of solo-practice, whole-group instruction in an egg-crate school. Adding RtI to the teaching/learning repertoire of an already busy institution is a formidable expectation. What fraction of a school's faculty will replace how much of its instructional practice? How much agreement will there be between administrators and teachers? The Department of Education anticipated that

implementing RtI would require complicated and substantive transformation of school processes and recommended that business process re-engineering (BPR) be enlisted in that work.

There is an order to the steps in BPR, for example, these initiatives typically begin with needs assessments, gathering 360º support, creating a shared vision, etc. The detailed discussion of how the pilot schools implemented each feature is organized chronologically. But as with RtI components, the BPR features were more and less easy to realize in schools. The table below displays those that were most-to-least evident (again as indicated by the assertions of school people and Interactive, Inc.'s observations). To pre-figure the more detailed discussion in this section, it is remarkable that all of the pilot schools have re-scheduled classes and periods, have added infrastructure, and are seeking additional resources. It is equally remarkable but not as encouraging that most schools have not changed their supervisory or evaluation routines to reflect RtI practices, they are not continuing their RtI task groups and the frequency of needs assessment seems to be declining.

For each school, Interactive, Inc. scored the presence or absence of 18 features of business process re-engineering (BPR). For the table below, we coded qualitative data to indicate whether or not each feature was discussed by school personnel or whether or not we saw evidence of the feature during our visits.

Table 3. SUMMARY FEATURES of RtI BUSINESS PROCESS RE-ENGINEERING: Number and proportion of schools demonstrating evidence of implementation (ordered from most-to-least percent change)			
Business Process Re-Engineering Features	**Year one**	**Year two**	**Percent change**
Infrastructure supports	20% (3)	100% (15)	+80
Additional resources pursued	20% (3)	66% (10)	+46
Class re-scheduling	60% (9)	100% (15)	+40
Clear, shared vision	33% (5)	60% (9)	+27
School-wide implementation	53% (8)	80% (12)	+27
Reduction or reallocation of administrative or specialist responsibilities	60% (9)	80% (12)	+20
Revisions to program during school year	40% (6)	66% (10)	+16
Consensus among faculty	46% (7)	60% (9)	+14
Evidence of support among division, office, school and classroom levels	46% (7)	60% (9)	+14
Identification of roadblocks, dysfunctions and their amelioration	46% (7)	60% (9)	+14
Faculty collaborative planning time	73% (11)	86% (13)	+13
Division-school communication and cooperation	66% (10)	73% (11)	+7
Intention to expand or intensify RtI within school	66% (10)	73% (11)	+7
Local professional development	53% (8)	60% (9)	+7
Support from school principal	80% (12)	86% (13)	+6
Needs assessment focused on functional requirements of RtI by organizational level	26% (4)	20% (3)	-6
Function-specific teams are recruited and tasked	80% (12)	73% (11)	-7
Changes to supervision and evaluation to support RtI	33% (5)	26% (4)	-7

5.7.2 Adopt infrastructure supports, e.g., handheld devices for teacher data capture, LMSs, SISs, data analysis routines

RtI is profoundly data-driven and evidence-based. That assumes much more operational support than is available in the several pilot schools that are still paper-based and/or that have not yet begun to create a school-specific system for data collection, analysis and reporting. From the Department perspective, non-comparable systems and metrics across the schools may be a concern (see section 5.8.2 on student progress monitoring).

Until the schools received grant funding from the Department to purchase progress monitoring tools and software, they had data manipulation systems that were clumsy,

incomplete, and labor intensive. None of the systems were robust enough to support all the data requirements of RtI and certainly not as RtI use grows. Paper-based systems are too labor intensive to be supported.
In 2008-09, nine of the schools were using paper-based systems of data collection: four were using computer-based systems; and another four had not implemented anything systematic. In the end of year one, each school received a small grant from the Department for progress monitoring and/or data management tools and all 15 reported that they were using additional supports for assessment and data management. Most (10 of the 15) schools purchased subscriptions to *AIMSweb* for progress monitoring, two schools bought laptops or netbooks, and others used the money for intervention resources, or another type of web-based data management.

At the beginning of the pilot, the principals were nearly unanimous in concluding that they had the "technology necessary to support RtI": in the interval and in response to widely-shared teacher requests, the State did provide additional technology. Despite that (and in contrast to the teachers' conclusions) the principals are now less likely than they were in the first year to believe their schools have "technology necessary to support RtI" (AQ8, 3.53 to 2.86, p = .021). Contrarily, fewer administrators in 2010 than in 2008 thought "This school will not be able to implement RtI without receiving more computer technology…". (AQ14, 1.47 to 2.33, p = .001).

5.7.3 Additional resources pursued

In year one, three of the fifteen schools were supplementing RtI with resources from funded programs or with personnel re-assigned from other responsibilities, for example, from *Reading First*. One indicator of growing enthusiasm for RtI is the increase in this practice during year two, where 10 of the 15 schools reported pursuing additional resources to assist with implementation. In many cases, this was school or division funds or materials to provide staff support for student grouping or to purchase additional intervention programs.

5.7.4 Class re-scheduling

In 2008-09**,** sixty percent of the pilot schools had accomplished this and by the end of 2009-10 all of the pilot sites had changed their master schedule to accommodate RtI interventions and student grouping. Many schools learned about adding extra remediation/enrichment time through Tom Jenkins' *Power Up* training. The addition of 45 minutes per day per grade level for children requiring additional instruction to be successful requires new blocks of time.

Teachers would never be able to look at and think about student achievement and changes in instruction without time reserved for that purpose. The constant refrain about "scheduling" is really about solving the legitimate problem of lack of time which – unresolved – is a sufficient defense by teachers against any change. The first and most necessary step in RtI is therefore scheduling. That is the precondition to the other changes.

5.7.5 Clear, shared vision

Virtually all studies of the school-based implementation of new programs identifies the principal as "key", "critical", "central", "*sine qua non*" and so on. And, principals as teachers, do not always agree that some new idea is going to be helpful to their school. In the case of the RtI pilot, there is consistent evidence among teachers and administrators supporting the pilot's implementation and institutionalization[9]. For example, from the beginning, teachers have acknowledged that "RtI is one of the top three priorities for this school's administration (TQ6). The administrators have continued to strongly agree that "RtI is one of my top three priorities" (AQ5). The consistency with which the principals have supported RtI is remarkable and all the more remarkable because this initiative has been fielded with no extra resources at the school level except the one-time grants for the purchase of technology.

Response-to-Intervention grew out of special education initiatives but major aspects of its benefits assume that it will impact general education as well. Teachers agree: in 2008, Interactive, Inc. presented them with the common if mistaken statement – "RtI is more about special education than core instruction". They disagreed then and now, after two year's experience, they strongly disagree (TQ59, 1.83 to 1.66, p = .000, n = 172). Teachers have never believed that "RtI is the same thing as 'IEP'" (TQ53). Over the project period, they have consistently agreed that "RtI is helpful for instruction in basic skills" (TQ56). They also have never agreed that "RtI should be used for students with disabilities not for general education students" (TQ48). And, they reject that RtI is practical only for "high-incidence disabilities" (TQ55, 1.72 to 1.61, p = .037, n = 175). In year two of the pilot, nine of the schools demonstrated a clear, shared vision which is an increase from the five schools that reported this level of consensus in 2008-09.

5.7.6 School-wide implementation

Based on our qualitative evidence in year one, Interactive, Inc. concluded that eight (53%) of the schools had succeeded in getting RtI procedures used in all the relevant classrooms. Essentially, one-half had and one-half had not (yet). However, in 2009-10, we concluded that 12 of the 15 schools (80%) had implemented RtI school-wide. This increase in school-wide implementation illustrates the schools' overall progress and enthusiasm for RtI in year two compared to year one (the planning year).

5.7.7 Reduction or reallocation of administrative or specialist responsibilities

RtI is comprehensive and ambitious and it has practical implications for many aspects of schooling. In 2008-09, nine (60%) of the schools changed people's job descriptions or their assignments, for example division-level psychologists or reading specialists. One school is changing the job title of the psychologist to "RtI specialist". In 2009-10, the number of schools increased to 12 (80%), and we documented instances of teachers gaining more responsibilities, i.e. grade level team leader, in addition to specialists and

[9] Implementation is the work of introducing an initiative. Institutionalization is the work of stabilizing and guaranteeing the initiative. There are several signs that, for the pilot schools, RtI has begun to be institutionalized. One is the obvious stability of supportive practices and beliefs documented in this year's report.

school psychologists becoming more involved with RtI data collection, analysis, and grouping.

5.7.8 Revisions to program during school year

In 2008-09, six of the 15 schools were making changes as they went along, whereas 10 of the 15 did that in 2009-10.

5.7.9 Consensus among faculty

The Virginia Department of Education strongly advocated the formation of multi-member, multi-function leadership teams to implement RtI. Teacher awareness of those teams has been strong, positive, and unchanged over the two years (TQ11).

More teachers in 2010 than in 2008 thought that the "RtI initiative is being pushed by a small group in the school (TQ19, 2.44 to 2.10, p = .000, n = 198). There is a signal of a small decline in support for RtI – "Only a few of the other teachers in this school are enthusiastic about RtI". While the average teacher continues to reject that statement (in other words, 'there's more than a few enthusiastic'), the reported and perceived enthusiasm declines slightly (TQ27, 2.47 to 2.14, p = .000, n = 186).

Administrators have changed their beliefs about the impetus for RtI. Originally, they did not credit the initiative even to a "small group"; now, they believe that "The RtI initiative was pushed by a small group this year" (AQ11, 1.94 to 2.70, p = .002). Administrators report consistent 'buy-in' or enthusiasm among the faculty about RtI and the average estimate has increased over the project period (A Q17, 1.82 to 2.44, p = .031). Administrators have consistently been of the opinion that waiting for a consensus (i.e., all members must agree before an action is taken) is unrealistic (AQ 20). Moreover, teachers accept leadership[10] and often defer to others.

Teachers have been consistent that they "…do not have a choice about participating in RtI" (TQ20, 2.99 to 2.92, p = .222, n =185). Schools are hierarchical workplaces; most teachers prefer working with children to making decisions about how the school is run. We asked for responses to the statement, "There are schools where 'teachers get told' and schools where 'teachers are asked'. This school is in the 'get told' group." In 2008, the average teacher said 'I get told'; in 2010, they report that 'they get asked' (TQ24, 2.56 to 2.25, p = .000, n = 186). The average administrator agrees about the teachers 'getting asked', not 'told' (AQ15, 1.59-2.15, p = .031). At the end of 2008-09, seven of the schools reported they had consensus among their faculty, while nine of the schools reported the same in 2009-10.

5.7.10 Evidence of support among division, office, school, and classroom levels

In 2008-09, seven of the 15 schools (46%) reported that they were supported by division personnel in the school. Some division specialists had weekly visits scheduled to schools; others convened RtI schools (pilot schools and others) for review and trouble-shooting meetings every month in the division offices. In other schools, there

[10] Many teachers go to school to teach, not to manage.

was no division presence. In year two, division level support and involvement increased to 60% (9 of the 15 schools), and the extra support was apparent. Where there was consistent communication between a pilot site and their division level representatives, there was more obvious progress and more apparent changes in the infrastructure of school processes. Where the division support was lacking, the school struggled more with consensus and school-wide implementation.

Teachers reached a positive conclusion about the availability of print materials to support RtI in general (TQ9, 2.11 to 2.67, p = .000, n = 186) and specifically in connection with special education students (TQ12, 2.33 to 2.63, p = 000, n = 187). The latter is an especially big improvement in teachers' opinions about this aspect of their support.

Because RtI relies on performance data captured, analyzed, and (ideally) applied frequently, where RtI is deployed solely through paper-and-pencil reporting, logistics will be a nearly insuperable obstacle to its use. In 2009, the Virginia DoE made small grants to the pilot schools that could be used to purchase hardware and software to support RtI data management requirements. Teachers who had started the project identifying the absence of computer-related technology as a barrier, have since turned around and concluded that it is no longer a barrier. (TQ10, 2.14 – 2.71, p = .000, n = 186). Similarly, teacher now strongly disagree that "I will not be able to implement RtI unless I get more computer technology (for example, a handheld computer" (TQ23, 2.10 to 1.65, p = 000, n = 185).

And teachers' opinions about the availability of technology in connection with their special education students mirrored the big positive change for that group with print materials (TQ12, 2.28 to 2.54, p = .001, n = 187): a shift from negative to positive conclusions over the course of the two pilot years. Comparison group teachers were stronger in their agreement about the availability of technology than were the RtI teachers ((TQ4, 2.75 to 2.50, p = .003).

5.7.11 Identification of roadblocks, dysfunctions and their amelioration

In the first year, obstacles to RtI implementation fell in three categories: (1) seven schools were concerned about data and data management; (2) four schools worried about the supportiveness of their faculties for RtI; and (3) three schools continued to be bothered by scheduling difficulties. One school discovered to their dismay that local norming did not identify 80% of their students as proficient. That school has invested the entire year in fixing the core curriculum. In another school, the reading specialist began by being hostile to RtI. The school persuaded her to join the RtI planning team and, over the course of the year, the specialist has become more supportive. Another school concluded that RtI expertise was not sufficiently shared across the faculty. That school then created a rotation schedule of teachers who participated in the monthly state-sponsored professional development.

In 2009-10, nine schools reported they have identified roadblocks and dysfunctions in their RtI process and have taken steps to ameliorate them. Two years into the project, more teachers rejected the statement, "This school can be described as an 'egg-crate', that is, teachers are in solo practice…" (Q1, 2.14 to 1.81, p = .000 n = 190).

5.7.12 Faculty collaborative planning time

Although the teachers credited RtI with getting done even with the "press of other business"[11] (TQ7), that confidence has declined over time for the administrators (AQ6, 1.65 to 2.48, p = .002). On the plus side, administrators have consistently found time to implement RtI (Q13).

Some principals require teachers in grade level meetings to talk publicly about their students' performance data. They connect the practice to group problem-solving and to accountability. At the end of year two, 13 schools reported the inclusion of collaborative time for faculty planning, which is two more schools than in 2008-09. These planning sessions, more often than not, involve discussions about individual student performance using progress monitoring data. Interactive, Inc. had the opportunity to observe a couple of these meetings during the Spring site visits in 2009-10, and we conclude that this level of collaborative sharing and planning is essential for an effective team-based implementation.

5.7.13 Division-school communication and cooperation

Interactive, Inc. concluded that there was communication and cooperation between these levels in 10 of the schools in 2008-09 and in 11 of the schools in 2009-10. The absence is apparent in schools that did not have the benefit of this interaction.

5.7.14 Intention to expand or intensify RtI within school

In nine schools, RtI is being applied to grades K – 2: the other six schools are using RtI for all grades. Two-thirds of the schools were expanding RtI within the school. In 2009-10, one school was implementing RtI in grades K and 1 only, two schools implemented in grades K – 2, three were implementing in K – 3, and the remaining nine were implementing in all grade levels. By the end of year two, 11 schools had implemented with a focus on Reading, while the other four had included Math. Eleven of the pilot sites indicated they planned to expand RtI implementation to additional grade levels and content areas.

Fewer administrators at the end of 2010 said their schools were ready to serve as an RtI model than at the beginning of 2008 (AQ4, 3.17 to 2.50, p = .013).

[11] There is a difference between planning and analyzing and there are probably additional differences among analyzing performance data, grouping students, and differentiating instruction. Note that the teachers did not report enough time to look at student records, see above

Teacher confidence in RtI has grown over the two years: increasing proportions of the faculties reject the statement that "…RtI will not make a major difference for my students" (Q26, 2.11 to 1.90, p = .001, n = 186).

In the end of year one, 10 of the schools reported their intention to continue and expand RtI within their schools, and 11 reported that intention in year two. The evidence of continued enthusiasm and planning to extend RtI beyond current implementation is a positive and encouraging outcome of the two-year pilot experience.

5.7.15 Support from school principal

Interactive, Inc. concluded that the RtI initiative was not supported by the principals of three pilot schools in 2008-09 and two pilot schools in 2009-10. Virtually all the literature on school change celebrates the centrality of school principals to school improvement and innovation. There are, however, 'teacher-led' schools and there are schools where teachers succeed in spite of the principal. There are two instances in which administrator turnover has been a barrier to successful implementation and to evidence of support from school administration for RtI.

5.7.16 Professional development

At the beginning, teachers wanted much more training about RtI: two years later, they felt better served by the professional development although they still hoped for more. ("I have already had all the training I need to be successful with RtI" TQ9, 2.11 to 2.67, p = .000, n= 186).

In year two, nine schools reported that they had some level of local professional development in their school or division, which is only one more that in 2008-09.

Evaluations of program features often collect data about teachers' attitudes and opinions and virtually never collect data about teachers' factual mastery of the interventions being implemented.

On the 13 new items, the comparison group faculties got a higher proportion correct than the RtI faculties on five items; the two groups performed about the same on six items; and on only two items did the RtI faculties do better than the comparison group faculties. [see table, next page].

Table 4. Teacher web-survey factual items, Percent correct responses by pilot and comparison sites		
Item (and correct response)	**Pilot % correct**	**Comparison % correct**
The effect of RtI on instruction should be (more small group instruction)	69.4	70.6
Reading programs in RtI schools are more likely to employ (code-based phonetic programs)	20.3	38.1
The statement that best reflects the relationship between reading fluency and reading comprehension is (reading fluency is a poor predictor of comprehension for English Language Learners, but an adequate proxy for most other students)	20.3	28.6
At which range of grade levels would the "Quantity Discrimination" task be most appropriate? In a Quantity Discrimination task, the student is presented with 63 pairs of numbers and asked to orally identify the larger of the two numbers for a period of one minute (Kindergarten to first grade)	20.8	20.6
At which range of grade levels would the "Missing Number" task be most appropriate? In the Missing Number task, a student is presented with 63 sequences of four numbers that involve counting by ones, fives or tens and asked to orally identify the missing number for a period of one minute (First grade to second grade)	41.7	42.1
Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. The four most recent data points fall above the goal line. The team should (end tier 2 instruction and move the student to tier 1)	23.2	23.8
Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. The four most recent data points fall below the goal line. The team should (revise the instructional program)	82.1	88.1

<table>
<tr><td>Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. Of the four most recent data points, two fall below the goal line and two fall above the goal line. The team should (continue with the present program until a clearer trend is evident)</td><td>62.5</td><td>60.3</td></tr>
<tr><td>If RtI is implemented with fidelity, the responsibility of carrying out interventions properly rests with (general education personnel)</td><td>70.7</td><td>69.8</td></tr>
<tr><td>When planning to implement RtI, the first element a school should ensure is (the general curriculum is reaching at least 80% of the students in the school)</td><td>71.5</td><td>64.3</td></tr>
<tr><td>Student ___Denise_____ Grade ___2.9_____
<table><tr><th>Assessment Domain</th><th>Grade Equivalent</th><th>Below the Average Range</th><th>Lower End of the Averag e Range</th><th>Middle of the Average Range</th><th>Upper End of the Average Range</th><th>Above the Average Range</th></tr><tr><td>ORAL LANGUAGE (Ext)</td><td>3.0</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ORAL EXPRESSION</td><td>2.1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>LISTENING COMPREHENSION</td><td>3.5</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GENERAL READING</td><td>2.5</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GNERAL MATH</td><td>2.7</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GENERAL WRITTEN LANG.</td><td>2.6</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC SKILLS</td><td>2.5</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC FLUENCY</td><td>2.7</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC APPLICATIONS</td><td>1.1</td><td></td><td></td><td></td><td></td><td></td></tr></table>I believe that when given only Tier I support, Denise will be (barely successful with lower than average scores)</td><td>35.9</td><td>46.8</td></tr>
<tr><td>Student ____Erin_____ Grade ____2.6_____
<table><tr><th>Assessment Domain</th><th>Percentile Rank</th><th>Below the Average Range</th><th>Lower End of the Average Range</th><th>Middle of the Average Range</th><th>Upper End of the Average Range</th><th>Above the Average Range</th></tr><tr><td>ORAL LANGUAGE (Ext)</td><td>30</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ORAL EXPRESSION</td><td>22</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>LISTENING COMPREHENSION</td><td>43</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GENERAL READING</td><td>12</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GNERAL MATH</td><td>20</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>GENERAL WRITTEN LANG.</td><td>14</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC SKILLS</td><td>13</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC FLUENCY</td><td>16</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>ACADEMIC APPLICATIONS</td><td>26</td><td></td><td></td><td></td><td></td><td></td></tr></table>I believe that when given only Tier I support, Erin will be (barely successful with lower than average scores)</td><td>13.5</td><td>23.0</td></tr>
</table>

Student ___Fiona____ Grade ___2.8___ DOMAIN / Standard Score / Below the Average Range / Lower End of the Average Range / Middle of the Average Range / High End of the Average Range / Above the Average Range ORAL LANGUAGE (Ext) 92 ORAL EXPRESSION 88 LISTENING COMPREHENSION 97 GENERAL READING 82 GNERAL MATH 88 GENERAL WRITTEN LANG. 84 ACADEMIC SKILLS 83 ACADEMIC FLUENCY 85 ACADEMIC APPLICATIONS 90 I believe that when given only Tier I support, Fiona will be (barely successful with lower than average scores)	3.7	3.2

On 5 of the 13 items, the pilot site teachers performed better on the factual knowledge portion of our web-surveys. For 8 of the 13 items, the comparison site teachers performed better. For 5 of the items, pilot and comparison sites performed very similarly We conclude that the teachers who responded to our web-surveys from the comparison sites know just as much or more about the RtI, as represented by our factual items. One possible explanation is that the state-provided trainings about RtI do not reach all teachers in the pilot sites. Another explanation could be that the schools do not provide enough extensive, RtI-specific local professional development for school staff. Finally, it is possible that some of the comparison sites are also beginning to implement RtI and already understand the components and the practical application of the process.

5.7.17 Needs assessment focused on functional requirements of RtI by organizational level

Between 2008 and 2010, the administrators have jumped from disagreeing to agreeing that they have "RtI experts" on their faculties (AQ1, 1.94 to 3.02, p = .000). At the beginning of the project and at the end of 2010, administrators thought "most teachers have been doing RtI for a year or more" although the unanimity of that conclusion declines (AQ2, 3.00 to 2.05, p = .001). The decline may reflect teacher turnover but in any case, it is clear that the pilot schools have a substantial reservoir of RtI-experienced teachers.

Teachers report steady growth in the RtI-related organizational capability of their schools. Some of the schools that joined the pilot had already been using RtI procedures. Still, across the pilot schools, teachers reported progress in the number of their colleagues who "…have been doing RtI for a year or more." (Q3, 1.95 to 3.08, p = .000, n = 190). Teachers believe that more of their colleagues have become "RtI experts". ("I don't think any of my colleagues could be described as 'RtI experts'." Q 2, 2.84 to 2.42, p = .000, n = 189).

The average teacher in a pilot school, seems open to new ideas: they reject the statement, "We already know what works and doesn't work in this school" (TQ25, 2.23 to 1.92, p = .000, n = 185). Comparison group teachers are even more adamant in rejecting that conclusion (TQ11, 2.56 to 1.95, p = .000). The administrators are less

consistent about whether or not "We already know what works and doesn't work in this school"; they have agreed, disagreed and then agreed at the three intervals of data collection (AQ16).

Teachers do not have a consistent estimate of how much their school has done for special education students. In 2008, they were not satisfied with school efforts – they disagreed that "This school has done everything it can to improve the academic achievement of special education students". In 2010, they agreed – 'yes, we've done all we can' (TQ63). The difference may reflect their positive conclusions about the impact of RtI.

A similar question (without the emphasis on "academic achievement") suggests that teachers in the pilot schools have been consistently supportive about special needs students (TQ28, "For special needs students, we have already been doing everything possible in this school", 2.17 "disagree" to 1.96 "disagree", p = .001, n = 186). Comparison group teachers reach a different conclusion – they believe that their schools have done "everything possible" (TQ12, 2.51 to 2.01, p = .000). The discrepancy may reflect the heightened awareness among the pilot school teachers about the distribution and variation of student needs.

Similarly, the teacher respondents have been consistently supportive of how hard their special education colleagues work (TQ62). While teachers in the RtI schools "agree" with crediting their colleagues hard work with special education, the comparison group teachers "strongly agree" (TA20, 3.41 to 3.16, p = .000).

Principals appear to be even more determined at the end of the second year of the pilot than they were at the beginning to emphasize special needs students (Q18, 2.00 to 2.43). However, based on qualitative findings, the number of schools that showed evidence of a needs assessment dropped from four in 2008-09 to three in 2009-10.

5.7.18 Function-specific teams are recruited and tasked

This is another of the components that was emphasized by the Department of Education and taken to heart by the pilot schools. Grade level teams are a common device particularly for grouping students. Teachers in the pilot schools have always been clear that their schools had an RtI leadership team (TQ 11). The majority of the principals have consistently reported that their schools were equipped with RtI leadership teams (although the 2008-09 analysis documented that some schools, in fact, did not have such teams) (AQ7). At the end of year two, 11 schools demonstrated that they had formed and tasked function-specific teams, whereas 12 reported the same in year one.

5.7.19 Changes to supervision and evaluation that support RtI

Exhortation, by itself, has not often been sufficient to support change in classroom instruction (rather, 'What gets measured, gets done'). In five of the schools in 2008-09, based on our field data collection and analysis, we concluded that the principal had added attention to RtI to faculty supervision procedures. But in 2009-10, only four of the

schools demonstrated these changes. Our qualitative findings contradict the web-survey responses we received.

The web surveys asked administrators how, if at all, they followed through with supervisory or managerial routines to encourage RtI in classrooms. Over the pilot period, principals have become more assertive about supervising teachers (AQ9, “If a class was not performing, I increased my supervision of that teacher this year”, 3.12 “agree” to 3.25 “strong agree”). And, each year, the principals have reported that “I have changed my personal supervision and evaluation procedures to reflect the demands that RtI makes on teachers (AQ10).

More classroom teachers at the end of the two years take responsibility for pupil diagnosis and referral (rather than shifting that responsibility to “specialists”) than at the beginning (TQ14, 2.21 to 2.02, p = .002, n = 187). Administrators had never reported that curriculum decisions were “…concentrated with administrators and special experts” and they have continued that belief (AQ19, 2.06 to 2.03).

5.8 Student outcomes

5.8.1 Student achievement, as measured by state test scores

The tables below present *Standards of Learning* percent proficient values for each pilot site in the past two years. For both English and Math, six of the pilot sites demonstrated improvement in the second year of the RtI pilot [see tables, next page].

Table 5. English *Standards of Learning* percent passing, Pilot sites 2008-09 and 2009-10 (Listed by most-to-least increase in percent passing)

School division	Pilot site	08-09	09-10	Difference
Pulaski County	Pulaski Elementary	77	90	+13
Shenandoah County	Sandy Hook Elementary	79	86	+7
Gloucester County	Petsworth Elementary	86	91	+5
Loudon County	John W. Tolbert Elementary	89	92	+3
Smyth County	Marion Primary	79	81	+2
Augusta County	Beverley Manor Elementary	83	84	+1
Bath County	Valley Elementary	90	90	-
Martinsville City	Albert Harris Elementary	87	84	-3
Alleghany County	Mountain View Elementary	84	80	-4
Prince William County	Mary Williams Elementary	86	82	-4
Mecklenburg County	Chase City Elementary	91	87	-4
Northampton County	Occohannock Elementary	78	73	-5
Manassas Park City	Cougar Elementary	90	82	-8
Prince Edward County	Prince Edward Elementary	82	71	-11
Portsmouth City	Simonsdale Elementary	96	84	-12
	Total percent passing increase			**-20**

Table 6. Math *Standards of Learning* percent passing, Pilot sites 2008-09 and 2009-10 (Listed from most-to-least increase in percent passing)

School division	Pilot site	08-09	09-10	Difference
Augusta County	Beverley Manor Elementary	81	89	+8
Gloucester County	Petsworth Elementary	89	96	+7
Shenandoah County	Sandy Hook Elementary	83	88	+5
Pulaski County	Pulaski Elementary	87	91	+4
Northampton County	Occohannock Elementary	79	82	+3
Alleghany County	Mountain View Elementary	86	87	+1
Martinsville City	Albert Harris Elementary	91	89	-2
Loudon County	John W. Tolbert Elementary	92	90	-2
Prince Edward County	Prince Edward Elementary	83	80	-3
Mecklenburg County	Chase City Elementary	98	95	-3
Prince William County	Mary Williams Elementary	86	89	-3
Manassas Park City	Cougar Elementary	89	85	-4
Smyth County	Marion Primary	83	87	-4
Bath County	Valley Elementary	89	85	-4
Portsmouth City	Simonsdale Elementary	89	83	-6
	Total percent passing increase			**-3**

The tables below present state test performance in the pilot sites compared to their "matched" comparison school. The values indicate that students in one pilot site out-performed the comparison schools in 2008-09. But in 2009-10, four pilot sites students outperformed their comparison school.

Table 7. English *Standards of Learning* percent passing, Pilot and comparison sites, 2008-09

Pilot site	08-09	08-09	'Matched' comparison site	Pilot site outperformed comparison site? (✓ if yes)
Mountain View Elementary	84	88	Boiling Spring Elementary	
Beverley Manor Elementary	83	90	Ladd Elementary	
Petsworth Elementary	86	95	Thomas C. Walker Elementary	
Albert Harris Elementary	87	91	Mount Olivet Elementary	
John W. Tolbert Elementary	89	94	Seldens Landing Elementary	
Prince Edward Elementary	82	85	Victoria Elementary	
Occohannock Elementary	78	80	Kiptopeke Elementary	
Simonsdale Elementary	96	90	Olive Branch Elementary	✓
Mary Williams Elementary	86	89	Suella G. Ellis Elementary School	
Pulaski Elementary	77	86	Dublin Elementary	
Sandy Hook Elementary	79	87	W.W. Robinson Elementary	

Table 8. Math *Standards of Learning* percent passing, Pilot and comparison sites, 2009-10

Pilot site	08-09	09-10	'Matched' comparison site	Pilot site outperformed comparison site? (✓ if yes)
Mountain View Elementary	80	90	Boiling Spring Elementary	
Beverley Manor Elementary	84	88	Ladd Elementary	
Petsworth Elementary	91	95	Thomas C. Walker Elementary	
Albert Harris Elementary	84	86	Mount Olivet Elementary	
John W. Tolbert	92	91	Seldens Landing	✓

Elementary			Elementary	
Prince Edward Elementary	71	82	Victoria Elementary	
Occohannock Elementary	73	69	Kiptopeke Elementary	✓
Simonsdale Elementary	84	89	Olive Branch Elementary	
Mary Williams Elementary	82	79	Suella G. Ellis Elementary School	✓
Pulaski Elementary	90	88	Dublin Elementary	✓
Sandy Hook Elementary	86	86	W.W. Robinson Elementary	

5.8.2 Student progress monitoring and reporting in the pilot sites

From each pilot site, we requested individual student records from progress monitoring tools and databases. The pilot sites are using a variety of programs and tools for progress monitoring and measurement of student achievement; we analyzed only those student records that were comparable to one another. We analyzed ninety-two student records from nine different schools.

Best practices in RTI suggest that ongoing data collection and monitoring is essential for effective intervention. Further, data displays using line graphs that contain both aimlines (line showing the trend of expected progress) and individual trendlines (a line that projects the student's performance into the future given the present rate of progress) are recommended

There is a wide and concerning variation in data collection and analysis. Eight of the schools used line graphs for all of their students; one school used line graphs for most of its students but used progress monitoring systems that produced no graphs at all for some of the students. Eight of the nine schools that forwarded line graphs used *AIMSweb*. *AIMSweb* automatically presents the actual student data points as well as an aimline and a trendline for the individual data.

One school appears to be creating their own graphs, probably using *Excel*. Their graphs contain the actual data points for progress monitoring and one other line. Most of the time, it appears that the second line is an aimline of expected progress; however, in some cases, the line appears to be the automatically generated regression line for the included data. It is difficult to tell what the line represents in some cases. Nevertheless, they are representing the on-going progress monitoring for their students.

Two schools forwarded *AIMSweb* graphics, but are using a box plot display to show the individual's performance relative to a reference group on administrations of screenings. It does not appear from this data that the school is engaging in on-going progress monitoring, but they are using data from quarterly or tri-annual screenings of large groups. Schools reporting data in formats other than line graphs had one or two data points only for their students.

Four schools had unequivocal evidence students were involved in RtI and also indicated the tier in which the student was currently working. One school is keeping track of the students in groups, rather than disaggregating the data by individuals. The other schools provided data that was consistent with RtI but did not explicitly state the student was involved in RtI at a given level.

We looked for clear goal statements for the targeted skills. We did not code statements such as "improve reading" as goals. Statements such as "will correctly decode 1st grade reading passages at a rate of 60 words per minute" were considered to be goals because they specified the behavior and the performance goal. All of the schools producing line graphs had clearly stated goals. The *AIMSweb* program inserts the goal directly into the graph page. Three schools reported data in a manner where the goals for individuals were unclear. Most of the students in the data were assigned only one goal. There were a small number of students working on two or three goals. No student in this group was working on more than three goals.

After the goals, the particular methods employed to reach the goals are important. The question that guided coding of this section was, "Are instructional methods stated, if so, what kinds of things are present?" No information about specific methods was reported by most of the schools.

When schools reported instructional information, it came in one of four forms: (a) content statements (e.g., Fry words; coded as not an intervention method); (b) reference to a specific measurement tool (e.g., improve performance on the MAZE; coded as not an intervention method); (c) reference to a curricular program (e.g., Wilson Reading; not coded as an intervention because it is too general); and (d) specific instructional routines (e.g., working with flash cards of sight words; coded as an intervention because there is some indication of materials or procedures). Intervention information was reported for only three individual student goals out of the 92 students. Specific curricula were mentioned 13 times. Curricula included *Wilson Reading, Reading Recovery, Direct Instruction Reading, SRA*, and a small number of others.

Interventions in one school were assigned to the tier and not the individual student. Nevertheless, the information that they provided contained clear descriptions of the interventions activities that they employed in each tier. They also provided a list of RTI students assigned to each tier.

The amount of time that individual students spent in RtI is another factor that could affect the effectiveness of the implementation. Most of the students had no time indications in the documents we received. When allocated time was indicated, it was in the range of 20 to 50 minutes, three to five times per week. One student was indicated as receiving 1.25 hours (75 minutes), five days per week on reading comprehension and an additional 20 minutes of instruction, two days per week in reading decoding. When time was indicated, it appeared to be associated with specific intervention periods (e.g., the school's *Power-Up* session).

RtI is supposed to be a time-limited effort. When tiered instruction continues for a long duration without monitoring, this may be preventing students with disabilities from actually being identified for services through an IEP. The question that guided coding in this section was, “Is there a clear indication of the time before formal review of the student is to take place?” The review time could be indicated by (a) a number of days, (b) number of weeks, or (c) having a scheduled meeting date. All of the schools reporting data with line graphs had scheduled review dates recorded for each individual student. *AIMSweb* requests a review date and encodes it as a certain number of weeks. One school reviews each goal every eight weeks. The review dates for each student at another school was set at 38 weeks. The rest of the *AIMSweb* line graph schools had review dates that were variable by individual student goals with reviews set for between eight and 39.6 weeks.

The students at one school had specific review dates scheduled in their files. No indications of review dates were included in the files from four of the nine schools (that forwarded data).

Summary

- Schools employing line graphs are showing clear evidence on continuous progress monitoring.
- Schools that use no graphic display of data or that use box plots of the data show no evidence of on-going progress monitoring.
- Schools using line graphs to display their progress monitoring data have an average of more than six data points per student.
- Schools using no graph or box plot displays have only one or two data points per student.
    - Continuous progress monitoring requires one to three data points per week.
    - Having only two or three data points per year suggests that RtI is not individualized and simply providing a different class for a group of students.
- Most schools that use a commercial program for data management employ *AIMSweb*. Other programs include *PALS* and *Star Reading*.
    - Graphing data is an automatic part of *AIMSweb*.
    - None of the *PALS* or *Star Reading* students had graphic displays of data.
- Few student documents clearly indicated that the individual was involved in RtI and even fewer of these made a clear statement of the student’s current tier.
- Most students had clear goals, but few had clear descriptions of instructional methods or indications of allocated instructional time.
- Most students had clearly established indicators of RtI review dates.
    - Reviews every eight to ten weeks seem reasonable given the recommendations of RtI researchers.
    - A large number of students had review dates that were a year away from the creation of the goal. This is too long. While the school can review the student any time before then, it is unclear in this data that they will do so.

- It is unclear how a student slated to receive RtI intervention for an entire year with no indication of review is experiencing the benefits of sensitive measurement and instructional flexibility that are the hallmarks of RtI.
- Schools with students in RtI for long periods of time may be providing "special education, lite" rather than identifying each eligible student.

5.8.3 Special education referrals

The tables below represent the reported number of special education referrals for pilot sites in the past three academic years. Eight of the 13 pilot sites from which we received complete data experienced decreases in the number of special education referrals in 2008-09 (the planning year). In 2009-10 (the implementation year), seven of the 13 reported decreases in the number of referrals compared to the year before.

Table 9. Special Education Referrals - Pilot Schools, 2007-08 and 2008-09 (listed from most-to-least decrease)

Division	School	2007-08	2008-09	Difference
Bath County	Valley	25	9	-16
Pulaski County	Pulaski	21	12	-9
Shenandoah County	Sandy Hook	18	10	-8
Gloucester County	Petsworth	7	1	-6
Northampton County	Occohannock	15	10	-5
Prince William County	Mary Williams	18	14	-4
Prince Edward County	Prince Edward	10	6	-4
Portsmouth City	Simonsdale	7	5	-2
Augusta County	Beverley Manor	0	0	-
Mecklenburg County	Chase City	5	7	+2
Martinsville City	Albert Harris	7	13	+6
Manassas Park City	Cougar	3	12	+9
Loudon County	John Tolbert	21	31	+10

Table 10. Special Education Referrals - Pilot Schools, 2008-09 and 2009-10 (listed from most-to-least decrease)				
Division	**School**	**2008-09**	**2009-10**	**Difference**
Bath County	Valley	9	2	-7
Mecklenburg County	Chase City	7	4	-3
Prince Edward County	Prince Edward	6	4	-2
Northampton County	Occohannock	10	8	-2
Loudon County	John Tolbert	31	29	-2
Prince William County	Mary Williams	14	13	-1
Portsmouth City	Simonsdale	5	4	-1
Gloucester County	Petsworth	1	1	-
Augusta County	Beverley Manor	0	1	+1
Martinsville City	Albert Harris	13	18	+5
Pulaski County	Pulaski	12	20	+8
Shenandoah County	Sandy Hook	10	21	+11
Manassas Park City	Cougar	12	44	+32

5.8.4 Discipline referrals

The following tables contain the reported number of discipline referrals in each pilot site for the past three years. We received complete data from 13 of the pilot sites. When comparing 2007-08 to 2008-09, the schools reported an average of 33 less discipline referrals. And when comparing 2008-09 to 2009-10, the schools reported an average of 74 less referrals. We recognize that schools have different definitions of “discipline,” but these values still suggest that there have been decreases in discipline referrals that occur simultaneously with RtI implementation.

Table 11. Discipline referrals - Pilot schools, 2007-08 and 2008-09 (listed from most-to-least decrease)				
Division	**School**	**2007-08**	**2008-09**	**Difference**
Prince Edward County	Prince Edward	721	470	-251
Martinsville City	Albert Harris	283	113	-170
Augusta County	Beverley Manor	161	8	-153
Mecklenburg County	Chase City	227	90	-137
Smyth County	Marion	147	98	-49
Bath County	Valley	146	132	-14
Prince William County	Mary Williams	81	70	-11
Gloucester County	Petsworth	31	22	-9
Manassas Park City	Cougar	7	2	-5
Portsmouth City	Simonsdale	25	22	-3
Shenandoah County	Sandy Hook	390	408	+18
Loudon County	John Tolbert	1119	1285	+166
Northampton County	Occohannock	560	744	+184
	Mean	300	266	-33

Table 12. Discipline referrals - Pilot schools, 2008-09 and 2009-10 (listed from most-to-least decrease)				
Division	**School**	**2008-09**	**2009-10**	**Difference**
Loudon County	John Tolbert	1285	128	-1157
Northampton County	Occohannock	744	118	-626
Shenandoah County	Sandy Hook	408	166	-242
Bath County	Valley	132	68	-64
Prince William County	Mary Williams	70	45	-25
Portsmouth City	Simonsdale	22	21	-1
Manassas Park City	Cougar	2	3	+1
Mecklenburg County	Chase City	90	120	+30
Gloucester County	Petsworth	22	58	+36
Martinsville City	Albert Harris	113	238	+125
Augusta County	Beverley Manor	8	153	+145
Smyth County	Marion	98	484	+386
Prince Edward County	Prince Edward	470	897	+427
	Mean	266	192	-74

6.0 THE ADDITION OF SCHOOL COACHES TO THE RTI IMPLEMENTATION FRAMEWORK

In the end of the first year of the pilot (2008-09), the VDoE chose four coaches to provide assistance with implementation activities in each of the pilot schools. Each of these individuals has extensive experience working in schools and substantial knowledge about implementing Response to Intervention. The coaches were each assigned 3 or 4 pilot sites for which they would be responsible, and they were tasked to visit each school, conduct a needs assessment and work with the RtI teams to achieve progress with implementation.

The role of the RtI pilot coach is to provide “differentiated” support and resources for each RtI pilot school, as needed. Coaches are tasked to serve as a liaison between the Virginia Department of Education and the school. The coaches are intended to provide pilot schools with individual help and support in a timely fashion. Coaches are also supposed to keep the DOE informed of how each RtI pilot school is progressing. Coaches are tasked with helping schools problem solve RtI implementation, connect schools to effective resources, and help plan professional development. Some examples of how coaches are intended to help pilot schools include facilitating the development of an effective master schedule so that intervention time can be included, helping schools research effective, evidence based interventions, providing guidance in how to most effectively use school staff for Tier 2 and Tier 3 intervention time, and helping to manage progress monitoring.

When asked what qualities they are looking for in a coach, the schools responded with the following:

- Knowledgeable with RtI implementation fidelity
- Resourceful and encouraging
- Knowledgeable about teams and ideas for improvement
- Constructively critical
- Assist in identifying strategies to reach goals
- Ability to motivate
- Experience with RtI
- Supportive and encouraging
- Objective
- Accessible liaison among state, division, school and classroom

We asked the coaches how they were assisting their schools with implementation and below are examples of the responses we received:

- Classroom observations and teacher consultations regarding student-level data
- Reviewed end-of-year data with the principal
- Planned and conducted staff development
- Observation of tiered instruction
- Meeting with central office leadership for division planning
- Work with school on student forms and documentation
- Facilitated a team meeting
- Facilitated discussion about development of an RtI process flowchart and continued curriculum development
- Reviewed comparative data from past two years regarding decrease in Special Education referrals
- Observed and reviewed consolidation of resources and interventions
- Met with division level representatives to build consensus

7.0 SUMMARY OF PARTICIPANT EVALUATIONS FROM ALL TRAINING SESSIONS

The data in this section are from teacher and administrator participants in the state-sponsored training (beginning in October 2009). This section reinforces the conclusion reached elsewhere – pilot school teachers want practical, operational, "Do this Tuesday" recommendations. The trainings successfully created awareness and built enthusiasm and consensus. The sessions have facilitated planning and team building. Teachers now know what they are supposed to do, they do not yet know how they are supposed to accomplish those RtI components. For example, they understand the idea of tiered instruction: they do not yet have copies of a particular publisher's text materials that are appropriate for Tier 2, small group work in 3rd grade mathematics. Moreover, the small numbers of students at the successive tiers makes it impractical and uneconomical for each school to search out, vet, and adopt individual texts.

7.1 Summary of training session quality ratings

Overall, the trainings were rated positively, with the exception of the November 19, 2008 ("Universal Screening & CBMs") session and the April 21, 2010 ("Understanding the process of intervention selection and implementation") sessions.

Table 15. Responses to "Overall, how would you rate the quality of today's training?"

	Oct. 3, 2008	Oct. 21, 2008	Nov. 19, 2008	Jan. 29, 2009	Feb. 26, 2009	Apr. 1, 2009	Apr. 30, 2009	June 23, 2009	April 21/22 2010	June 21/22 2010
Very useful	69%	44%	18%	37%	37%	77%	33%	53%	8%	42%
Useful	29%	48%	42%	58%	45%	15%	56%	45%	38%	44%
Acceptable	2%	8%	24%	5%	17%	7%	10%	2%	54%	7%
Poor	-	-	11%	-	1%	1%	2%	-	-	7%

7.2 Number of questionnaire respondents at each training session

The number of respondents varied, and depended on how many training participants stayed until the end of the sessions, when the evaluation forms were distributed.

Table 16. Number of participant respondents by training session date

	Oct. 3, 2008	Oct. 21, 2008	Nov. 19, 2008	Jan. 29, 2009	Feb. 26, 2009	Apr. 1, 2009	Apr. 30, 2009	June 23, 2009	April 21/22 2010	June 21/22 2010
Number of respondents	48	95	72	64	80	90	90	40	62	46

7.3 Summary of feedback from participants

In February, some participants indicated that the information presented in training sessions was redundant. When asked what specific topics they would like to learn about at future RtI trainings, participants most frequently responded with interventions, the

desire to have more hands-on examples of progress monitoring, and to be guided in real-time through recommended websites. While they appreciated all the time and information from Culpeper and Orange counties, the pilot schools would like to hear from other divisions and Tom Jenkins. People found the case studies very helpful and would like to hear more specifics about administering interventions across the tiers. They said they are ready for more guidance and examples of successful scheduling and implementation of "Power Up" time. More than one person suggested using webinars for training content to reduce travel costs, promote technology and "green" practices, and to allow for more attendance.

Most respondents enjoyed breakout sessions with other schools and the only suggestion was to construct one group of school-level administrators so that they could communicate about specific issues. Participants greatly enjoyed the April 2009 sessions with Steven Kukic. Their comments included "I enjoyed his philosophy," "He was a great speaker," "Best training since July," and "I wish we had him for all our training sessions." They appreciated his resource list, however, they wished he had differentiated more between the upper tiers.

In April 2009, schools were still requesting more researched-based models of interventions, specifically with reading, behavior, and math. They were interested in improving instruction at Tier 1 and learning about universal screeners for math. District personnel inquired about how to expand RtI at the district level. One reading specialist suggested covering coaching as a topic - "particularly for teachers who are struggling in the core." Another participant asked for help with a data warehouse for academics.

At the end of April 2009, we asked pilot sites what topics they would like future training to focus on. The most frequent responses were as follows:

- Using data analysis with case studies
- How to monitor behavior and work it into the RtI process
- Technical issues with local norming
- Parental involvement in RtI
- Determining which CBMs to use
- Implications for special education
- Merging ICT and RtI
- Academic warehouses that merge data
- Specific instructional strategies for targeting learning deficits/needs
- Scheduling specialists to maximize their impact in the RtI model
- Mathematics instruction
- Structuring school-level meetings
- How to manage the tiers
- Progress monitoring
- More feedback on blueprints
- Information from other pilot schools
- Progress monitoring
- Research on scientifically based interventions

- RtI and Title I
- RtI at the district level

Later in 2010, schools said they would like:

- To see examples of intervention manuals/matrices that are used by others
- More tools for teachers to identify/develop/implement effective interventions
- A clearer picture of the progress of the other pilot schools
- Panel discussions with a member of each pilot school
- Consultation on the master schedule in order to maximize their resources

And in June 2010, pilot sites requested that future trainings focus on:

- Allow time for reflection
- Differentiation in all tiers
- Discussion with other schools
- Extending pilot to district implementation
- Hands on practice with strategies
- Interventions that meet VA standards
- Math interventions
- Positive school wide behavior
- School scheduling for tiered intervention
- Skills to address problem areas
- Specific strategies
- Using existing resources

7.4 Conclusions based on training session participant feedback

The demand for practical, classroom-based, teaching-specific “things to do Tuesday” was apparent among participants as they and their schools moved from planning to implementation. Many teachers and administrators wanted to know which specific interventions they should use at each tier. Participants also want to learn more about interventions for Mathematics. And, respondents were interested in finding out more about their progress; through additional blueprint feedback sessions and learning more about how other schools are progressing. Some participants suggested “round-table” discussions with representatives from several schools to share ideas and strategies for implementing RtI successfully.

Overall, people want to know more about RtI and mathematics, what good core instruction looks like, and concrete ideas for all tiers. Additionally, they want to know more about what technology to use and what to look for in technology; how to develop norms, and less on PALS and more on progress monitoring. They really want concrete examples of what works and how to implement it. They want time to speak to other schools about what is working for them and to gather new ideas. They want to know how long some of these things take.

In year two, the trainings included time for schools to collaborate, communicate, and work with their new school coaches. Still, participants voiced interest in learning more about interventions (especially for Math), differentiation, behavior, the use of existing resources for RtI, and creating the most efficient master schedule.

8.0 COMMENDATIONS AND RECOMMENDATIONS[12]

8.1 Commendations

8.1.1 Commendations – Virginia Department of Education

The Department of Education has sustained this initiative over three critical years (including the department's internal planning). That duration has allowed the first pilot schools to phase in their work and has encouraged a new wave of schools to adopt these improvements. While stability, sustained effort, and continuing support may seem ordinary, they are in fact extraordinary as witnessed by the melancholy history of scores of school reforms that have never had enough continuity to survive and flourish. Maintaining initiatives in any large educating jurisdiction requires exceptional professional and personal skills.

Second, the Department has been responsive to division and school requests. One example is the provision of mobile technology to facilitate data collection, analysis, and reporting. Another example is supplementing the centralized, statewide training sessions with on-site coaches. For the continuing schools, the state's professional development has moved from awareness to capacity-building.

8.1.2 Commendations – School divisions and schools

RtI was launched as a partnership between the state and participating school divisions. If the state's commitment to these techniques has remained constant so, for the most part, has the divisions'. That local commitment to RtI is the more remarkable because it has been pursued in an environment of budget cuts and staffing reductions.

In 2008, the Department listed its expectations for local implementation. The table below [next page] summarizes those early criteria against the two-year record of achievement shared by the schools, divisions and the state.

[12] Interactive, Inc. recommends that this section be refined collaboratively. Before we finalize conclusions, we look forward to correcting matters of fact with Department staff. That is one purpose of this discussion draft. After the Department and Interactive, Inc. are satisfied with this narrative, we will summarize our conclusions and draft recommendations for further consideration.

Table 17. Department Expectations and Division/School Performance 2010	
VDoE expectations, 2008	**Pilot schools & divisions at the end of the year 2009-10**
Strong school-based and school division leadership for effective and consistent instruction, intervention, and professional development	Largely in place.
Comprehensive intervention approaches for meeting the needs of students	New capacity, new techniques through RtI.
Well-defined, scientifically-based core instruction in the general classroom	Being accomplished through Tier 1 and Tier 2 procedures.
A commitment to universal screening and individual student progress monitoring for the systematic and continuous collection of intervention data	Data collection nearly universal. Continuing challenges to analysis and practice implications of data.
Collaborative, problem solving processes and practices at the school and classroom level	Strong, nearly universal and sustained implementation.
School improvement plan that includes the components of successful RtI implementation	RtI is being implemented across general education, Title 1 and special education.

8.2 Recommendations

8.2.1 Mathematics. This area needs priority attention first from the state, then from division resources and finally at the school level.

8.2.2 Behavior. Interactive, Inc. notes the decline in discipline referrals associated with the introduction of RtI. That is more likely due to the welcome effect of better instruction pre-empting students' acting out than it is to the application of RtI procedures and insights to this area. That work remains to be done.

8.2.3 The Depth of RtI implementation

The challenge remains to move classrooms along the continuum of universal screening ➔ core instruction ➔ local norming ➔ progress monitoring ➔ group-based analysis ➔ grouping and re-grouping ➔ differentiating instruction.

8.2.4 Evidence-based instruction

The RtI process is outside of the official student record in many schools. A student could move from one school to another and the receiving district might not be informed of the problems the student was having or the supports in place for that student. Interactive, Inc.'s review of the stock of paper records to which we had access suggests that, even within the RtI framework, school record keeping varies, the amount of analysis varies and the practice-changing uses to which the analysis is put also varies. These matters are complicated by local variations in language and services/supports offered. Some districts have a 'shorthand' for describing what they are doing with RtI. We recognize that tracking the records of hundreds of students, scores of groups, hundreds of presenting conditions coupled to grouping and instructional decisions is a formidable logistic challenge. But it is at the heart of RtI and its benefits. The challenge

of improving this area attaches to Interactive, Inc. as the evaluator, to the state as the sponsor and to the divisions, schools, and classrooms.

Getting a more valid and reliable measure of how pilot schools are using these records should be a matter for priority discussion in connection with state services (e.g., the coaches, the next wave of adopting schools) and the evaluation.

8.2.5 The Specificity of curriculum materials

There is very little practical detail available in the schools to describe the classroom-based features of interventions, a point that applies *a fortiori* to math and to interventions by the escalating sequence of Tiers. The absence of detailed teacher-ready, classroom-ready intervention "packages" showed up in the field interviews and especially in the teacher responses to the state-provided professional development. This expressed need has been consistent across the two years and is certain to be multiplied as more schools begin to implement RtI. We recognize the state's position on local determination of curriculum. Nonetheless, there may be ways for the coaches to address this need or for the participating schools and divisions to collaborate on recommended materials.

8.2.6 Organizing considerations at the school and classroom level

RtI was intentionally launched with initiation responsibilities concentrated in school teams. As schools move from implementation to institutionalization (from starting something to sustaining it), the value of broader involvement grows. Our field visits indicate that continuing the team focus (exclusively) relegates teachers to passive observers ("follow-the-leader" at best) and de-motivates them. Broader involvement motivates them. The absence of active involvement is critical as faculties move from awareness to implementation to institutionalization. It is an accomplishment for teachers to know what RtI is. The next step is knowing what to do. And the final step is acting on that knowledge.

Now that awareness has been accomplished, behavior change should be a priority and that is the responsibility of the coaches plus school-level leadership.

8.2.7 Coaches

The coaches kept cursory logs of what they did during their visits. The first signal of concern is the great variation in the number of visits. The second signal is the program/practice focus represented by the log entries. It is unclear how assertive, practical, applied or systemic the coaches are and for how many individuals or for what functions. The coaches' work in schools resembles the conventional work of teachers in conventional schools – something that goes on behind closed classroom doors. If the coaches have not yet engaged their schools, the uncertainty of the schools about what the coaches are to do, what they can call on the coaches to provide simply increases the disconnect. Interactive, Inc. recommends that the VDoE manage the coaches' services more systematically.

8.2.8 RtI and school improvement

In 2008, the department expected to find RtI reflected in each school's improvement plan ("School improvement plan that includes the components of successful RtI implementation", Trulove). On the evidence so far collected and analyzed, it is unclear how much RtI is contributing to school improvement and vice versa. Some schools say they are integrating RtI into their already existing ICT, School improvement, or Title I frameworks. In practice, that sometimes means merely renaming components or changing job titles instead of restructuring the schools' processes.

A similar set of questions arises about the relation between Title 1 and RtI. Is the RtI strategy maximizing Title 1 resources? Are the two initiatives aligned at the state, division, and school level?

8.2.9 Moving the pilot schools from initiation to implementation to institutionalization

RtI may be vulnerable to the fate of virtually every school improvement project – it may get implemented and then wither or be replaced. We note that in the 2009 national survey of RtI adoption, 69% of the districts reported only partial implementation. This is work yet to be done. An initiative becomes institutionalized, stabilized to the extent that it is reflected in the following:

- Board policies
- Division planning
- Curriculum management
- Teacher supervision and evaluation
- Personnel management
- Program evaluation
- Budget management

To date, we are unaware of divisions that have moved RtI to that stage.

8.2.10 Increasing the scale of the RtI pilot: VDoE selection of divisions and schools to be included in the continuing RtI initiative

The selection criteria and process can be used to match selected schools to available resources. For example, although RtI is associated with school improvement results, it is not a school turn-around strategy. There may be a minimum level of functioning that can be discerned from proposals and used to increase the probability that RtI is a good fit with any candidate school's next steps in improvement.

8.2.11 Year 3 evaluation implications

In the second year, with the assistance of the VDoE, Interactive, Inc. added a group of non-RtI comparison schools to the analysis. The text reports differences some of which are summarized below.

Table 18. Pilot vs. Control School Advantages in Selected Areas		
Area	Pilot	Control
Reading (2009-10) performance on SOL's		✓
Math (2009-10) performance on SOL's		✓
Individual attention (student data)	✓	
Peers with academic difficulties (student data)	✓	
Less teacher-talk instruction (student data)		✓
More group work (student data)		✓
Increase in testing (student data)		✓
Increased movement to other classrooms (student data)		✓

The comparison between the pilot and control schools on both student achievement and on RtI indicators is puzzling. There are some possible explanations for the general pattern of control schools outperforming pilot schools.

1) Schools in the within-division matched pairs were not equivalent at baseline. It may be that schools volunteered themselves into the RtI pilot because they recognized their need for improvement. The schools that "stayed out" and that ended up as comparison schools were already performing at a higher level.
2) The practice of RtI is so desirable that control schools have adopted it – formally or informally.

Interactive, Inc. recommends continuing a comparison group although we wonder if the pattern above is an artifact of selection.

The lack of apparent relationships between the pilot and control schools raises questions for the interpretation of the current year and for the third year evaluation. The typical explanations for "no effects" are

1. The intervention wasn't implemented in the experimental/pilot group or it wasn't implemented with sufficient effect
2. The intervention was not sufficiently potent to have an effect
3. The two groups weren't equivalent at baseline, they didn't begin at the same place and one had an advantage over the other
4. The intervention happened in both the pilot and the comparison groups
5. The data used to measure results had nothing to do with the intervention (the metrics used to measure student performance are not the same as those used to measure teacher performance and the path from changing teachers to changing student test scores is concatenated)
6. The data used to measure results were more sensitive to other variables than to the intervention (this is the general issue with family background and school achievement).

Interactive, Inc. discounts the first two explanations above. We are continuing to look at the equivalence possibility. For year three we should (1) do what we can to increase equivalence, and (2) document the amount of RtI or RtI-like interventions in the nominally "non-RtI" comparison schools.

9.0 METHODS FOR YEAR 3

In the first two years of this analysis, we have used the State's 10-item framework as the armature for our analysis and conclusions. That is appropriate for teachers and administrators whose discourse proceeds with the language and concepts related to RtI. That framework is more problematic for students.

Using student responses to questionnaire items as indicators of school improvement properties requires interpretation. For example, the ability of RtI to promote "differentiated instruction" is important to educators but (asked in that language) meaningless to elementary students. Wording items so that they maximize readability further complicates data collection and interpretation. Nonetheless, students have relevant opinions and the impact of policies on students is intrinsically important. The next table displays the questionnaire language and how, in general, we interpreted the responses. (Not all the elements of RtI could be tapped with this respondent group.)

Table 19. RtI Components and Proxy Indicators from Student Questionnaire Items

RtI Components	Proxy Indicators/Questionnaire items
Progress monitoring	SQ1. I took a lot of tests this year
	SQ6. After I took a test, it took a week to find out how I did
Individual attention	SQ10. Every time I asked for help, my teacher helped me
	SQ8.My teacher had favorite students
Individual attention (negative indicator, not individualized)	SQ2. My teacher treated everyone the same this year
Team-based instruction	SQ20. I would rather have extra help from my teacher than from another teacher
	SQ12. I want help from my teacher, not from someone else
Inclusion	SQ17. Some kids in my class had a lot of trouble with their school work
	SQ7. My class got interrupted by other kids a lot
Inclusion/pull-out	SQ11. I had to move to different classrooms a lot
	SQ15. Sometimes I went to another classroom for help this year
	SQ21. If I was going to get extra help on my school work, I would rather stay in my class than go to another room to work
	SQ18. There are less than 10 kids in my class
Differentiated instruction	SQ9. Sometimes my teacher went too fast for me
	SQ13. Sometimes the teacher went too slow for me

Differentiated instruction (negative indicator, not differentiated)	SQ5. I mostly worked alone in my class this year
	SQ3. I worked mostly in groups in my class this year
	SQ4. My teacher talked most of the time in class this year
RtI, summary matching of student needs and instructional strategies	SQ23. Everybody in my class could do the work the teacher gave us this year
	SQ16. School was pretty easy for me this year
	SQ22. Mostly, school was pretty easy for me this year
	SQ14. I had a lot of trouble with my school work this year
	SQ19. If I was having trouble with my school work I would get extra help

Table note: Interactive, Inc. recognizes the limits of interpreting student common-language responses as indicators of RtI components. We have applied different techniques to maximize the interpretability of student responses. First, we kept the reading index at roughly the third grade level. Second, we measure different components by multiple items, for example, five items are interpreted as relevant to the students' overall experience of RtI (or in the case of comparison schools, their school in general). Third, we repeated items at different points in the web-survey – "I had to move to different rooms" and "…I would rather stay in my class than go to another room…" Fourth, for important phenomena, we used reverse valence items, for example, "I had a lot of trouble with school this year" and "School was pretty easy for me this year" or "My teacher went (too fast) (too slow) for me". The text further describes how we connected student responses to RtI components.

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APPENDICES

Appendix 1: Methods

Web-survey data have been analyzed using descriptive and inferential statistics. We report the average (mean) responses of students, teachers, and administrators. Where possible, we report and compare same-administrator, same- teacher responses from Fall 2008 and Spring 2010 using paired-samples *t*-tests.

Questionnaire responses were recorded for each teacher and administrator with the following values based on each item's possible responses:

1	Strongly disagree
2	Disagree
3	Agree
4	Strongly agree

Questionnaire responses were recorded for each student with the following values based on each item's possible responses:

1	No
2	Yes

For reporting purposes, the means are rounded to the nearest tenth on a Likert (agree/disagree) scale. Response intervals for the Likert and other response formats have been coded as follows:

1.00-1.74	Strongly disagree
1.75-2.49	Disagree
2.50-3.24	Agree
3.25-4.00	Strongly agree

1.00-1.49	No
1.50-2.00	Yes

Appendix 2: Instruments

Student web-survey, Spring 2010

	Yes	No
1. I took a lot of tests this year		
2. My teacher treated everyone the same this year		
3. I mostly worked in groups in my class this year		
4. My teacher talked most of the time in class this year.		
5. I mostly worked alone in my class this year		
6. After I took a test, it took a week to find out how I did		
7. The class got interrupted by other kids a lot		
8. My teacher had favorite students		
9. Sometimes the teacher went too fast for me		
10. Every time I asked for help, my teacher helped me		
11. I had to move to different classrooms a lot		
12. I want help from my teacher not from someone else.		
13. Sometimes the teacher went too slowly for me.		
14. I had lot of trouble with my school work this year.		
15. Sometimes, I went to another classroom for help this year.		
16. School was pretty easy for me this year.		
17. Some kids in my class had a lot of trouble with their school work.		
18. There are less than 10 kids in my class.		
19. If I was having trouble with my school work I would want to get extra help.		
20. I would rather have extra help from my teacher than from another teacher.		
21. If I was going to get extra help on my school work, I would rather stay in my class than go to another room to work.		
22. Mostly, school was pretty easy for me this year.		
23. Everybody in my class could do the work my teacher gave us this year.		

Teacher web-survey, Spring 2010

Dear Teacher:
Your school is part of a pilot test of Response-to-Intervention procedures in Virginia. Your help is central to understanding how well RtI works. All responses are confidential and no individuals will be identified. THANK YOU!

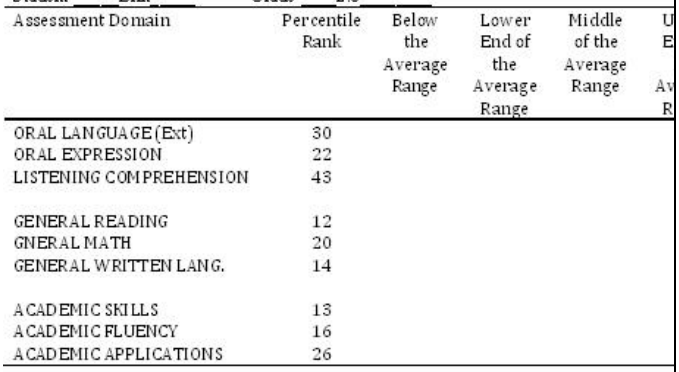
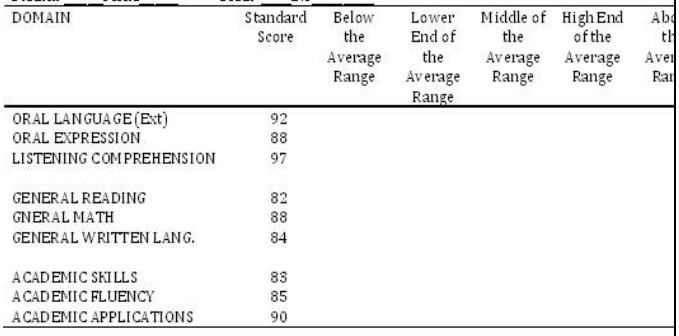
Please tell us how much you agree or disagree with each of the following statements. [Strongly agree to Strongly disagree]				
[*Standard Likert-scale format unless otherwise indicated]* Please tell us how much you agree or disagree with the following.	SA	A	D	S D
1. This school can be described as an "egg-crate", that is, teachers are in solo practice responsible for her or his classroom				
2. I don't think any of my colleagues could be described as "RtI experts"				
3. Most teachers have been doing RtI for a year or more				
4. I have been part of a team that analyzes student performance and decides on student placement and instruction this year				
5. This school is ready to serve as a model for other schools interested in RtI				
Implementation activities				
6. RtI was one of the top three priorities for this school's administration this year				
7. The press of other business kept us from finding time to plan as a faculty for RtI this year				
8. I have already had all the training I need to be successful with RtI				
9. I had the print materials I needed to be successful with RtI this year				
10. I had the computer-related technology I needed to be successful with RtI this year				
11. This school had an RtI leadership team this year				
12. I had the print materials I needed to teach special education students this year				
13. I had the computer-related technology I needed to teach special education students this year				
14. In my school, pupil diagnosis and referral was mainly the responsibility of specialists this year				
15. I was expected to teach from the same				

materials and processes that are supplied to all classrooms this year				
16. I had enough planning time to look at student records on a quarterly basis this year				
17. Decisions about diagnosing my students were made by a group of teachers, rather than just by me this year				
18. If my students were not performing, I was required to show supervisors evidence that I had changed my instructional process at least quarterly				
Business process re-engineering				
19. The RtI initiative was pushed by a small group in the school this year				
20. I did not have a choice about participating in RtI this year				
21. The way I kept student records this year (assessment scores, courses attempted, discipline referrals) has not changed since last year				
22. I did not have the time to implement RtI this year				
23. I was not able to implement RtI this year because I didn't get enough computer technology (for example, a handheld computer)				
24. There are schools where 'teachers get told' and schools where 'teachers are asked'. This school is in the 'get told' group				
25. We already knew what worked and didn't work in this school				
26. I am not persuaded that RtI made a major difference for my students this year				
27. Only a few of the other teachers in this school were enthusiastic about RtI this year				
28. For special needs students, we had already been doing everything possible in this school				
29. In this school, curriculum decision making was concentrated with administrators and specialists				
Factual knowledge about RtI				
	A	B	C	D
30. The effect of RtI on instruction should be: a. more whole class instruction b. more small group instruction c. minimal, no real changes in class structure d. more individual pull-out instruction				
31. Reading programs in RtI schools are more likely to employ				

a. code-based phonetic programs b. meaning-based whole language programs c. strict adherence to basal reading programs d. increased use of trade books for all students				
32. The statement that best reflects the relationship between reading fluency and reading comprehension is a. reading fluency directly predicts reading comprehension for all students b. reading fluency is unrelated to comprehension for most students c. reading fluency is a poor predictor of comprehension for English Language Learners but an adequate proxy for most other students d. reading fluency is the wrong focus, it's all about comprehension				
33. At which range of grade levels would the "Quantity Discrimination" task be most appropriate? In a Quantity Discrimination task, the student is presented with 63 pairs of numbers and asked to orally identify the larger of the two numbers for a period of one minute a. second grade to third grade b. first grade to second grade c. kindergarten to first grade d. pre-k to kindergarten				
34. At which range of grade levels would the "Missing Number" task be most appropriate? In the Missing Number task, a student is presented with 63 sequences of four numbers that involve counting by ones, fives or tens and asked to orally identify the missing number for a period of one minute. a. second grade to third grade b. first grade to second grade c. kindergarten to first grade d. pre-k to kindergarten				
35. Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. The four most recent data points fall above the goal line. The team should a. increase the performance goal				

b. revise the instructional program c. decrease the amount of instruction d. end tier II instruction and move the student to tier I				
36. Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. The four most recent data points fall below the goal line. The team should a. increase the performance goal b. revise the instructional program c. decrease the amount of instruction d. end tier II instruction and move the student to tier I				

37. Imagine that a team is monitoring a student's performance in Tier II reading or math. A goal line has been established and three weeks of instruction have occurred. Of the four most recent data points, two fall below the goal line and two fall above the goal line. The team should a. decrease the performance goal so the students can experience higher self-esteem b. increase the amount of instruction so that none of the data points fall below the goal line c. continue with the present program until a clearer trend is evident d. decrease the amount of instruction to see if the student can maintain their performance with less support				
38. If RtI is implemented with fidelity, the responsibility of carrying out interventions properly rests with a. special education personnel b. general education personnel c. reading and math specialists d. school counselors and school psychologists				
39. When planning to implement RtI, the first element a school should ensure is a. the general curriculum is reaching at least 80% of the students in the school b. sufficient funds are available for purchasing assessment materials and graphing services from a commercial vendor such as AIMSWeb c. paraprofessionals are available to work with students who are having trouble d. reading and math specialists are available to work with students who are having trouble				
Student ___Denise_____ Grade ___2.9_____ Assessment Domain / Grade Equivalent / Below the Average Range / Lower End of the Average Range / Middle of the Average Range / Up En t Ave Ra ORAL LANGUAGE (Ext) 3.0 ORAL EXPRESSION 2.1 LISTENING COMPREHENSION 3.5 GENERAL READING 2.5 GNERAL MATH 2.7 GENERAL WRITTEN LANG. 2.6 ACADEMIC SKILLS 2.5 ACADEMIC FLUENCY 2.7 ACADEMIC APPLICATIONS 1.1 40. I believe that when given only Tier I				

support, Denise will be a. successful with strong outcomes b. successful with typical outcomes for this grade level c. barely successful with lower than average scores d. unsuccessful and likely to move to another tier				
Student ___Erin___ Grade ___2.6___  41. I believe that when given only Tier I support, Erin will be a. successful with strong outcomes b. successful with typical outcomes for this grade level c. barely successful with lower than average scores d. unsuccessful and likely to move to another tier				
Student ___Fiona___ Grade ___2.8___  42. I believe that when given only Tier I support, Fiona will be a. successful with strong outcomes b. successful with typical outcomes for this grade level c. barely successful with lower than average scores d. unsuccessful and likely to move to another				

Assessment Domain	Percentile Rank	Below the Average Range	Lower End of the Average Range	Middle of the Average Range	U E Av R
ORAL LANGUAGE (Ext)	30				
ORAL EXPRESSION	22				
LISTENING COMPREHENSION	43				
GENERAL READING	12				
GNERAL MATH	20				
GENERAL WRITTEN LANG.	14				
ACADEMIC SKILLS	13				
ACADEMIC FLUENCY	16				
ACADEMIC APPLICATIONS	26				

DOMAIN	Standard Score	Below the Average Range	Lower End of the Average Range	Middle of the Average Range	High End of the Average Range	Abo th Aver Ran
ORAL LANGUAGE (Ext)	92					
ORAL EXPRESSION	88					
LISTENING COMPREHENSION	97					
GENERAL READING	82					
GNERAL MATH	88					
GENERAL WRITTEN LANG.	84					
ACADEMIC SKILLS	83					
ACADEMIC FLUENCY	85					
ACADEMIC APPLICATIONS	90					

tier				
Attitudes and opinions about RtI				
	SA	A	D	SD
48. RtI should be used for students with disabilities not for general education students				
49. If my teaching is aligned to the SOLs, nothing more should be required of me				
50. Tier 3 students should be grouped only with other similarly classified students				
51. Tier 3 students should be in self-contained classrooms				
52.. Testing all my students every month was not practical this year				
53. "RtI" is the same thing as "IEP"				
54. RtI was helpful for non-academic areas like behavior management this year				
55. RtI was only practical for high-incidence disabilities like mild mental retardation or emotional/behavioral disorders				
56. RtI is helpful for instruction in basic skills				
57. We already have more data than we can use in this school				
58. It is disruptive to change instructional groups in the middle of the year				
59. RtI is more about special education than core instruction				
60. I already know what my students need without having to constantly assess them				
61. My students need more time learning and less time spent testing				
62. My colleagues work hard to improve the academic achievement of special education students				
63. This school has done everything it can to improve the academic achievement of special education students				

Administrator web-survey, Spring 2010

Dear Principal:

Your school is part of a pilot test of Response-to-Intervention procedures in Virginia. Your help is central to understanding how well RtI works. All responses are confidential and no individuals will be identified. THANK YOU!

Please tell us how much you agree or disagree with each of the following statements. [Strongly agree to Strongly disagree]				
[*Standard Likert-scale format unless otherwise indicated]* Please tell us how much you agree or disagree with the following.	SA	A	D	S D
1. I don't think any of my teachers could currently be described as "RtI experts"				
2. Most teachers have been doing RtI for a year or more				
3. We used universal screening to test all students at the beginning of the year				
4. This school is ready to serve as a model for other schools interested in implementing RtI				
Implementation activities				
5. RtI was one of my top three priorities for this school year.				
6. The press of other business kept us from finding time to plan as a faculty this year.				
7. This school had an RtI leadership team this year.				
8. This school had the technology necessary to support RtI this year.				
9. If a class was not performing, I increased my supervision of that teacher this year				
10. I changed my personal supervision and evaluation procedures to reflect the demands that RtI made on teachers this year.				
Business process re-engineering				
11. The RtI initiative was pushed by a small group in the school this year.				
12. The way teachers keep student records (assessment scores, courses attempted, discipline referrals) has not changed since last year				
13. I did not have the time to implement RtI this year.				
14. This school was not be able to implement				

RtI without receiving more computer technology (for example, a handheld computer)				
15. There are schools where 'teachers get told' and schools where 'teachers are asked'. This school is in the 'get told' group				
16. We already know what works and doesn't work in this school				
17. Only a few of the teachers were enthusiastic about RtI this year.				
18. For special needs students, we had already been doing everything possible in this school				
19. In this school, curriculum decision making is concentrated with administrators and special experts				
20. It is not realistic to wait for all the teachers to agree before we introduce a change				