
Fairbanks North Star Borough School District

**Evaluation of
Response to Intervention (RTI)
2011-12 School Year**

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TABLE OF CONTENTS

Executive Summary	iii
Overview of Response to Intervention	1
Tier I Core Instruction	1
Tier I Outcomes: State Assessment Results.....	2
Tier I Outcomes: Universal Screening Results.....	2
Tier II and Tier III Interventions.....	5
Progress Monitoring	5
Intervention Materials	6
Implementation of Tiered Interventions	6
Reading Interventions	7
Math Interventions	9
Outcomes of Tiered Interventions in Reading.....	9
System-wide Supports	10
Conclusion	11
Appendix A- RTI Year Three (2011-2012) Goals & Objectives	
Appendix B- Reading Intervention Flowchart for 2011-12	

EXECUTIVE SUMMARY

This report presents an evaluation of the implementation and outcomes of the school district's Response to Intervention (RTI) system in the 2011-12 school year.

Notable Facts:

The 2011-12 school year was the third year of the district's introduction of RTI as a three-tiered instructional framework across the elementary schools. The district focused the introduction of tiered interventions through adapting pre-existing intervention programs such as ERII (Elementary Reading Improvement Initiative) and EMII (Elementary Math Improvement Initiative), using the tutors from these programs as part of the intervention focus. The screening process continued to use the AIMSweb assessment system that was introduced in the 2009-10 school year for universal screening, while adding progress monitoring for students receiving reading interventions. The district also continued to provide staffing resources to enhance the system-wide support for RTI implementation.

What is Being Measured:

A utilization-focused evaluation was designed and conducted to examine three things:

- the outcomes of core (Tier I) instruction in reading and math
- the outcomes of tiered interventions in reading
- the district's progress in achieving its objectives in the three focus areas of staff development, student assessment, and student intervention

What the Results Show:

- Results from both state assessments and universal screenings indicate positive outcomes for Tier I instruction.
- With few exceptions, the district average ROI (Rate of Improvement) in the key reading and math measures was greater than or equal to the national average.
- Students who received reading interventions experienced greater than expected growth in RCBM (the standard AIMSweb measure for reading).
- Students who received reading interventions had the highest growth in RCBM when they participated for 30 or more days.
- The district continued to make progress in the implementation of RTI in all three focus areas of staff development, student assessment, and student intervention.

Overview of Response to Intervention

Response to Intervention (RTI) is a framework for providing instruction and interventions at increasing levels of intensity until all students succeed. The framework is intended to help teachers and schools provide instruction matched to student needs, monitor progress frequently to guide decisions about changes in instruction, and apply data to determine which students are in need of more intensive services. RTI is not a single program but an interconnected series of procedures and decisions that seek to prevent academic failure through early intervention, frequent progress monitoring, and increasingly intensive research-based interventions for struggling students. As a national movement, RTI aims to ensure research-based instruction is provided to all students, methods of identifying students with learning disabilities are improved, and progress monitoring tools are utilized to make data-based decisions about interventions.

The Fairbanks North Star Borough School District began introducing the RTI framework in the 2009-10 school year. The district's RTI structure is based on a three-tiered model that monitors student progress within three levels of instructional intensity with a goal of providing a consistent method of identifying which students are meeting expectations, which are falling behind, and which are ahead of expectations. In this three-tiered model, Tier I is the core instruction provided to all students while Tier II and Tier III are interventions provided as additions to the core instruction. The two tiered interventions may use the same materials, but generally differ in intensity to meet the needs of the student. Tier II interventions are usually 30-60 minutes of additional instructional time outside the core reading block, while Tier III interventions are usually 60-90 minutes of additional instructional time outside the core reading block.

The goals and objectives for RTI implementation in the 2011-12 school year were focused on staff development, student assessment, and student intervention. (See Appendix A for the district's complete goals and objectives.) Although the long-term plan for RTI includes the three core subject areas of reading, writing, and math as well as a behavioral component, the district's focus in the first three years has been on introducing it first in reading and then in math, where there were pre-existing intervention resources in place across the schools.

Tier I Core Instruction

The foundation for the RTI system is Tier I instruction. Tier I provides core instruction for all students using research-based curricula and instructional strategies that support the district's curriculum guidelines. Tier I instruction in the core curriculum is expected to meet the needs of

the majority of students. In the 2011-12 school year, the district's core reading program was Harcourt Trophies and its core math program was Everyday Mathematics. Both programs are research- based.

Tier I Outcomes: State Assessment Results

The majority of the national research on RTI models indicate that, if Tier I is implemented with a high degree of fidelity to the curriculum by highly trained teachers, between 75% and 80% of students are expected to achieve proficiency through Tier I instruction alone; however, it may take several years of implementing RTI to reach this goal. As shown in Table 1, Alaska's standards based assessments (SBAs) taken in Spring 2012 reflect that between 82% and 87% of the district's 3rd-6th grade students scored proficient or above in reading while between 75% and 82% of the district's 3rd-6th grade students scored proficient or above in math.

**Table 1
Percent of Elementary Students Proficient on SBAs: Spring 2012**

	READING	MATH
Percent of 3rd Grade Students Proficient	85%	82%
Percent of 4th Grade Students Proficient	82%	81%
Percent of 5th Grade Students Proficient	87%	76%
Percent of 6th Grade Students Proficient	85%	75%

Tier I Outcomes: Universal Screening Results

In addition to the state assessments in reading and math, all K-6 students also completed universal screenings for both math and reading in the fall, winter, and spring of the 2011-12 school year. These universal screenings accomplished the district's *Objective 2.1: By the end of the 2011-12 school year, three universal screenings for all students in grades K-6 will be conducted in both reading and math.* (See Appendix A for complete goals and objectives.) The district uses AIMSweb for RTI assessment and data management. For each elementary grade level, the district selected specific AIMSweb measures for universal screenings and designated a single measure at each grade level as the key measure for evaluation purposes.

For each specific AIMSweb measure being used at each grade level, student growth is calculated as a Rate of Improvement (ROI), which is defined as the number of units of measure (i.e. words read correctly, correct responses, correct digits) a student has increased per week of instruction. Throughout this report, ROI is used to indicate student growth; the reported ROI is the difference between the fall (pre) test and the spring (post) test, divided by the number of

weeks between the tests. Higher numbers indicate greater growth. For example, 3rd graders who took the RCBM (Reading Curriculum Based Measure) in the 2011-12 school year had an average ROI of 1.0 which means that they read one more word correctly each week for a total increase of 36 more words read correctly by the end of the school year. Different measures and different grade levels are expected to have different rates of growth, and the national ROIs are reported for comparison purposes. With few exceptions, the district average ROIs in the key reading and math measures were greater than or equal to the national average.

The key reading measures used for the annual outcome evaluation were:

- Kindergarten: Letter Naming Fluency (LNF)
- 1st Grade: Nonsense Word Fluency (NWF)
- 2nd – 6th Grade: Reading Curriculum Based Measure (RCBM)

Table 2 displays, for each of the key AIMSweb assessments given in reading, the average Rate of Improvement (ROI) for each grade level. Table 2 compares the district’s average ROI in 2011-12 with the district’s ROI from the prior year; the national ROI for each measure is also presented. There is little variation between the two years of district results, or between the district’s results and national results.

Table 2
AIMSweb Key Reading Measure Results

LNF			
Grade	District ROI 2010/11	<i>District ROI</i> <i>2011/12</i>	National ROI 2011/12
K	0.7	0.8	0.8
NWF			
Grade	District ROI 2010/11	<i>District ROI</i> <i>2011/12</i>	National ROI 2011/12
1	0.9	0.9	1.0
RCBM			
Grade	District ROI 2010/11	<i>District ROI</i> <i>2011/12</i>	National ROI 2011/12
2	1.3	1.3	1.2
3	1.0	1.0	1.0
4	0.9	0.9	0.9
5	0.7	0.8	0.8
6	0.7	0.7	0.7

The key math measures used for the annual outcome evaluation were:

- Kindergarten & 1st Grade: Number Identification Mastery (NIM)
- 2nd – 8th Grade: Mathematics Concepts and Applications (MCAP)
- Additionally, a supplemental measure in computation skills called Math Computation (MCOMP) was administered in 2nd -6th grade.

It is important to note that the district's internal analysis of the reliability and predictive validity of universal screening data from 2009-10 led to the district's change from the MCBM to the newer MCAP measure as the primary math measure in the 2011-12 school year. Thus, there is limited data to compare between the two years.

Table 3 displays, for each of the key AIMSweb assessments given in math, the average Rate of Improvement (ROI) for each grade level. Table 3 compares the district's average ROI in 2011-12 with the national ROI for each measure. The district's ROI from the prior year is also presented. There is little variation between the two years of district results, or between the district's results and the national results in 2011-12.

Table 3
AIMSweb Key Math Measure Results

NIM			
Grade	District ROI 2010/11	<i>District ROI</i> 2011/12	National ROI 2011/12
K	0.6	0.6	0.6
1	0.7	0.6	0.6
MCAP			
Grade	District ROI 2010/11	<i>District ROI</i> 2011/12	National ROI 2011/12
2	0.4	0.4	0.4
3	0.2	0.2	0.2
4	0.2	0.2	0.2
5	0.1	0.1	0.1
6	0.2	0.2	0.2
MCOMP			
Grade	District ROI 2010/11	<i>District ROI</i> 2011/12	National ROI 2011/12
1	0.7	0.7	0.7
2	0.6	0.6	0.5
3	0.7	0.7	0.7
4	0.9	0.8	0.7
5	0.5	0.4	0.5
6	0.5	0.4	0.4

Tier II and Tier III Interventions

Under RTI, academic interventions are designed to provide early, effective assistance to students who have difficulty learning. A primary component of RTI is the selection of intervention strategies that are research-based, match students' needs, and are feasible to implement. Interventions are to supplement, never replace, instruction in the general education classroom. Tier II offers supplemental instruction in addition to the standards-based curriculum received in Tier I. The curriculum and instruction at Tier II is designed to meet the needs of students not progressing as expected in Tier I. Tier III instruction includes more explicit instruction that is focused on a specific skill need, whether that be an accelerated need or a remedial need. If a student fails to make progress with an intervention, the intervention may require modification or replacement, since it would be ineffective to continue implementing interventions that are not shown to be successful through progress monitoring data.

Given that RTI does not require specific materials or programs, it lends itself to local adaptation. Since the district's two most prevalent targeted assistance programs, the Elementary Reading Improvement Initiative (ERII) and the Elementary Math Improvement Initiative (EMII), are both similar in some ways to tiered interventions under the RTI model, the district began moving toward tiered interventions by adapting and refining these pre-existing programs. ERII began in 1998 and has historically focused on primary grades while EMII began in 2006 and has historically focused on upper elementary grades. These and other existing interventions have been modified with the goal of more effectively providing research-based instruction to students, monitoring progress on interventions, and using this information to guide decisions about changes in instruction. ERII and EMII tutors have been encompassed under the RTI system of interventions and supports.

Progress Monitoring

According to the AIMSweb assessment system, during the 2011-12 school year a total of 2,198 K-6 students received progress monitoring in reading, several hundred more than the prior year's total of 1,822 students. There were 2,198 K-6 students progress monitored using the RCBM assessment, 416 using the NWF assessment, and 304 using the LNF assessment. A total of 1,760 students participated in reading interventions at the elementary schools in 2011-12. Thus, the district achieved its *Objective 2.2: By the end of the 2011-12 school year, progress monitoring will be conducted with all students who participate in a reading intervention.* Some students did not receive intervention services but were progress monitored as a

precaution to ensure that they were not falling behind between the universal screening windows.

Additionally, although progress monitoring was not required for math in 2011-12, a total of 534 students received progress monitoring in math. According to the AIMSweb assessment system, a total of 428 students were progress monitored using the MCAP assessment, 106 using the MCOMP assessment, and 59 using the NIM assessment.

Intervention Materials

During the 2011-12 school year, each school utilized at least one of the five selected reading intervention programs (Earobics, Read Naturally, Rewards, Storytime, and Leveled Literacy) which were selected to address the five core components of reading across the elementary grade levels. For math, the two intervention programs selected were Pinpoint Math and Number World. Pinpoint Math is a math intervention for students in 1st -7th grade who are 1-2 grade levels behind in the basal math curriculum. Number Worlds is a math program which provides intervention for students in grades 2-6 who are one or more grade levels behind in math and includes a prevention component for K-1st grade. Math tutors from each school were provided with professional development related to the implementation of these research-based math interventions programs. Based on feedback from the implementation of the two selected math interventions, an additional math intervention, Math Elevations, was selected for use in the following school year. Thus, the district accomplished *Objective 3.2: By the end of the 2011-12 fiscal year, the district will pilot the use of selected math intervention materials and select additional research-based materials as needed to address any unmet needs in K-6 math.*

Implementation of Tiered Interventions

Due to the unique needs of each school's population, different resources are available at each school, resulting in a variety of avenues through which students may participate in tiered interventions. Since there is so much overlap between the multiple student support programs, data was collected from the principals to provide a total count of how many students received one or more interventions in addition to the Tier I instruction in reading and math at each school. These numbers include students referred for both Tier II and Tier III interventions but they do not include students receiving only Special Education services. As mentioned previously, Tier II and Tier III interventions may use the same program materials but differ in intensity.

Reading Interventions

As shown in Table 4, log data from PowerSchool indicates that a total of 1,816 students participated in reading interventions in 2011-12. Interventions in reading may be provided by the ERII program tutors, Title I academic aides, the new RTI Assistants, English Language Learner (ELL) program tutors, and Alaska Native Education (ANE) tutors using various delivery models including tutoring, small group instruction, and additional supports for differentiated instruction during the core block of classroom instruction. The average number of students prescribed a reading intervention at each school was around 140.

In the 2010-11 school year, the district introduced a new logging system in Power School to allow tracking of intervention prescriptions and attendance. Tables 4 and 5 display data extracted from the new logging system and provide evidence of how the district achieved *Objective 3.1: By the end of the 2011-12 school year, reading interventions will be conducted at all elementary schools using at least one of the district-approved, evidence-based materials.*

As shown in Tables 4 and 5, all 19 elementary schools used Earobics with a total of 604 students; Earobics was the most commonly prescribed program for kindergarten students. All 19 schools also used Leveled Literacy with a total of 694 students; it was the most frequently prescribed intervention for 1st and 2nd grade students. Eighteen schools used Read Naturally with a total of 469 students; it was the intervention program most frequently prescribed for 4th, 5th, and 6th grade students. Twelve schools used Rewards with a total of 179 students. Eighteen schools used Storytown with a total of 713 students; it was the most commonly prescribed program for 3rd grade and was also the program prescribed most frequently across all grades in the district.

Table 4
Number of Students Prescribed Each Reading Intervention by School

Schools	Earobics	Leveled Literacy	Read Naturally	Rewards	Storytown	Multiple/ Other	ALL
Anderson	3	77	66		65		211
Anne Wien	53	26	8	53	32		172
Arctic Light	89	4	12	2	71		178
Badger	53	28	82		32		195
Barnette	1	115	4	14	23		157
Crawford	5	8	1	8	32		54
Denali	11	33	1	3	54	5	107
Hunter	22	83	41	44	51		241
Joy	43	25	32	1	21	32	154

Ladd	27	50	15		6		98
Nordale	35	5	47		90		177
North Pole E.	48	17	36	17	34		152
Pearl Creek	27	34	2	17	32	1	113
Salcha	1	10			7	7	25
Ticasuk Brown	68	26	46		55		195
Two Rivers	11	9	5	6			31
University Park	7	45	21	2	61		136
Weller	67	61	14	12	38	5	197
Woodriver	33	38	36		9		116
Total	604	694	469	179	713	50	2,709

* Some students were prescribed a series of different interventions; therefore the total number of students tutored is less than the number of students prescribed interventions.

Table 5

Number of Students Prescribed Each Reading Intervention by Grade Level

Grade	Earobics	Leveled Literacy	Read Naturally	Rewards	Storytown	Multiple/Other	ALL
K	222	25		1	114	8	370
1	128	310	58	9	255	12	772
2	71	228	80	8	114	13	514
3	60	91	97	2	109	10	369
4	67	26	107	51	44	3	298
5	30	10	79	66	37	2	224
6	26	4	48	42	40	2	162
Total	604	694	469	179	713	50	2,709

* Some students were prescribed a series of different interventions; therefore the total number of students tutored is less than the number of students prescribed interventions.

It is important to note that not all students who were prescribed an intervention actually participated in the intervention for a variety of reasons including student scheduling conflict, staffing shortages, and student transfers out of the school or district. According to the logs completed in PowerSchool, 1,931 students were prescribed reading interventions using one or more of the adopted intervention programs. Approximately 91% (1,760) of those students participated in at least one day of reading interventions. Of the 1,760 K-8 students who participated in a Tier II or Tier III intervention for reading, 27% participated in fewer than 30 days of services throughout the year, 34% participated in between 30 and 59 days of services, and approximately 39% participated in 60 or more days of services.

Math Interventions

The original 5-year plan for RTI implementation called for the implementation of tiered interventions in math to begin in the 2010-11 school year. In the 2009-10 school year, the district modified its original timeline to slow the organizational pace of RTI implementation, delaying the implementation of math interventions to align with the math curriculum revision process. Two research-based intervention programs (Pinpoint Math and Number Worlds) were purchased to provide assistance for the interventions that were ongoing. Interventions in math may be provided by the EMII program tutors, Title I academic aides, the new RTI Assistants, and tutors funded by the ARRA-funded African American Male Math Improvement Initiative and they may be delivered through a variety of intervention models including tutoring, small group instruction, and additional supports for differentiated instruction during the core block of classroom instruction. However, data on the specific students participating in math interventions was not collected.

Outcomes of Tiered Interventions in Reading

Throughout the 2011-12 school year, school staff tracked the placement and progress of students who received reading interventions (whether the services were provided by the RTI Assistants, the ERII program, or other school programs). At the beginning of the year, each school used universal screening results to target students for interventions, prioritizing the lowest-scoring students. The district's universal screening process provides pre and post assessment data for the non-participating population as well as the tiered intervention participants, thus allowing for evaluative comparisons between the groups of served and unserved students. When the ROI of intervention participants is compared to the ROI of a typical student, the at-risk student's rate of improvement must be greater than the rate of improvement of a typical student in order for the at-risk student to "close the gap" and return to grade level functioning. As shown in Table 6, the outcomes of the participants in terms of both actual ROI and difference between the expected and the actual ROI were greater for intervention participants than for students who did not participate in interventions. The greater the length of time the students participated in reading interventions, the more positive the outcomes.

Table 6
RCBM ROI for 2nd-6th Grade Students in 2011-12

Average ROI for Students by Intervention Participation Rate			
2nd – 6th Grade Students with RCBM Results Fall and Spring 2011-12	EXPECTED ROI*	ACTUAL ROI	Percent Change (Between Expected & Actual Growth)
Students With No Intervention Participation (3,541 students)	0.9296	0.9410	1%
Students Who Participated in Intervention for 1-29 Days (317 students)	0.8259	0.9393	14%
Students Who Participated in Intervention for 30-59 Days (373 students)	0.8626	1.0032	16%
Students Who Participated in Intervention for 60 or More Days (454 students)	0.8163	1.0505	29%

* *Expected ROI is the national norm ROI for students with the same percentile rank at each grade level.*

System-wide Supports

Underpinning the entire RTI system and providing support for improvement in all three tiers are the RTI Assistants in each school building. In the earliest planning stages of RTI, district leadership recognized a need for additional staffing resources at each elementary school, and a total of 54 half time (3.5 hours/day) RTI Assistant positions were created to provide support for the 19 elementary schools. All 54 positions were filled for the majority of the 2011-12 school year, thus the district was successful in *meeting Objective 1.1: Throughout the 2011-12 school year, all elementary schools will be staffed with RTI assistants to allow for teacher collaboration through weekly grade level meetings, student support team meetings, and school data team meetings.*

In another effort to provide system-wide support, the district introduced collaborative teams known as Professional Learning Communities (PLCs). The purpose of PLCs is for teachers to enhance their leadership capacity while they work as members of ongoing, high-performing, collaborative teams that are focused on improving student learning. In January of 2012, elementary school principals, counselors, and behavior aides participated in professional development sessions that focused on common areas of behavioral interventions. These training sessions were intended to lay groundwork in preparation for introducing the behavioral strand of RTI as outlined in *Objective 1.2: By the end of the 2011-12 school year, elementary school principals, counselors, and behavior aides will receive training focused on the behavior strand of RTI, in preparation for implementing the behavioral component of RTI in future years.*

The establishment of the RTI Assistant positions was a key component of the newly

introduced PLCs. The RTI Assistant positions were structured such that an average of 80 minutes per day were allocated to managing classrooms to facilitate PLC meetings among grade level staff, an average of 90 minutes per day were allocated to providing direct student services such as tiered interventions and tutoring, and an average of 40 minutes per day were allocated to providing assessment support, data entry, and technical support for interventions.

Conclusion

The data indicates that the district made progress in implementing RTI by achieving objectives in the three goal areas of staff development, student assessment, and student intervention. Although the district is still in the early stage of implementing this large structural shift, pre-existing student support programs have been refined to serve as Tier II and Tier III interventions. In order to accommodate the evolution of the EMII and ERII programs as tiered interventions under the umbrella of RTI, assessment tools, instructional materials, and intervention strategies were refined. The outcomes provide guidance for creating successful interventions that provide students with the support they need under the new RTI framework.

Appendix A

RTI Year Three (2011-2012)
Goals & Objectives

RTI YEAR THREE (2011-12)

Goals & Objectives

Goal 1 (Staff Development): Implement Collaborative Teaming

Objective 1.1: Throughout the 2011-12 school year, all elementary schools will be staffed with RTI assistants to allow for teacher collaboration through weekly grade level meetings, student support team meetings, and school data team meetings.

Objective 1.2: By the end of the 2011-12 school year, elementary school principals, counselors, and behavior aides will receive training focused on the behavior strand of RTI, in preparation for implementing the behavioral component of RTI in future years.

Goal 2 (Student Assessment): Continue Universal Screening and Progress Monitoring

Objective 2.1: By the end of the 2011-12 school year, three universal screenings for all students in grades K-6 will be conducted in both reading and math.

Objective 2.2: By the end of the 2011-12 school year, progress monitoring will be conducted with all students who participate in a reading intervention.

Goal 3 (Student Intervention): Utilize District-Approved Materials for Tiered Interventions in Reading and in Math

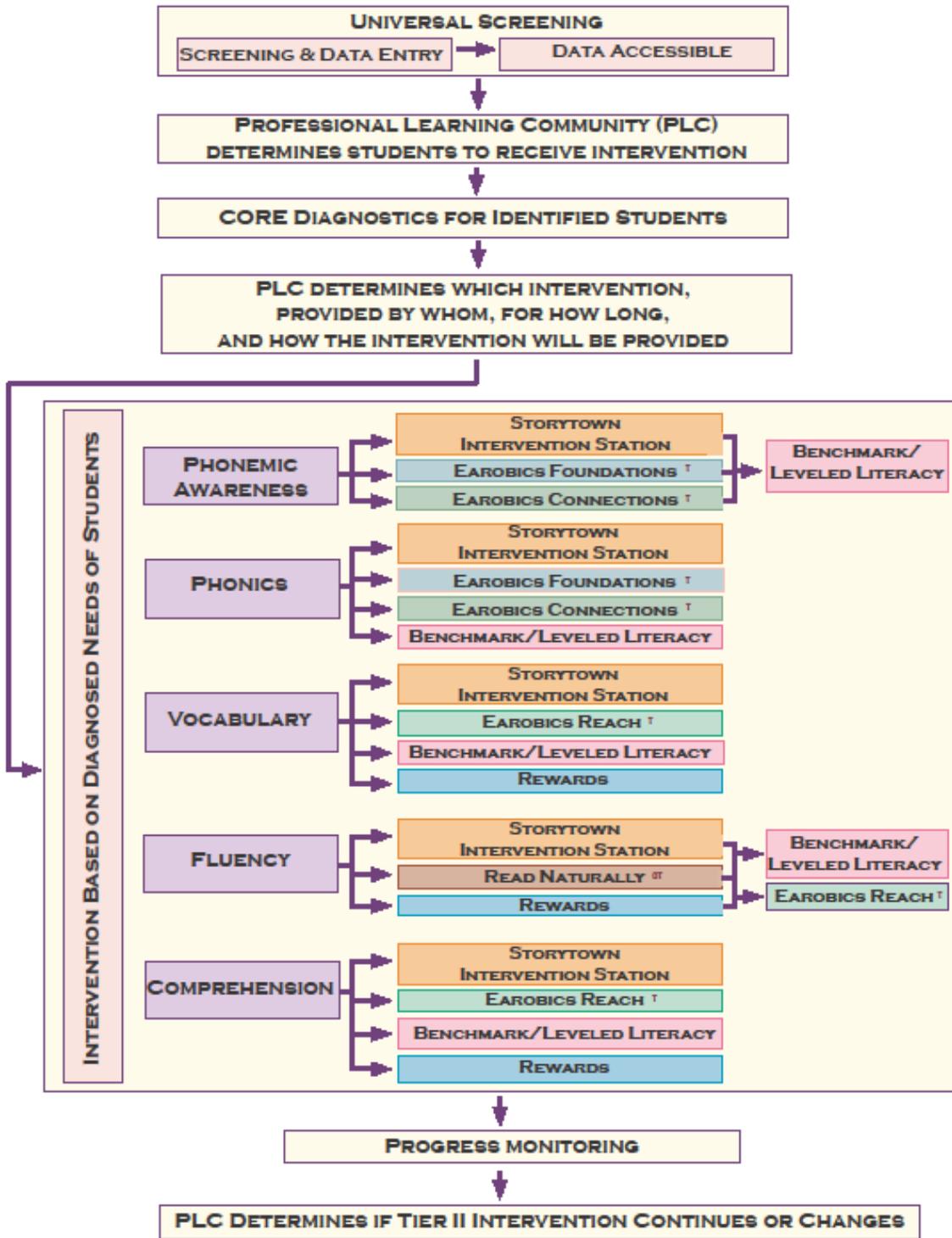
Objective 3.1: By the end of the 2011-12 school year, reading interventions will be conducted at all elementary schools using at least one of the district-approved, evidence-based materials.

Objective 3.2: By the end of the 2011-12 fiscal year, the district will pilot the use of selected math intervention materials and select additional research-based materials as needed to address any unmet needs in K-6 math.

Appendix B

Reading Intervention Flowchart For 2011-12

RTI READING INTERVENTION FLOWCHART



EAROBICS TEACHER GUIDES ADDRESS ALL FIVE READING INTERVENTION AREAS T = TECHNOLOGY BASED OT = OPTIONAL TECHNOLOGY BASED
 Last revised 8/24/2011