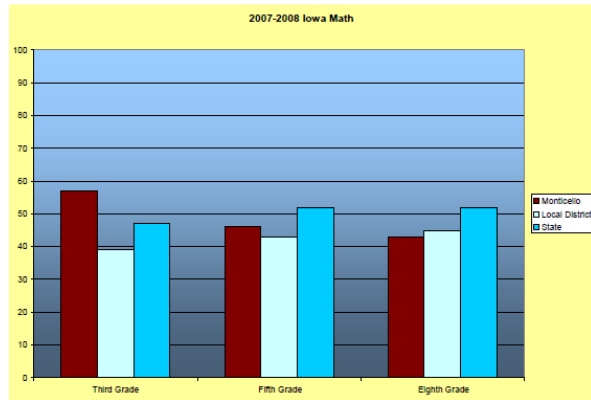


Mathematics Case Study #11/09

**K-9 Charter School
Granite School District, Utah**
(August – December 2009)

Overview and Demographics

This was a Numeric RTI mathematics case study implemented by Monticello Academy. The study was conducted across six grade levels with a total of 429 students participating in the program covering Tier-1, Tier-2 and Tier3. The study ran for 150 days from August 2009 through December 2009.



Case Study Summary

Schools: **1**
Scope: **Math RTI numeracy improvement**
Subject: **Mathematics**
Target Grade Proficiency: **Grades 2 through 7**
RTI Tiers: **Tier-1 to Tier-3**
Number of students in group: **429**
Number of students that completed program: **429**
Case study timeframe: **150 days**

Intervention Strategy

This was a RTI intervention program. 429 students were enrolled into the program delivered by teaching staff from the school and Granite School District. The main aim for the school was to achieve improvement for each of the three tiers. To achieve this goal it was decided run a differentiated diagnostic assessment with each individual student in all three tier levels. The initial assessment was used to identify the three tier levels in numeracy. Each assessment was individualized and differentiated to the individual's proficiency. The subsequent intervention would then focus on bringing each student to proficiency and therefore ensuring AYP.

The school wanted to measure individual student progress as well as the aggregate improvement of each tier group.

For this paper we only look at the mean aggregate scores and improvement of individual group. The intervention was structured around the IMTA solution firstly as a diagnostic tool and then as an intervention tool by designing an individually customized remediation program for each student. Upon completion of the initial diagnostic assessment staff divided the three tiers and put an intervention strategy in place for each of the three tiers.

	Tier 1	Tier 2	Tier 3
Tier grouping	100% - 70%	70% - 52%	52% - 0%

Assessment

All 429 students were put through the IMTA diagnostic assessment. There were no time limitations placed on the students to complete this initial assessment. The initial diagnostic assessment was conducted over four 45 minute sessions in the first two weeks. Staff waited for all students in each school to complete the initial assessment. The staff then grouped the students into the three tiers according to the assessment results. The table below shows that the mean aggregated scores for the three tiers.

	Tier 1	Tier 2	Tier 3
Tier grouping	100% - 70%	70% - 52%	52% - 0%
Avg. Group Assess Scores	77.1%	63.2%	47.8%

Students	Total Students	Tier 1	Tier 2	Tier 3
Tier Percentage	100%	35.7%	59.2%	5.1%
Tier Numbers	429	153	254	22

Intervention

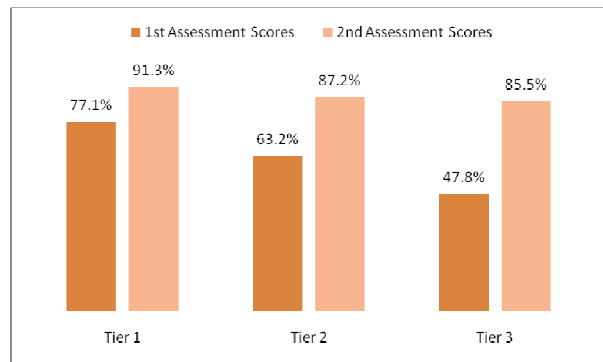
The intervention strategy ran over two 45 minute sessions per week for 17 weeks. Staff monitored student progress on a weekly basis during the seventeen weeks. Each student had access to a computer during these sessions. Each student's progress was dynamically tracked throughout the study. The intervention for all three tiers was completed within 34 instructional days or a total of 26 hours.

Because the program ran across three tiers, progress monitoring presented challenges in relation to keeping everybody on pace to complete the intervention within the 17 week timeframe.

The staff then conducted an assessment at the end of the 17 weeks to measure progress. The second assessment was independent of the first, covering the same curriculum content but with a different set of questions.

The table and figure below provide a summary of the aggregated results data.

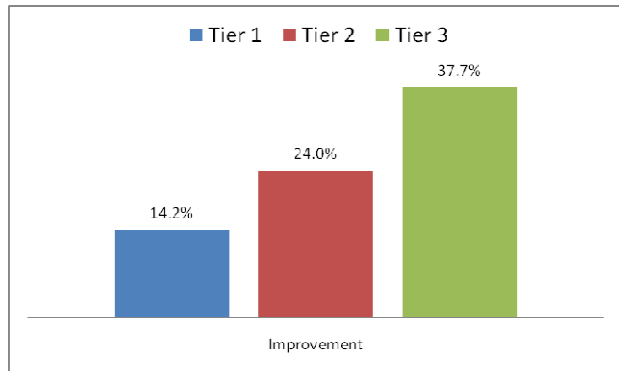
	Tier 1	Tier 2	Tier 3
Tier grouping	100% - 70%	70% - 52%	52% - 0%
1st Assessment Scores	77.1%	63.2%	47.8%
2nd Assessment Scores	91.3%	87.2%	85.5%



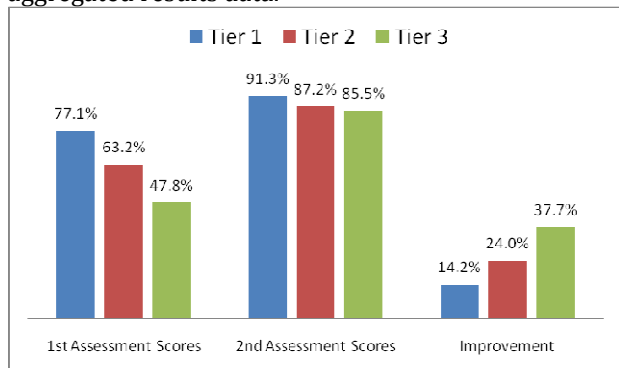
Results & discussion

The second assessment, after 17 weeks, showed a significant improvement. All three tier groups showed a mean aggregate improvement. It can be noted that the improvement for each tier diminished in relation to the groups’ initial proficiency.

	Tier 1	Tier 2	Tier 3
Tier grouping	100% - 70%	70% - 52%	52% - 0%
1st Assessment Scores	77.1%	63.2%	47.8%
2nd Assessment Scores	91.3%	87.2%	85.5%
Improvement	14.2%	24.0%	37.7%



The table and figure below provide a summary of the aggregated results data.



It is important to note the overall percentage proficiency achieved by the three groups. It reflects the potential to bring Tier-3 students through tier-2 into tier-1.

While the improvement of the target groups in each group was exceptional, it needs to be noted that the intervention only focused on numeracy. The staff still feels that if the intervention was done across the entire math curriculum the results will reflect the same percentage gains. The three tier grouping percentages might be different.

We recognize that the staff that ran this case study were effective and wanted to make sure that the program was run according to the design parameters and that each hour spent was quality time.

Conclusion

The improvement results showed the power of the EDUSS intervention solution to truly identify a student’s individual competencies and then customize an automated intervention program to remediate the student back up to grade level. The results shown by the 429 students, shows the efficacy of the EDUSS solution’s ability to both accurately diagnose and then remediate identified learning gaps on an individualized basis.