

**UXBRIDGE SCHOOL COMMITTEE**

**March 15, 2016**

**UXBRIDGE HIGH SCHOOL LIBRARY**

Received by  
Uxbridge  
Town Clerk

MAY 9 '16 AM 8:57

School Committee Members in Attendance:

	Present	Absent
Melanie King, Chair	X	
Sean Dugan, Vice Chair	X	
Debbie Stark, Secretary	X	
Jane Keegan, Member	X	
Charlene Miller, Member	X	
Jen Modica, Member	X	
Michelle Taparausky, Member	X	

**1. Call to Order**

Ms. King called the meeting to order at 7:01PM

Ms. King entertained a motion to enter into executive session to discuss a level 3 grievance with new business to follow. Ms. Taparausky moved the motion. Ms. Modica seconded the motion. By roll call vote: Ms. Taparausky-YES, Ms. Modica-YES, Ms. Stark-YES, Mr. Dugan-YES, Ms. Miller-YES, Ms. Keegan-YES, Ms. King-YES

The committee entered into executive session at 7:02PM

**2. Executive Session**

**Level 3 Grievance - Personnel Matter**

The Committee returned to regular session at 7:43PM.

**3. Public Comment**

Marlene Piazza told the Committee that she was concerned the district might not have practiced due diligence when it followed some of the advice from the recently discovered 2010 best practices special education audit.

Mr. Demers discussed several types of audits the Committee could recommend for the district. These included financial, organizational, and investigational audits.

#### **4. Whitin "Flexible Student Grouping" Update**

The 5<sup>th</sup> grade Math teachers from Whitin Elementary presented a slideshow to the Committee that explained their use of flexible student grouping when teaching Math to their students. Also included in the slideshow was information on how the grouping allows for much greater collaboration on lesson planning and the progression of student progress this year. Based on STAR data that has been produced during this year, the teachers see positive growth.

The teachers see the potential to expand this style of teaching to the lower elementary grades in a slightly altered version.

#### **5. Math In Focus Program & STAR Data Report**

Dr. Cavanaugh and teacher Bernadette Bazzette presented a slideshow outlining the progress of Math instruction at the k-5 grade levels during the current school year. They presented average STAR assessment scores from each classroom comparing classroom growth in Math between October (kindergarten)/ September (all other grades) and early Winter (all grades).

#### **6. Superintendent's Evaluation Reporting and Compilation Method**

Superintendent evaluations are due to Ms. King by April 15, 2016.

Ms. King will meet with Mr. Carney on April 28, 2016 to share the evaluations' composite. The evaluation composite will be read to the public at the May 3, 2016 meeting.

#### **7. Superintendent's Report 2016-2017 Administrator Appointments**

Dr. Rich Drolet, current principal of McCloskey Middle School, has been appointed interim curriculum director for the 2016-17 school year.

Current McCloskey vice principal, Leanne DeMarco, will serve as interim principal at McCloskey for the 2016-17 school year.

The district will look to hire an interim vice principal for McCloskey for the 2016-17 school year.

Mr. Carney said this restructuring will save the district approximately \$11,700 in the next fiscal year.

#### **Clinical Analysis of Special Education – 2010**

Mr. Carney said that approximately a year ago, Mr. Sawyer told Mr. Carney that former Superintendent Zini had a special education audit team perform an audit in the district. At that time the pupil services director also confirmed that an audit was done. Due to other priorities in the district, the topic was tabled. The audit conversation resurfaced again because of recent

discussions surrounding special education restructuring. The 2010 report was produced by the Pupil Services Director at that time. Mr. Carney said that although the report is 6 years old it still has relevant criteria for establishing programming. These criteria are not currently used in the district, however many topics in the report were already being discussed and debated by district administration.

Ms. Miller said that she wanted to make sure that parents understand that although the district will be cutting paraprofessional staff, students that need services will still get all the support and services they require, it might just be occur in a different model than before.

Mr. Carney said that Mr. Genereux needs commentary for the warrant articles being sponsored by the district for the Spring town meeting. He also needs the Committee to establish the dollar values to be placed in the articles.

Commissioner Chester has said the state will be looking for a new vendor for the new MCAS 2.0. The goal is to have all state testing done by computer by 2019.

## **8. FY17 Budget**

Since the last school committee meeting, there have been changes in the district that have allowed the district to reinstate the high school secretary position back into the FY17 budget.

Mr. Carney asked the School Committee if they wanted to consider creating a position for a Math coordinator for k-5, based on the information presented that evening. He says it is possible that the position could be funded without increasing the budget.

Ms. Taparauskys said that although she thinks it could be a good position to add, she would prefer to wait and vet out the budget numbers before making the decision.

Ms. Miller said she considers the math coordinator a valued and necessary position.

Current budget shows a paraprofessional reduction of 12.2 FTE versus the original reduction number of 14. Now that further calculations have been done, the current dollar amount being saved is actually more than when it was believed 14 FTEs would be reduced.

## **9. Old/New Business**

Ms. King said she received an inquiry from the Douglas School Committee chair to see if our district was interest in discussing ways to combine our resources with theirs. She said she would like to get further information to understand what they were looking to accomplish.

## **10. Meeting Minutes- January 19, 2016, March 1, 2016**

Passed over

## 11. Next School Committee Meeting- April 5, 2016

## 12. Adjournment

Mr. Dugan made a motion to adjourn. Ms. Keegan seconded the motion. The Committee voted 7-0-0 in favor of the motion. The motion passed.

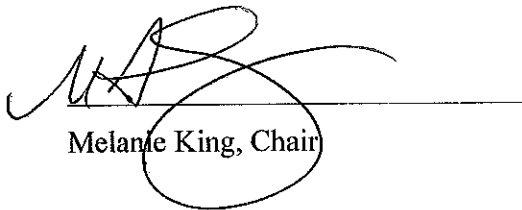
The meeting adjourned at 9:43PM.

Respectfully Submitted,



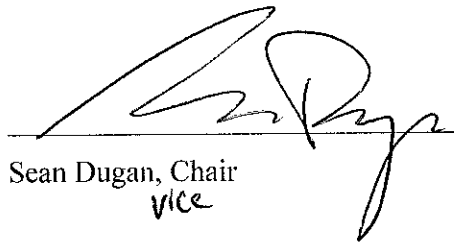
Debbie Stark  
Uxbridge School Committee Secretary

School Committee Members:



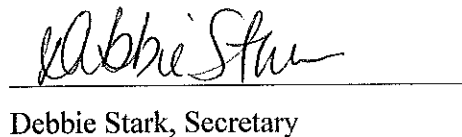
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Melanie King, Chair



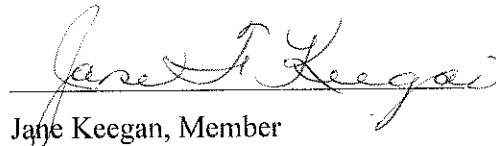
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Sean Dugan, Chair  
vice



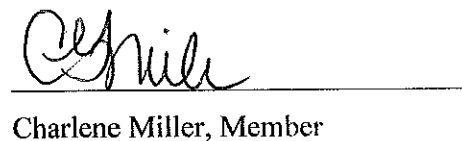
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Debbie Stark, Secretary



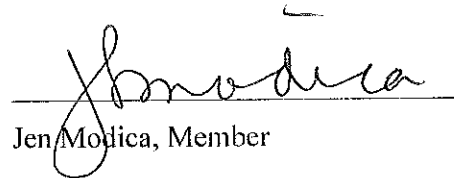
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Jane Keegan, Member



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Charlene Miller, Member



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Jen Modica, Member

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Michelle Taparousky, Member

# MATH FLEXIBLE GROUPING (MFG)

WHITIN ELEMENTARY SCHOOL  
UXBRIDGE, MA GRADE 5

Math Team: Celeste Lavigne, Crystal Martin &  
Kimberly Mulderig

# Math Flexible Grouping(MFG): Meeting ALL Students Needs

## Study Overview

Math Flexible Grouping (MFG) was implemented with a fifth grade team at Kanel and John Shields School in a suburb of Chicago

After one year, growth was seen in students' state and local assessments

Students and teachers also expressed positive outcomes in learning, teaching, collaborating and confidence level

# Our Goals & Objectives

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## Math Flexible Grouping

- ❑ Added opportunity to engage ALL learners
- ❑ More student risk taking
- ❑ Increased comfort level of students in math class
- ❑ Increase in differentiated instruction opportunities
- ❑ Peer support in a non-threatening math environment
- ❑ Connections with students to more readily identify strengths/weaknesses
- ❑ Overall & individual increase in student achievement

# Preparation for MFG

## What we did:

- ❑ created a school year timeline outlining the length of each unit including pre and post-test dates
- ❑ determined the pre/post-tests for each unit (*pre and post-tests should be identical for valid assessment of individual student growth*)
- ❑ utilized the *Math In Focus (MIF)* series along with many other resources
- ❑ implemented a class list template to be modified for each unit of study
- ❑ Shared a parent informational handout



# Math Units Timeline

## Grade 5 Math In Focus Units 2015-2016

Week #	Dates	Pre-test	Unit	Topic	Duration	MIF chapters	MIF pages	Post test	PS #
1-6	Sept - Oct 9/14 - 10/30	9/14	1	Whole #'s & Operations	6 weeks	Ch. 1 Ch. 2	p. 1-40 & p. 41-119	10/30	1
7-10	Nov - Dec 11/2 - 12/4	11/2	2	Fractions +/-	4 weeks	Ch. 3	p. 120-166	12/4	5
11-12*	December 12/7 - 12/18	12/7	3	Algebra	2 weeks	Ch. 5	p. 216-261	12/18	3&4
*13-16	January 1/4/16 - 1/29	1/4/16	4	Fractions x/- & Area	4 weeks	Ch. 4 Ch. 6	p. 167-215 p. 262-285	1/29	6&7
17-19	February 2/1 - 2/26	2/1	5	Geometry (Angles, Properties of Polygons & Volume)	3 weeks	Ch. 12 Ch. 13 Ch. 14	p. 183-207B p. 208-254B p. 256-319B	2/26	9, 10 & 11
20-24	March - April 2/29 - 4/8	2/29	6	Decimals	5 weeks	Ch. 8 Ch. 9	p. 1-29B & p. 30-99B	4/8	2
25-28	April - May 4/11 - 5/6	4/11	7	Measurement, Data & Graphing	3 weeks	Ch. 11 (Only Graphs/Prob.)	p. 134-182B	5/6	8 & 9
	MCAS Mid May			Not Req'd. Ratios, Percent & SA		Ch. 7 Ratios 10 % 14 (SA only)	p. 286-333B p. 100-133B		

# Group Formation

## How are Students Grouped ?

### Student Groupings

- ❑ are determined by a combination of unit pretest results in addition to teacher input
- ❑ change at the beginning of each unit of study.
  - There are seven math units of varied length in fifth grade
  - The unit's length depends upon the amount of content being covered

### Student Groupings are based on 3 categories/3 teachers:

- ❖ Advanced/Below Grade level
  - ❖ High average to Average
  - ❖ Low Average to Average
- \*\* Groupings change EVERY unit \*

# The MFG Classroom at a Glance

## Group Directions

Some things to remember;

If the whole class is

doing the same

activity, direct instructions to the

WHOLE group.

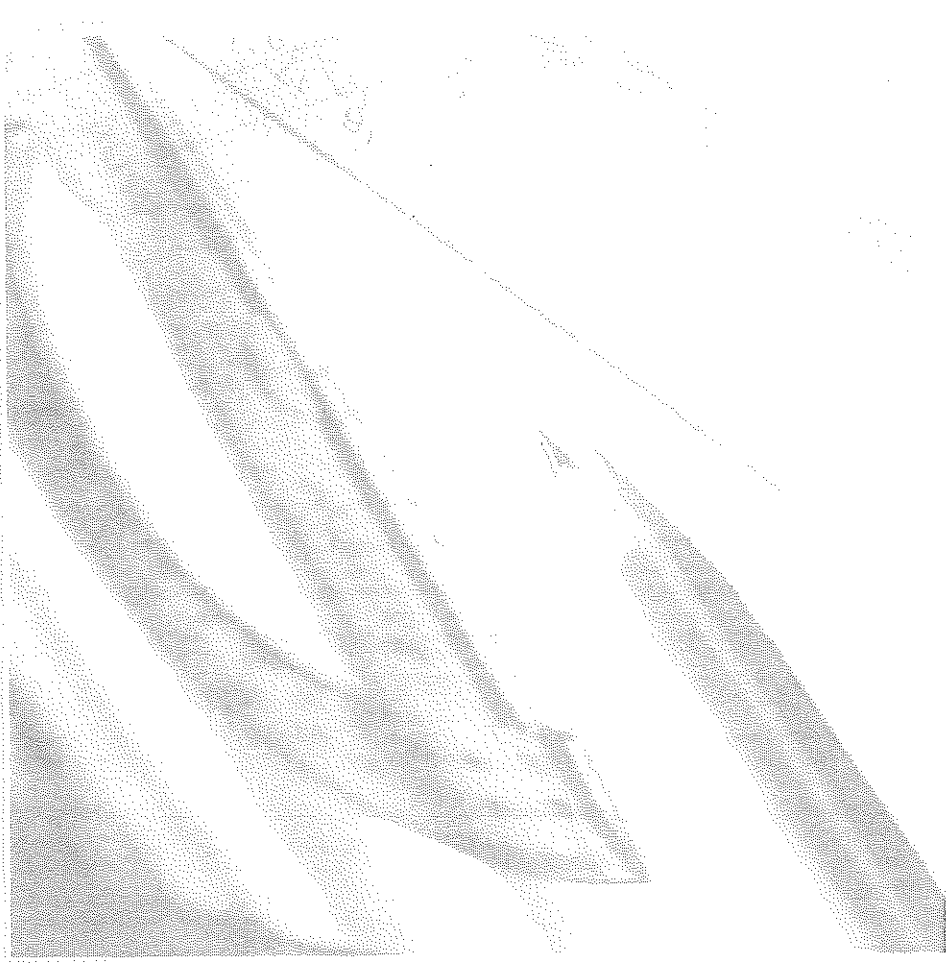


# Anticipated Benefits of MFG

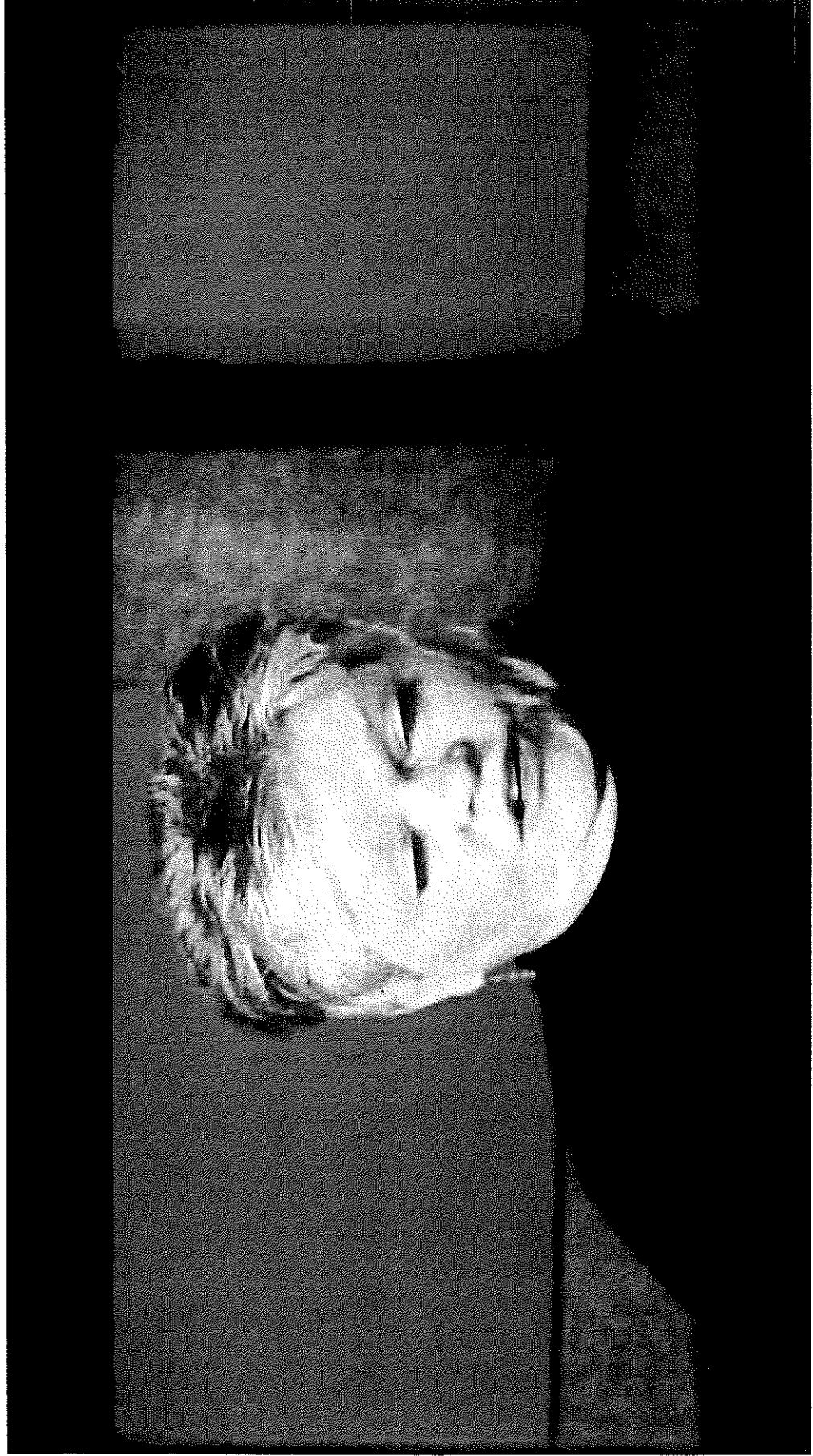
## Math Flexible

### Grouping:

- More student risk taking
- Increase in differentiated instruction
- Increase in student achievement
- More professional collaboration



# How MFG Works



# More Student Risk Taking

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MFG encourages student engagement and promotes self-esteem in lower level learners by providing a non-threatening learning environment where all input feels valued.



# Increase in Differentiated Instruction

There is more time to prepare individualized activities for students.

- This allows
  - more variety in instructional methods that meet ALL learners' needs
  - more effective teacher pacing
  - streamlined and more creative planning for students

# Increase in Student Achievement

## More on level instruction

- ❑ provides appropriate pacing of learning for all students.
- ❑ increased enhancement and remediation opportunities

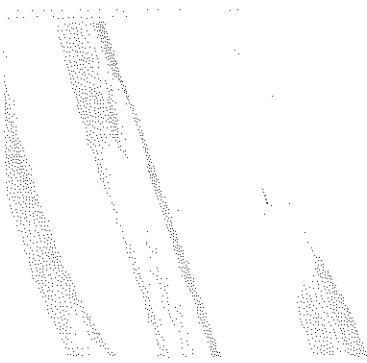
## Flexibility

- ❑ provides opportunity for students to experience different teachers
- ❑ access to varied teaching styles which promotes positive relationships with teachers

MFG prepares students for the transition to middle school the following school year.



# Professional Collaboration



Each team member can bring different skills to the table

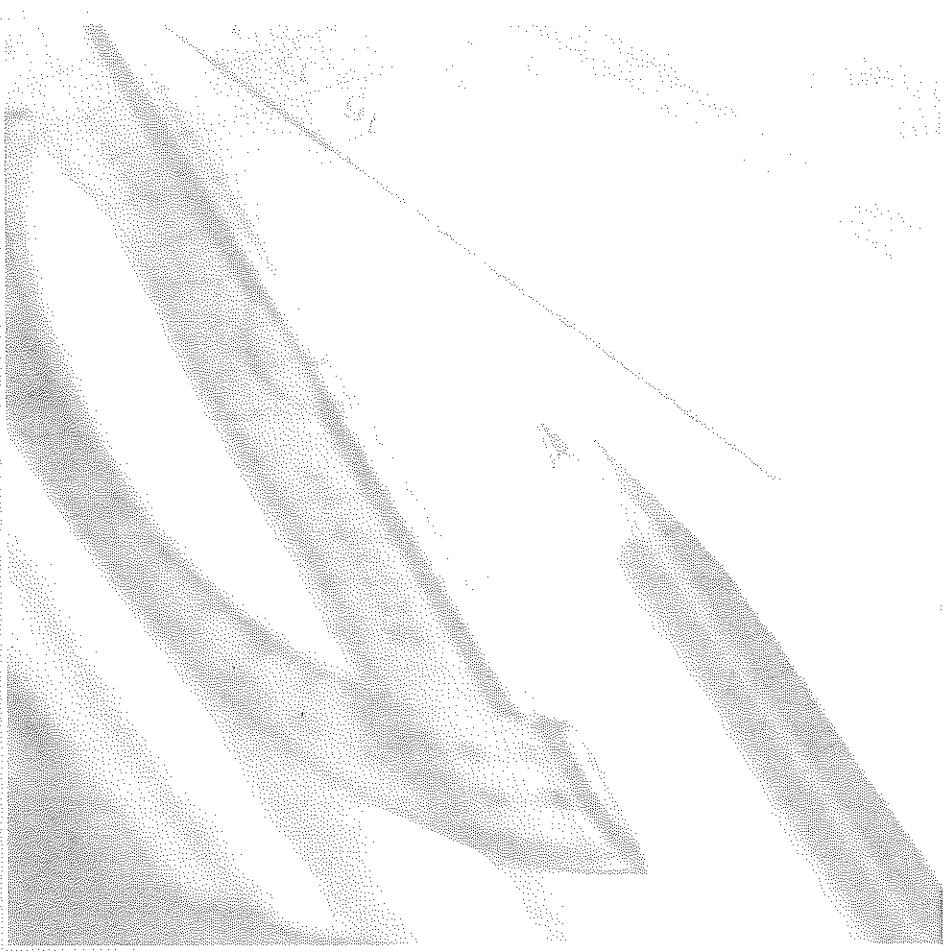
## ▣ Math teachers

- work more collaboratively and share students' growth. This promotes more in depth knowledge for all students' learning progression.
- share resources to encourage continuity across classrooms.
- collaborate on lesson planning and discussion of students' progress. Student progress discussions will include communication for report cards and parent/team communication.

# Assessment Implementation

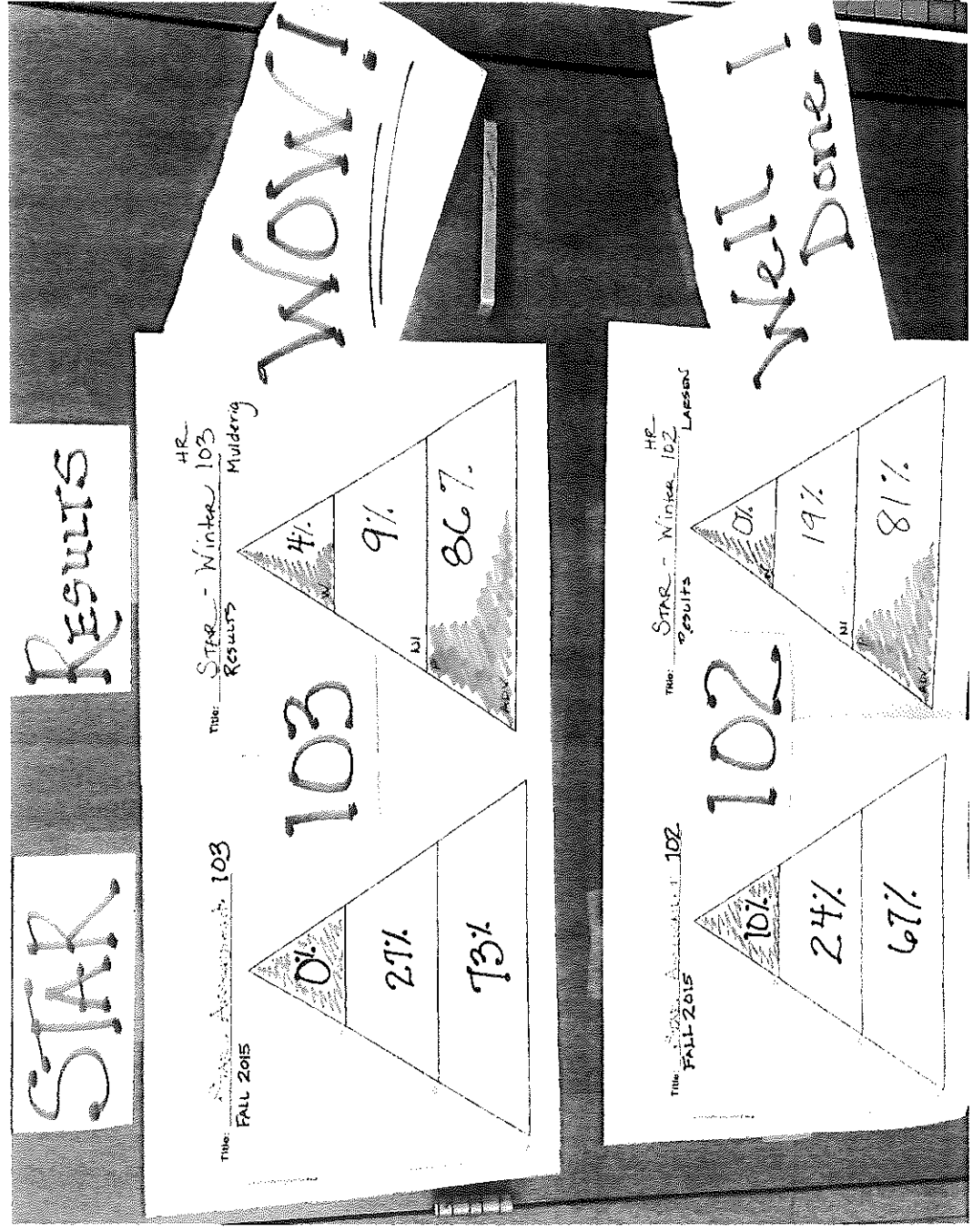
## Criteria considered for student achievement

- ❑ Math Pre/Post test results
  - ❑ STAR assessments
  - ❑ MCAS assessments
  - ❑ Teacher, Student, and Parent feedback
- All grade five Common Core & State Standards were considered and are being assessed



# STAR Assessment Results

## Homeroom Examples – Fall to Winter



# Student Comments

4. Is there anything else you would like to share about your experience with math flexible grouping?

I think that the flexible grouping should happen more often.

1. Did you like learning with a different math teacher?  Yes  No  Same math teacher

Please explain: IT IS EASIER TO LEARN IN A DIFFERENT CLASS.

2. Did you like learning with different classmates?  Yes  No

Please explain: IT WAS NOT HARD WITH DIFFERENT CLASSMATES THAT KNOW AS MUCH AS ME.

3. How well do you feel you were able to understand the skills that were taught with your math teacher and class?  Too Easy  Too Hard  Just Right

Please explain: THIS IS BETTER THAN ANY OTHER CLASS.

4. Is there anything else you would like to share about your experience with math flexible grouping?

NO, BUT ABOUT THE FLEXIBLE GROUPING, IT IS THE BEST.

4. Is there anything else you would like to share about your experience with math flexible grouping?

YES, BECAUSE IT WAS A NEW EXPERIENCE.

1. Did you like learning with a different math teacher?  Yes  No

Please explain: I LIKE LEARNING WITH A DIFFERENT MATH TEACHER.

2. Did you like learning with different classmates?  Yes  No

Please explain: I LIKE LEARNING WITH DIFFERENT CLASSMATES.

3. How well do you feel you were able to understand the skills that were taught with your new math teacher and class?  Too Easy  Too Hard  Just Right

Please explain: I THINK THE OTHER CLASS WAS GOING AT A DIFFERENT PACE.

4. Is there anything else you would like to share about your experience with math flexible grouping?

I WOULD LIKE TO TRY WITH A DIFFERENT TEACHER AND CLASS.

## Student Survey

Now that we have finished the fractions and algebra math units with a different math group, we would like to hear what you thought. Please complete the survey below to share your feelings about switching for math.

1. Did you like learning with a different math teacher?  Yes  No

Please explain: IT WAS FUN LEARNING THE DIFFERENT MATHS.

2. Did you like learning with different classmates?  Yes  No

Please explain: I GOT TO KNOW ALL THE BOYS.

3. How well do you feel you were able to understand the skills that were taught with your new math teacher and class?  Too Easy  Too Hard  Just Right

Please explain: I GOT TO LEARN FROM ALL THE BOYS.

4. Is there anything else you would like to share about your experience with math flexible grouping?

YES, I WOULD LIKE TO TRY WITH A DIFFERENT TEACHER AND CLASS.

# Current STAR Assessment Results

## Fall to Winter 2015-2016

Grade 5

average Sept 2015	average 2016	average point increase	+grade equivalent	average SGP
694	731	+37	+0.8	64
705	741	+36	+0.8	58
719	774	+55	+1.4	72
728	784	+56	+1.6	78
708	765	+57	+1.3	77
591	672	+81	+1.1	77
Score to be proficient 697+	Score to be proficient 730+			

The second column's scores, labeled "average 2016," come from student testing in January of 2016; in most classes then, students have, on average, made a year's growth in math at only the half year mark! Outstanding!

# Results Overview

## What are we seeing in the classroom ?

- Student growth is evident and often exceeds expectations
- Increased capability of engaging a higher percentage of learners and respond readily to their immediate needs
- Increased 1:1 communication with individual students and determining 'where they are at' and getting them closer to 'where they need to be' and beyond
- Effective & rewarding atmosphere both as a teacher and professional
- Students are informed, engaged and invested in their mathematics education
- Students who are internally motivated rise to the top of their class unlike ever before
- Students are excited about the variety of learning opportunities daily

**UXBRIDGE PUBLIC SCHOOLS  
Pre-K to 12  
MATH DATA MEETING**

**USING MATH DATA TO INFORM  
CURRICULUM,  
INSTRUCTIONAL PRACTICES,  
MATERIALS CHOICES,  
AND  
ASSESSMENT STRATEGIES**

**TUESDAY, MARCH 15, 2016  
WHITIN ELEMENTARY SCHOOL**

## Math Facts

- In the class of 2016, 14% of the graduating seniors will have *no exposure* to Algebra II, rendering students ineligible for admission to nearly all four-year colleges. This number does not include the students who are enrolled in Algebra II currently, but who are failing the course.
- If the district has a target that 90% of the students become eligible for a four-year college, math instruction district-wide precludes that.
- Of the 110 students at UHS currently enrolled in college prep level Algebra II, twenty-one (21) were failing at the mid-year; twelve (12) kids enrolled in the class are on IEPs.
- As regards college-prep level geometry, eleven (11) students have A's, twenty-one (21) students have B's, twenty (20) students have C's, twenty-two (22) students have D's, and nine (9) students have F's. Essentially, 31 students have D's and F's out of 83 students total; that means that 38% of the college prep level geometry students are likely to test below grade level in that subject.
- The *class average* for college prep level Algebra II, at the midterm, was 66%; the *class average* for college prep level geometry was about 70%. This average comprises first quarter, second quarter, and mid-year examination grades.
- Anecdotally, two senior boys, athletic and "part-of-the-Uxbridge-fabric" kinds of young men, dropped Algebra II after great struggle this year. As of this point, they *will* graduate from Uxbridge High School; however, neither has post graduation plans, save minimum wage work positions.
- According to STAR data, about 1/3 of the students leave Taft Early Learning Center below grade level in math; on the following page, look at MCAS grade three data:



All Students (126)

Standards: MA 2011 Standards

	Possible Points	School % Correct	District % Correct	State % Correct	School/State Diff	
<b>English Language Arts</b>						
All Items	72	67%	67%	67%	0	
<b>Question Type</b>						
Multiple Choice	36	81%	80%	78%	3	
Open Response	16	38%	38%	45%	-7	
Writing Prompt	20	65%	65%	68%	-1	
<b>Strand / Topic</b>						
<b>Language Anchor Standard</b>						
Conventions of Standard English	4	66%	66%	66%	0	
Knowledge of Language	1	75%	75%	89%	6	
Vocabulary Acquisition and Use	5	86%	86%	82%	4	
<b>Reading Anchor Standard</b>						
Craft and Structure	2	77%	77%	80%	4	
Integration of Knowledge and Ideas	3	81%	80%	80%	1	
Key Ideas and Details	37	63%	63%	64%	-1	
<b>Writing Anchor Standard</b>						
Production and Distribution of Writing	8	80%	79%	80%	0	
Text Types and Purposes	12	56%	56%	57%	1	
Multiple Choice			32	71%	71%	0
Open Response			16	61%	61%	3
Short Answer			6	74%	73%	0
<b>Strand / Topic</b>						
<b>Geometry</b>						
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.			8	56%	56%	-4
<b>Measurement and Data</b>						
Geometric measurement: understand concepts of angle and measure angles.			3	66%	65%	0
Represent and interpret data.			1	29%	30%	8
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.			7	65%	65%	-1
<b>Number and Operations in Base Ten</b>						
Generalize place value understanding for multi-digit whole numbers.			6	76%	76%	0
Use place value understanding and properties of operations to perform multi-digit arithmetic.			4	74%	74%	3
<b>Number and Operations-- Fractions</b>						
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			5	71%	71%	1
Extend understanding of fraction equivalence and ordering.			3	63%	63%	4
Understand decimal notation for fractions, and compare decimal fractions.			3	73%	72%	1
<b>Operations and Algebraic Thinking</b>						
Gain familiarity with factors and multiples.			3	75%	75%	4
Generate and analyze patterns.			2	72%	71%	-1
Use the four operations with whole numbers to solve problems.			9	75%	75%	0

# 2015-2016 Data Docum

	Fall Accuracy	Fall Comp	STAR	Winter Accuracy	Winter Comp	STAR	A
<b>Sue</b>	2Ins(9)	2Ins(6)	529	Ins(3)	Ins(6)	657	
<b>Bob</b>	2Ins(5)	2Ins(6)	553	Ins(3)	Ind(8)	578	
<b>Jane</b>	F(23)	F(4)	577	Ind(5)	Ind(7)	720	
<b>Tom</b>	Ins(9)	F(3)	529	Ind(0)	Ins(6)	579	
<b>May</b>	Ind(5)	F(5)	577	Ind(1)	Ind(8)	684	
<b>Fred</b>	F(26)	Ins(6)		F(23)	F(5)	732	
<b>Joe</b>	2Ins(7)	2Ins(7)	501	Ind(1)	Ins(7)	585	

## Frequently Used Reports

Reports	Description
Diagnostic	Presents diagnostic and skill information for an individual student.
Growth	Shows growth for a group of students over time, with emphasis on SGP—Student Growth Percentile.
Instructional Planning - Class	Provides list of recommended skills for class or group instruction based on most recent assessment.
Instructional Planning - Student	Provides list of recommended skills for individualized instruction based on most recent assessment.
Screening	Graphs students' placement above/below benchmarks based on STAR scores.
Student Progress Monitoring	Graphs an individual student's progress toward goal.
Summary	Summarizes student test results for a specific date range.

## Additional Reports

Reports	Description
Accelerated Math Library	Recommends Accelerated Math library placement for each student.
Annual Progress	Graphs student progress over a school year.
Growth Proficiency Chart	Plots Student Growth Percentiles SGP and proficiency on a quadrant graph; companion to the Growth Report.
Longitudinal	Shows growth over multiple years.
Parent - English	Presents informational letter, in English, for parents and guardians.
Parent - Spanish	Presents informational letter, in Spanish, for parents and guardians.
State Performance - Class	Graphs the percent of students on the pathway to proficiency on the MCAS Test. Previously known as the Group Performance Report.
State Performance - Student	Graphs a student's pathway to proficiency on the MCAS Test. Previously known as the Student Performance Report.
State Standards - Class	Groups students by estimated mastery of State Standards or Common Core State Standards based on STAR Enterprise scaled score.
State Standards - District	Estimates mastery of State Standards or Common Core State Standards for groups of students based on STAR Enterprise scaled score.
State Standards - Student	Estimates a student's mastery of State Standards or Common Core State Standards based on STAR Enterprise scaled score.

**Class: Pam Silbor**

Teacher: SILBOR, P.

**Group 4**

Students

**Fred Barney Wilma Betty**

**Geometry**

CA

**Geometry**

- 3 Understand that different shapes may share attributes
- 3 Understand that common attributes categorize shapes
- 3 Identify a common subcategory of quadrilaterals
- 3 Draw a quadrilateral that does not belong to common subcategories of quadrilaterals

**Measurement and Data**

**Measurement and Data**

- 3 » Tell and write time to the nearest minute
- 3 Measure a time interval in minutes
- 3 Solve a problem involving addition or subtraction of time intervals in minutes
- 3 Measure a liquid volume in liters
- 3 Measure the mass of an object using grams or kilograms

When you have classrooms where you see that teachers are effecting positive changes in student achievement, capitalize on that: assign those teachers to math instruction as opposed to ELA; have those teachers model lessons for other teachers. The district may want to think about how to bring in more *high quality* math PD.

We also have whole class math scores; we find that the class average for honors math is 88 while the class average for college prep is 68. When we ask why, the answer points to the haves and have-nots syndrome. The district needs to work to rectify this issue culturally.

### **STUDENT DATA**

Then, we can isolate students in a particular classroom, look at their needs, and target instruction during RTI time, or during a math Title I remediation time. We can use STAR data for this. This needs to be carefully considered for next year. We *know* where the individual student weaknesses are; therefore, we cannot apply global Band-Aids to specific ailments. While aspirin might cure lots of aches, there is only one fix for a ruptured appendix.

### **ANECDOTAL DATA**

We know that we have two students right now in this district who, without Algebra II have no college plans. These are typical kids, woven right into the fabric of this community, whom you would not identify as special needs students. And yet? Somehow, after 13 years of education in the UPS, these kids' options are very, very limited. No red print here. It's too late.

**HOW CAN WE BE SURE WE NEED TO BRING CHANGES TO OUR CURRICULUM, INSTRUCTION, and ASSESSMENT?**

**LOOK AT THE DATA ON THE NEXT PAGE.**



# Math Data By Grade Level

According to Fall and Winter STAR Reports

On these slides, you will see student growth rates as reported by STAR math testing, conducted at each grade level (K-5) in the fall and winter. Another round of testing will occur in the spring.

The growth rates reflect an *average* of all students' growth in each teacher's classroom.

The winter testing was conducted at the midpoint in the year; therefore, we would anticipate at least a half year's growth (0.5)—again on *average*—in each classroom.

As you know, each classroom is inhabited by disparate groups of learners.

*Math In Focus* was fully implemented during the 2014-2015 school year. For the teachers who piloted the program, this is their third year of implementation; it is the second year for all other teachers.

# About Math and Assessment

- Ongoing Formative Assessments
- Pre-Testing and Post-Testing
- Summative Assessments
- Common Assessments
- STAR Math Assessments (Diagnostic)
- MCAS Testing

# Kindergarten STAR Scores

Kindergarten						
average October 2015	average Jan 2016	average point increase	+grade equivalent	average SGP		
183	241	+58	+0.4			
209	257	+48	+0.4			
202	256	+54	+0.5			
199	251	+52	+0.4			
221	255	+34	+0.3			
178	223	+51	+0.4			
Proficient 189+	Proficient 228+					

# Grade One STAR Scores

## Grade 1

average Sept 2015	average Jan 2016	average point increase	+grade equivalent	average SGP
334	389	+55	+0.4	53
274	354	+80	+0.6	49
294	341	+47	+0.4	31
314	402	+88	+0.7	67
308	397	+89	+0.7	65
327	387	+60	+0.5	44
268	382	+114	+0.8	75
Score to be proficient 283+	Score to be proficient 345+			



# Grade Two STAR Scores

## Grade 2

average Sept 2015	average Jan 2016	average point increase	+grade equivalent	average SGP
434	478	+44	+0.4	40
410	467	+57	+0.5	52
459	518	+59	+0.6	52
451	542	+91	+0.9	79
429	491	+59	+0.5	59
390	469	+79	+0.7	76
Score to be proficient 409+	Score to be proficient 464+			

# Grade Three STAR Scores

## Grade 3

average Sept 2015	average Jan 2016	average point increase	+grade equivalent	Average SGP
507	580	+73	+ 0.8	76
529	596	+67	+ 0.8	71
532	625	+93	+ 1.1	81
510	584	+74	+ 0.9	57
526	586	+60	+ 0.7	57
554	607	+53	+ 0.7	51
Score to be proficient 509+	Score to be proficient 558+			

# Grade Four STAR Scores

## Grade 4

average Sept 2015	average Jan 2016	average point increase	+grade equivalent	average SGP
655	725	+70	+1.2	81
652	696	+44	+0.8	72
579	660	+81	+1.1	87
599	639	+40	+0.5	55
669	721	+52	+0.9	70
625	678	+53	+0.8	68
Score to be proficient 639+	Score to be proficient 675+			

# Grade Five STAR Scores

## Grade 5

average Sept 2015	average 2016	average point increase	+grade equivalent	average SGP
694	731	+37	+0.8	64
705	741	+36	+0.8	58
719	774	+55	+1.4	72
728	784	+56	+1.6	78
708	765	+57	+1.3	77
591	672	+81	+1.1	77
Score to be proficient 697+	Score to be proficient 730+			

# What does this data tell us?

- How do these facts and figures help us to make predictions about students and MCAS performance?
- How does this information help drive decisions around curriculum, instruction, and assessment?
- How does this data reflect the impact of *Math In Focus* programming?
- OTHER QUESTIONS FROM YOU?



**A Clinical and Educational Services  
Analysis for the  
Uxbridge Public Schools**

**Uxbridge Public Schools**



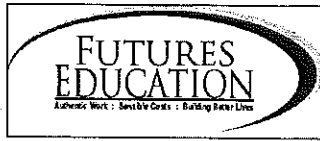
## **EXECUTIVE PROCESS SUMMARY**

The Superintendent of the Uxbridge Public Schools commissioned this comprehensive review of specific areas within the domain of the District's special education program. A clinical and educational services analysis (CESA), which contains proprietary methodology that triangulates information gleaned from qualitative sources, quantitative analyses, and established benchmarks with respect to school-based practices, was utilized to achieve this broad operational objective.

More specifically, the qualitative analyses comprised: (1) a series of interviews with related service providers, educators, paraprofessionals, and administrators; (2) a review of Individualized Education Programs to ascertain the effectiveness of educational-therapeutic interventions; and (3) an understanding of the methods in which related services are delivered to students in reference to best practices, student outcomes, and Least Restrictive Environments. Quantitative analyses included: (1) multidimensional descriptive statistical analyses of the District's related services, special education, and paraprofessional personnel in reference to staffing configurations, workloads, and service delivery models; and (2) a financial review relating to the current costs associated with the provision of special education services.

## **GLOSSARY OF ABBREVIATIONS**

IEP: Individualized Education Program  
PLEP: Present Levels of Educational Performance (from an IEP)  
RtI: Response to Intervention  
LRE: Least Restrictive Environment  
FAPE: Free and Appropriate Public Education  
PD: Professional Development  
S-LP: Speech-language Pathologist or speech-language pathology services  
OT: Occupational Therapist or occupational therapy services  
PT: Physical Therapist or physical therapy services  
FTE: Full-time equivalent  
ABA: Applied Behavioral Analysis  
OOD: Out of District (placement)



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## INTRODUCTION

As mutually agreed upon between Futures Education and the leadership of the Uxbridge Public Schools (hereafter, referred to as the District), this analysis was conducted in order to describe, analyze, and provide recommendations to improve aspects of the District's special education services. These particular areas under investigation included a review of the: (1) efficiency and effectiveness of related services within the specific domains of speech and language pathology (S-LP), occupational therapy (OT), and physical therapy (PT); (2) the utilization of paraprofessional personnel; and (3) a financial analysis of the special education program. With respect to the methodology, the information presented below was gleaned via a review of educational documents (Individualized Education Programs), descriptive and inferential statistical analyses, and interviews with a representative number of stakeholders that allowed for a variety of clinical, educational, and administrative perspectives.

For ease of presentation, the document is considered with respect to two primary programmatic constructs: *effectiveness* and *efficiency*. For the purpose of this discussion, the term *effectiveness* is operationally defined in a very specific manner in order to answer the question: *To what degree do the services under review promote optimal educational outcomes and student access to his or her curriculum?* Efficiency, for the purpose of this discussion, refers to the degree to which the District leadership is responsibly assuring short- and long-term allocation of resources in its provision of special education services. Corresponding recommendations are provided at the end of each section and the document concludes with a reiteration of those recommendations that are presumed to have the most substantive implications for short- and long-term programmatic and fiscal enhancements.

## EFFECTIVENESS

### KEY FINDINGS

#### ADHERENCE TO AN EDUCATIONAL MODEL<sup>1</sup>

- Per interviews, the clinical related service providers (comprising the S-LPs, OTs and PT) and paraprofessionals are generally well-respected and are deemed to provide valued services in promoting student achievement and independence. The providers involved in the delivery of S-LP, OT, and PT services evidence a solid understanding of the educational mission that constitutes the essence of school-based therapy practice. However, it was interesting to note that the percentage of treatment that took place outside of the classroom was 94% and 84% for the disciplines of S-LP and OT, respectively.

NEEDS TO  
HAPPEN  
IN  
THE CLASSROOM

<sup>1</sup> A discussion of the importance of the educational model is presented in Appendix A. This discussion is universal to school-based related services and is not specific to the District.



It is possible that the IEPs that were chosen as part of this analysis may have constituted a sampling error for this particular statistical parameter; however, of the 19 students with the educational disabilities of *Communication Impairment* or *Specific Learning Disability* (i.e., those that are essentially mainstreamed) did not have any S-LP or OT services provided via the "B" section of the service grid, which relates to services within the classroom.

Anecdotally, it is interesting to note that one student with a Communication Disability, who was receiving all weekly 60 minutes of speech-language services (which also speaks to the forthcoming discussion of over-utilization of services) outside the classroom, was noted to have the most difficulty with his communication skills within the classroom per the IEP. In an area that will be elaborated upon in a subsequent section, it was not always possible to discern the educational value added of the PT services based on a review of the IEPs. For example, several PT goals and objectives were devoid of requisite language that linked how the addressed foundation skills (e.g., balance) would help the students access the educational environment, which is the ultimate purpose of school-based services.

PT IS ONLY NEEDED TO ACCESS THE CURRICULUM

- Reportedly, across the District there is a solid culture of celebration of discharge from services. However, there is a small minority of parents within the District that do not view discharge of diminution of special education services as a positive, and therefore the discharges of students is negatively impacted in these particular cases. It is speculated that the parents' misunderstanding of an educational model of service provision is contributing to their belief that "more is better."
- A metric that is useful to assess the effectiveness of school-based therapy services is to assess the correlation between service minute and age. There are a number of reasons for the fact that students, as they progress from pre-school to older grades, typically receive fewer therapy minutes across time. The reasons are typically: (1) students achieve their stated goals and are discharged (i.e., the interventions have been effective); (2) the students themselves wish to be discharged, as services in the higher grades may be socially stigmatizing; (3) due to "plateauing" of skills, services are no longer effective; and (4) other personnel such as paraprofessionals may "take over" interventions that no longer require a skilled professional.

For whatever the reason, if the number of service minutes diminishes, then students are afforded more opportunities to remain with their peers (whether typical or non-typical), thus allowing them more time in the classroom for valuable instructional time; from a legal perspective, the more time students spend in the classroom, the more compliant a district is with LRE parameters. The essentially negligible correlation ( $-.01$ ) between service minutes with age (as presented graphically in Appendix B) is flatter than is customary and is counter to the typical correlations the authors find. From an arithmetic perspective was



influenced by the fact that of the 7 students receiving 150 or more weekly minutes of therapy, 4 were ages 15 or older.

- The paraprofessionals are reported to provide an important and valuable service to students in promoting their educational successes and interactions with typical peers. However, there are many factors whether real or imagined that currently present as obstacles to optimizing their collective effectiveness:
  - Although it is commendable that the paraprofessionals are afforded the opportunity to attend workshops during professional development days, it was reported that the content of these sessions is not always of practical benefit to support the students or programs that they are responsible for.
  - The sharing of information via the IEPs and direct teacher communication are inconsistent, and hampers “real time” knowledge of student’s current needs and their corresponding interventions.
  - There is a perception that the High School has had to shoulder an inordinate amount of paraprofessional staffing reductions, thus reducing the remaining staff’s effectiveness in supporting programs and students.
  - There appears to be variability in the process in how the paraprofessionals are evaluated annually.

## **IEP REVIEW**

### **Introductory Commentary**

A review of the IEPs were considered in terms of: (1) their *internal consistency*, or the degree to which the elements of the document were mutually supporting, and thus “painted” a cohesive profile of the student; (2) whether interventions were educationally sound and adhere to accepted standards of practice; and (3) the degree to which the goals and benchmarks were measurable and supported educational need.

### **Key Findings**

- In general, there was consistent linkage in the elements contained within *Present Levels of Educational Performance (General Curriculum; PLEP A)*, *Present Levels of Educational Performance (Other Educational Needs; PLEP B)*, and the *Current Performance Levels (CPL)*, cohered, and justified the need for skilled services across the disciplines of S-LP and OT. One example that deviated from this trend and underscores the uneven application of exit and entry criteria occurred for S-LP services, where it was noted in PLEP B:



*Although it appears as though [the student's] language skills (with the exception of her vocabulary knowledge) are age appropriate according to these tests, this is not the case in the classroom. [The student's] most recent speech and language evaluation (11/08 ) revealed scores within the low average to average range on the subtests of the CELF-4 (standard scores ranged between 7 and 11 with a Core Language Score of 94). Her receptive and expressive vocabulary knowledge were found to be borderline on the PPVT-4 and EOWPVT (standard scores of 85 and 86 respectively).*

In corroboration of the aforementioned entry alluding to the degree to which the District may go beyond FAPE (which implicitly affects LRE) in certain cases, the average and median weekly service minutes for the S-LPs was 70 (with a mode of 60). In addition, there were numerous instances of statistical outliers with respect to services vis-à-vis their level of need as identified in PLEP A; that is, students receiving at least 2 hours of treatment per week with an educational profiles that did not appear to warrant this level of service.

- A review of the measurable annual goals and corresponding benchmarks strongly suggest that the providers' and departments' over-riding philosophy of employing evidence-based practice patterns. Deviations of evidenced-based practice referred to one instance of an S-LP utilizing oral-motor therapy to facilitate speech production.<sup>2</sup> The goals and objectives reflected excellent measurability across all three disciplines.
- The goals and objectives pertaining to PT were not directly linked to the educational environment (e.g., [The student] will maintain her balance on her right or left foot 7 seconds in one out of three trials).
- In concert with the forthcoming discussion of optimizing programmatic flexibility in the utilization of paraprofessionals, it was encouraging to note that the language chosen by the IEP team assured the fluidity of paraprofessional supports. The authors provide a few of these (verbatim) examples below:
  - *Access to a paraprofessional with ABA training throughout the day to ensure comprehension of curriculum content through repeating/clarifying directions, maintaining attention to task and providing behavioral support (from PLEP A).*
  - *[The student] will have access to a paraprofessional all day that has training in ABA (from the additional information section).*
  - *A paraprofessional will meet [the student] at the bus in the morning and escort her into school/homeroom and also walk her out to the bus at the end of the day.*

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<sup>2</sup> Dr. Gregory Loft's article *Logic, Theory, and Evidence Against the Use of Non-Speech Oral Motor Exercises to Change Speech Productions* will be submitted with this document for informational purposes.



- [The student] is currently not attending specials. She has an academic support during that period. In the 7th grade, [the student] will attend special with paraprofessional support as needed (computer, health, art).

In addition, it was encouraging to note the manner in which the responsible person designated to carry out IEP goals was designated as: special education *teacher/para* in the service grid of the IEP, further ensuring a practical safeguard to assigning 1:1 paraprofessional supports beyond what is absolutely necessary for student achievement and functional independence during the school day.

## RECOMMENDATIONS

- In order to continue to promote the culture of discharge actualizing the following principles at all IEPs are considered critical to systematically address what the District can legally and practically provide.<sup>3</sup>
  - Introduce the concept of discharge at the time of the initial IEP meeting; the mastery levels for each goal and objective should be highlighted, and a general discussion of anticipated timelines for treatment should occur. It should be emphasized that discharge from services may occur at any time in the process, and need not wait until the three year review. Parents should be encouraged to see discharge from related services as a reason for celebration, rather than as a denial of entitled services.
  - It may be helpful for the team, as led by the team chairs, to provide a legal context for programming decisions by introducing the concepts of LRE, FAPE, and the *required vs. beneficial* dichotomy as they pertain to eligibility for related services.
  - If a student is making sufficient progress toward goals, a transition to a less intrusive consultation model to ensure collaboration between service providers and classroom staff, may ease the transition and help prepare the parents for discharge from services. In addition, the Response to Intervention (RtI) model may be used as a reverse-step down approach, thereby providing student with needed supports that not need be under the aegis of special education. This safety net may prove especially beneficial for students who are transitioning from one school to another.

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<sup>3</sup> Perhaps in conjunction with a District "script" detailing not only the legalities of special education and related service provision, but conveying the District and team "vision" regarding the need and ultimate discharge of these services. The team chairs may take the lead in this initiative given their critical role in coordinating IEP meetings and their already perceived effectiveness by administration.



- Encourage the utilization of service providers, when possible, in consultative-integrated roles where they can “piggy back” on academic goals. It has been the authors’ experience that consultation services are typically used as one year bridge between direct service and discharge.
- As part of an intensive PD series, allow the S-LPs and PT to participate in a program to facilitate improvement in the writing of measurable and educationally-directed IEPs. The authors provide an example in Appendix C of a checklist the IEP team may find helpful in codifying educational goals and objectives for school-based physical therapy services. Continued intensive PD for staff to address the specific educational-therapeutic needs of the services that they serve is considered to be a critical. Although this is obviously an expense for the District in difficult economic times, such an investment may be pennies on the dollar.<sup>4</sup>
- Although many of the teachers and administrators within the District appear to have a solid understanding of school-based services, it may be beneficial for the District to allow the clinicians to discuss the roles, responsibilities, and proscriptions of school-based clinicians to the entire school staff, thus further promoting unity and camaraderie between the clinicians and educators. In addition, this increased communication may help further build the requisite platform for a more expansive integrated IEP model, as shall be discussed in a subsequent section.

## EFFICIENCY

### KEY FINDINGS

#### Exit and Entry Criteria

##### Introductory Commentary

Ideally, criteria relative to entry and exit eligibility eliminate any ambiguity with respect to candidacy for services. The existence and implementation of uniform criteria ensures external consistency, or the degree with which all students within the District are allowed equal access to services. Clearly, from clinical, logistical, and legal (e.g., Civil Rights) perspectives, the importance of uniform exit and entry criteria that is easily referenced, understood, and enacted by all stakeholders cannot be over-stated.

- The related service staff and administration are to be commended in ensuring that the S-LPs, OTs, and PT have a written document with which to determine services. However, as shall be elaborated in the recommendations section, these can be further refined to

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<sup>4</sup> The most recently reported data from the DESE website, published in 2009, revealed that the District spent 40% less on professional development (as a function of per pupil expenditure) than the state average



ensure that they are more stringent and to minimize the degree to which clinical or professional judgment become a primary consideration with which to assign these services at IEP meetings. The primary ramification of the clinical judgment may lead to the potential for parental pressure to over-ride the IEP's decision(s).

- The S-LPs, OTs, and PT have yet to fully employ an RtI model, (which exists essentially as ASC in the District) process as a collective "gatekeeper," thus minimizing false positives (i.e., students who do not need additional specialized supports and interventions, but are identified as requiring them) and false negatives (i.e., students who do require further specialized interventions, but are not identified as needing them). Thus from an efficiency standpoint, the maximal use of this process would minimize extraneous evaluations and allows the service providers to focus on their current caseloads.

### Staffing Efficiencies

#### Introductory Commentary

In light of the increasingly constricted special education budgets state and nationwide, this particular section will address the often-neglected issues of cost-effectiveness within the context of the current staff configuration and caseload sizes. As part of this analysis, the benchmarking process of comparing the District's related services staff to other single-town districts in Massachusetts to the over-all special education population was utilized. The reader is referred to Appendix D for a graphic representation of these comparisons for the three core therapies and paraprofessionals.

*5.8 SLP = 1.0 SLP-A*

- The 6.8 full-time equivalent (FTE) S-LPs, comprising all but one certified speech-language pathologists, equates to a ratio of 1 S-LP staff member for every 41 students in special education (i.e., the "pool" of students that may require speech-language services via an IEP within the District-not the caseloads of the clinicians), which is significantly lower (i.e., more highly staffed) in comparison with our past analyses; these ratios have ranged from a low of 1:53 to a high of 1:90, and an average of 1:80. The workload and caseload numbers in Appendix E are notable and with one exception are considerably less than the state average of 43 as reported in the latest survey of the American Speech Language Hearing Association.

*-TREATMENT  
ROOMS ARE  
SMALL  
-NO DIRECT  
SERVICE FOR  
GR. 7-12*

The average salary for S-LP is \$65,267 not including benefits (Uxbridge does not include benefits in their school budget); the range is \$56,33-\$71,852 and the SLP-A salary is \$32,992. Total salaries for S-LP services are \$411,540, which is 7% of the SPED budget.

- The 3 FTE OT staff (comprising 1 registered occupational therapist and 2 registered assistants) equates to a ratio of 1 OT staff member for every 92 students in special education. This ratio of students to staff is, much more heavily staffed than our past



analyses in Massachusetts, which have ranged from a low of 1:110 to a high of 1:224 and a median of 1:180. As can be seen in Appendix E, the vast majority of OT interventions (i.e., 59%) are spent treating student individually, which appears to be excessive and beyond FAPE. The salary for the OTR is \$66,652; the average salary for the COTAs is about \$43,000 and the budget for OT services is \$153,015 (2.6% of the special education budget).

- The .8 FTE (at an annual salary of approximately \$53,000 registered PT staff equates to a ratio of 1 PT staff member for every 346 students), which is in-line in comparison to our past analyses. The range of ratios has been 1:212 to 1:1440, with a median of 1:350.
- The 1.6 psychology staff is in-line with the recommended school psychology practitioner to student ratio, of 1:1000<sup>5</sup> students (general and special education), which the *National Association of School Psychologists* (NASP) currently suggests.
- The 21.5 special education teachers equates to a ratio of 1 special education teacher to every 13 special education students. Typically, this ratio approximates 1:15, but the workloads of the special education teachers, which includes teaching regular education classes in addition to other duties must be considered.
- There are 8.0 FTE staff listed as paraprofessionals who are providing ABA services under the direction of a BCBA supervisor. The average salary for an ABA paraprofessional is \$32,438; the range is \$28,329 - \$36,298. The total for ABA salaries, excluding coordinator, is \$259,507 (4.4% of the special education budget).
- There are 59 staff members listed as paraprofessionals based on the data provided by the Uxbridge school personnel department:

	<u>Head Count</u>	<u>FTE</u>
ABA	8	8.0
COTA	2	2.0
Job Coach	1	1.0
SPLA	1	1.0
Class/student	<u>47</u>	<u>44.3</u>
	59	56.3

The ratio of 56.3 FTE paraprofessionals for 277 students on IEPs, which equates to 14% of the entire school population, is an extremely high ratio of 4.9:1. By excluding the specialist paraprofessionals (ABA, COTA & SPLA), the ratio is 45.3 FTE or 6.1:1, which compares to the typical ratio of 8.5:1 as illustrated in Appendix D. The District

<sup>5</sup> The NASP ratio of students to school psychologists is typically understood to be based upon a provision across a more comprehensive spectrum of services (of which, counseling, assessment, and consulting are considered primary).





has a tiered compensation package for paraprofessionals: Specialists include ABA, COTA and S-LP-A require an advanced degree and compensation ranges from \$34,000 - \$43,828; classroom-student paraprofessional salaries average \$25,352 with a range of \$17,708 - \$31,652; and the cost for class/student paraprofessionals is \$1,123,102 or 18.9% of the SPED budget.

The average salary for paraprofessionals appears to be high and as a whole the paraprofessional budget of \$1,526,941 accounts for nearly 26% of the special education budget.

## RECOMMENDATIONS

- Leadership is strongly encouraged to refine District-wide entry and exit criteria for all therapy services. For the therapies, chief among these modifications may be: (1) encourage integrated models where therapists and educators “co-own” goals and objectives; (2) specify the intensity of service delivery based on the variables of age, effect(s) of the disability on academic performance, and the nature of the educational curricula<sup>6</sup>; and (3) assure that service providers assume a strictly consultative role for students who are having their needs met (e.g., vocabulary, literacy, handwriting, etc.) through other personnel and supports.
- The District may consider employing entry and exit criteria for paraprofessional support personnel; in this manner, further parity and equalization of access to services can be ensured for the students across the District, irrespective of the school in which students attend. The “default” model will be to continue to assign paraprofessionals to teachers and programs and not to specific students. If paraprofessional supports are deemed necessary beyond the programmatic assignment of the paraprofessional, it is recommended that objective, measurable, and explicit IEP goals specifying corresponding functional skills that will allow attenuation (if not complete discharge of the paraprofessional supports) be included as a featured component of the IEP. The authors will provide District leadership with a sample rubric that encompasses all of these parameters, and is currently being utilized by the Holyoke Public Schools.
- From a logistical standpoint, it will be important for the IEP team not to “lock in” the autism specialist on the service grid. Furthermore, the decision to adopt Applied Behavioral Analysis (ABA) methodologies as the preferred service model to serve students with autism appears to be on the rise in many districts, which has obvious implications for efficiencies. The research on teaching students on the autism spectrum suggests that varied methodologies are equally appropriate, and not all students benefit from a single program. The District has commendably sought alternatives to ABA, and view this as “a method” rather than as “the method.”

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<sup>6</sup> An example of a severity matrix for communication impairment specifically in the domain of language is presented in Appendix F.



- From an efficiency perspective, it may be instructive to overlay the needs of students currently receiving the continuum of related services and paraprofessional supports against this prospective criteria to determine if the current staffing levels are required. From a legal perspective, it is speculated that equalizing candidacy for these services will further ensure compliance from a Civil Rights perspective. In conjunction with this, leadership may consider expanding the RTI-SRC processes to include S-LP, OT, and PT supports thus minimizing extraneous evaluations and allowing the specialists to provide supports to teachers and students in LRE.
  
- By enacting the aforementioned initiatives, the authors speculate that the District will be able to make the following staffing changes without adversely affecting students:
  - Reducing the S-LP by 2.0 FTEs, which would be an expected staff number for the District's size, would save the District approximately \$130,000 (excluding benefits); a shift to an assistant model, allowing for 3 S-LP/As supervised by 2 S-LPs would save the District \$186,000 annually.<sup>7</sup>
  - A reduction of 1 Occupational Therapy Assistant would save the District \$43,181 (excluding benefits). Switching to a physical therapy assistant with RPT supervision, would result in approximately \$20,000 savings annually.
  - Reducing the class/student paraprofessional staff by 10% (4.3 positions) would save the district approximately \$109,000, and would maintain an enviable ratio of special education students to paraprofessionals of 6.7:1.
  
- Many districts have opted to take monies earmarked for paraprofessional supports and devote them to hiring more special education teachers. In this manner, co-teaching capacity may be expanded, and because students are receiving instructional supports within the classroom with a professional, it proves to be a more effective paradigm for both them and other struggling learners within the classroom. An added bonus of this pooling of resources is to expand Rtl supports because the special education teacher may be able to simultaneously assist in implementing Tier 2 interventions in real time to general education students.

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<sup>7</sup> The plausibility of a greater proportion of therapy assistants, who are recognized as licensed service providers in Massachusetts, may be a viable option for the District. However, as with other districts that we have made this recommendation to, the authors acknowledge that, given their expertise, registered therapists may support District's special and regular education programs in a manner that assistants may not be able to. In addition, it is understood that recruiting of assistants is not easily accomplished. Therefore, the following "long-range" staffing models, may be considered to be one that will promote programmatic efficiencies without sacrificing programmatic effectiveness and will bring the Districts more in-line with industry standards.



## **SUMMARY AND FINAL COMMENTARY**

Currently, the District spends approximately 32%, or \$5,947,447, of its total operating budget of \$18,575,700 on special education, which is 12% higher than the state average; alternatively and counter-intuitively, its special education population of 14% and out of district placements comprising 5% of the special education population (traditionally, one of the most expensive line items in any special education budget) are lower than the state averages of 17% and 8%, respectively.

It is presumed that the high staffing ratios and associated salaries devoted to special education programs are the primary reasons for the high expenditures devoted to special education. To this end, the authors have identified specific recommendations with which to re-organize the staffing models, thereby providing services to the District's students in a more cost-effective manner while maintaining programmatic effectiveness.

1. Enhance the "cultural" and logistical underpinnings for successful discharge from special education services that will center on the creation of exit and entry criteria with respect to qualitative and quantitative factors that may, or may not, represent candidacy for all services-including paraprofessional supports- within the contexts of LRE, FAPE, best practices, and an educational model.
2. Further define roles and responsibilities as they pertain to potential overlap of special- and regular-education instruction and the specific skill sets required of the therapy staff. Institute an integrated model of service delivery whereby the "default" mode will be for service providers to support the teachers with co-teaching, consultation, and provision of effective educationally-based interventions.
3. Revisit the staffing configuration for the therapies and the use of assistants and consider re-allocating resources currently devoted to paraprofessional supports for special education teachers, thus building co-teaching and RtI capacities for special and general education students.



## Appendix A. The Importance of an Educational Model

The authors emphasize that the construct “at play” here is not just *inclusion*, which refers to the practice of having special education students and general education students receiving instruction together in a classroom; rather, this section refers to an in-class orientation that is designed to further breakdown the “silos,” thereby allowing programming for students with disabilities within a more unified, educationally-directed paradigm. In keeping with the mandated educationally-based nature of school-based services, as presumably detailed in a given student’s Individualized Education Program (IEP), related services may be best provided via an in-class, integrated model. For example, an S-LP’s goals related to social skills may be addressed in a classroom setting where peer interactions take place in a more naturalistic context; it may be preferable for an OT to provide more “ecologically valid” sensory interventions within the classroom to help with the student’s “learning readiness”; similarly, a teacher may find environmental accommodations provided by a physical therapist within the classroom extremely helpful in promoting the student’s mobility where he spends the majority of the school day; the “pointers” offered by a school psychologist may be generalized by the classroom teacher in order to optimize adaptive behaviors for educational purposes.

Consequently, “all things being equal,” this therapeutic-educational orientation achieves five broad objectives: (1) provision of services in the least-restrictive environment (LRE); (2) a paradigm whereby transference of skills to the classroom is more easily attained; (3) an increased opportunity for service providers to model therapeutic interventions to instructional staff; (4) the creation of a platform that allows for an integrated IEP, thus optimizing educational outcomes within the “authentic” academic milieu of the classroom; and (5) the presumptive creation of a culture, which through avoiding a “medical-clinical” model, will ideally facilitate a reduction of the need for intensive services, discharge from services, and ultimately, district expenditures.

The authors of this study reiterate that there may very well be circumstances where the traditional, individual “pull-out” treatment paradigm remains appropriate. For example, consider the following scenarios:

- A speech-language pathologist (S-LP) needs to train a student to use fluency-enhancing techniques to address a severe case of stuttering.
- An occupational therapist (OT) is addressing hand contractures with a student to reduce tone in order to facilitate fine motor skills.
- A physical therapist (PT) needs to constantly adjust a student’s ankle-foot orthosis to optimize ambulation.

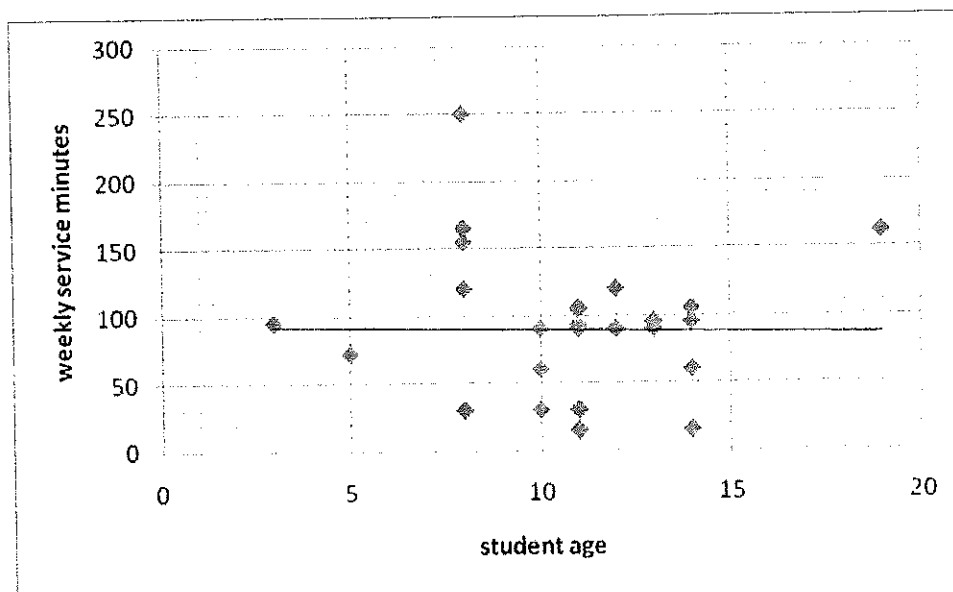
In all of these scenarios, the specialists may plausibly choose a pull-out model to address the underlying foundation skills. However, in the authors’ view, such



situations in school-based practice are the exceptions proving the rule, and therefore an integrated, in-class service delivery model should be conceptualized as the “default” for all IEP stakeholders.



## Appendix B: The Scatter plot Illustrating the $-0.01$ Correlation of Service Minutes and Age

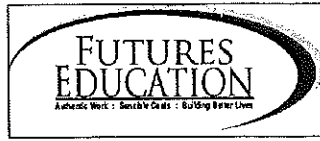


Notes: each data point represents a single student across the parameters of age and monthly minutes of speech-language services; for example, the data point in the upper right hand corner represents a 19 year old student that is receiving 165 minutes of services;



## Appendix C. An Example of Eligibility Criteria for PT: Checklist Addendum

- An answer of **yes (Y)** to all of the following four questions **may** qualify a student for school-based physical therapy.
  1. Due to **gross motor** impairment, does the student require **hands-on assistance** to access his or her curriculum (special or general education) in any of the following areas (at least one yes counts as a yes to question one):
    - Stairs: Y N
    - Ramps: Y N
    - Curbs: Y N
    - School Bus: Y N
    - Doors: Y N
    - Seating: Y N
    - Vocation: Y N
  2. Are the skills of a Registered Physical Therapist or Physical Therapist Assistant **required** (as opposed to an adequately trained teacher or paraprofessional) for the student to access the curriculum; → Y N
  3. Is it **likely** that the student will become more independent with his/her access to the curriculum with skilled school-based Physical Therapy intervention? → Y N
  4. Can the gross motor impairment NOT be addressed appropriately with outpatient physical therapy services? -----  
→ Y N
- The following criteria **do not** solely justify school-based physical therapy services.
  1. Stretching/ROM/positioning (can be performed by an aide)
  2. Supervision required for safety
  3. Gross motor delay/poor balance/poor coordination
  4. Poor safety awareness
- Observations must be **validated by multiple instances**, related to curricular access; if the student is deemed eligible for school-based services, it is required that the area(s)



of need as described above, are **documented in the PLEP B section of the IEP**, and have a corresponding measurable and relevant goal/objective.





**Appendix D. Therapy Staffing Pattern Comparison for OT, PT, and S-LP**

District /School	Spec. Ed. Pop.	FTE OT Staff	Ratio of Special Ed Students to OT Staff	Ranking (from lowest to highest ratio)
Uxbridge	277	3	92:1	1
Oxford	331	3	110:1	2
Hopedale	221	1.6	138:1	3
SBRSD	166	1.2	138:1	3
Haverhill	1400	8.52	164:1	4
Palmer	356	2	178:1	5
Weston	368	2.06	179:1	6
W. Springfield	593	3	198:1	7
Everett	829	4	207:1	8
Walpole	716	3.2	224:1	9
Grafton	529	1.9	278:1	10