

Budgeting & Scheduling for School Success

RLRP

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Introduction

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Why is a Finance Person Talking About Staffing?

- Personnel is the #2 driver of financial success after enrollment
 - # of Teachers
 - School Leadership
 - Student Support
 - Non-Core Programs
 - Back Office Support

Agenda

- What drives teacher staffing?
- How many teachers do I really need?
- Education & staffing efficiency collide.
- Staffing of other positions
- Scenario with financial constraints
- Q & A

How Many Teachers Do You Need?

- You are the principal of a middle school with 100 students per grade for grades 6-8

Please Do Not Read Ahead!

What Drives Teacher Staffing?

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What Drives Teacher Staffing?

- Class size
- The # of students getting demerits
- The evil finance/district office people
- Attendance – Lower attendance deflates class size, thereby reducing # teachers needed
- The success of the football team
- My ability to follow directions & not read ahead

Class Size

- Need to figure out desired class size per grade (if it varies)
- PLUS maximum class size you are willing to accept
 - Differentiate between core subjects and specialty subjects
 - Maximum used because students don't come in convenient groups and therefore some classes are inevitably larger than others

Why is Class Size Important?

- In the 300 student example, reducing from 25 to 20 students per class increases the # of sections by 3, which will increase the # of teachers even more
- 3 teachers x \$60,000/teacher → \$180,000 budget hole

Prof Dev & Prep Periods

- Most schools have one or two periods/
blocks per day where teachers do not
teach
 - Prepare lessons
 - Meet with other teachers to review
individual students
 - Attempt to integrate lessons with each
other
 - Professional Development
 - Random duties

Why are PD/Prep Periods Important?

- Each period that a teacher is not teaching means that another teacher needs to be hired to fill that slot
- If teachers teach 6 out of 8 periods in the 300 student, 25 student/class example, then you would need to cover 24 extra periods (2 periods/section x 12 sections) → 4 more teachers (24/6)

Small Group Instruction

- Reading – Many schools (especially lower grades) break their reading classes up into smaller groups for core subjects like reading
- Remediation – Some school provide small group remediation. This can be either pullouts or smaller class size for certain subjects or time of day

Why is Small Group Instruction Important?

- Each section that has small group instruction requires additional teacher periods. If teachers have a fixed # of minutes per day, this increases the number of teachers required
- In the prior example, if each of the 12 sections has one period of remediation with a class size of 12-13, then you would need 12 more teacher periods or 2 more teachers

Other Potential Drivers

- Length of day → if teachers have a fixed # of minutes, the longer the day, the more teachers you need
- Teachers teaching multiple grades → the more flexibility, the easier it is to optimize a schedule
- Shared prep time → Another flexibility issue
- Graduation requirements → Mostly affects high schools & may force them to add staff
- Certifications → Multiple certifications increase flexibility

Breakout 1

How many teachers do you need?



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What is the Average Class Size?

- XYZ High School has the following students in grades 9-12: 160; 150; 140; 125.
- They have an 8 period day, with each teacher teaching 6 periods. Target class size is 28, but can go up to 32.
- They have 1 ELA, math, history, science and foreign language teacher per grade (4 of each). They have 2 Physical education, 1 ROTC, 1 remedial english, 1 remedial math, 1 chorus, 1 band, 1 orchestra, 1 welding, 1 drama, 2 art, 1 culinary/home ec, 1 business and 1 economics/law.
- Is this under-staffed/over-staffed or just right?
- What is the average class size?

Answer

- Understaffed by 4 positions
- They need to add 2 Reading comprehension teachers and 1 civics teacher
- This way they can teach you to stop reading ahead!
- PS: Did you notice the math error?

How Many Teachers Do I Really Need?

Welcome to Math 101

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The Simplified Math

- # of teachers needed = # student classes / classes taught by each teacher
- # of student classes = # sections x # classes/student

Scenario 1 - Elem

- You are running an K-5 elementary school. You have 80 students in K, 92 in 1st-3rd and 100 in 4th & 5th. You want 20 students/class in K (max 25), 23 students in 1st-3rd (max 27) and 25 students in 4th & 5th (max 30)
- Each teacher teaches 6 “periods” and students go to specials for the other 2 “periods”

What is the minimum # of teachers?

Scenario 2 - Middle

- You are running a 6-8 middle school. There are 205 students in grade 6, 170 students in grade 7 and 155 students in grade 8
- You want class sizes of 25 students/class and a maximum class size of 28 students/class
- Students attend 4 blocks per day and teachers teach 3 blocks

What is the minimum # of teachers?

Scenario 3 - Remediation

- You are running a K-3 primary school. There are 92 students in K, and 100 students per grade from 1-3 (total 392)
- You run 90 minutes of small group reading everyday and 6, 45 minute periods. Teachers teach for 270 minutes
- You want class size of 24 students/class and a maximum class size of 28 students/class and up to 15 students per group for reading

What is the minimum # of teachers?

Any issues to worry about?

Scenario 4 –Varying Class Sizes

- You are running a 9-12 high school. There are 125 students in 9th, 115 students in 10th, 105 in 11th and 90 in 12th (435 total)
- You want a class size of 27 students / core class and a maximum class size of 30 students / core class for Math, Science, English & History (each student takes these). You can go up to 35 students for other classes. Students are segregated by grade for core subjects, but can mix for others
- You run 7, 1 hour periods per day, with teachers teaching 5 of them

What is the minimum # of teachers?

What about subjects?

- You are running a 7-9 middle school. There are 175 students in grade 7, 175 students in grade 8 and 125 students in grade 9
- You want a class size of 25 students/class
- Students attend math, science, english, history, spanish and 2 electives per day. Teachers teach 5 periods/day.

What is the minimum # of teachers?

What about specific subjects?

Subjects

- Math = 19 sections / 5 sections/ teacher = 3.8
- Science = 3.8
- English = 3.8
- History = 3.8
- Spanish = 3.8
- Elective = $19 \times 2 / 5 = 7.6$
- So do we need 28 teachers then?

Do we need 28 teachers?

NO → 133 classes to cover (19 x 7)

- 1 elective class is math remediation taught by math teacher → 4 Math (20 classes)
- 1 elective class is ELA remediation taught by ELA teacher → 4 English (20 classes)
- 1 elective class is Economics taught by History teacher → 4 History (20 classes)
- 1 elective class is Robotics taught by Science teacher → 4 Science (20 classes)
- Spanish → rounds up to 4 (19 classes)
- PE teachers → 19 sections, probably every other day → 9.5 sections/day + teach 0.5 health → 2 teachers (10 classes)
- Leaves 24 elective classes → 4.8 teachers rounds to 5 teachers

What About Rotations?

- Split blocks – Ex: 1 math block, 1 english block, $\frac{1}{2}$ social studies/ $\frac{1}{2}$ science block, 1 elective block
- A Day/B Day schedule
- 2 Semesters with Different Schedules

What About Rotations?

- Provide flexibility in course offerings
- Allows flexibility in meeting graduation requirements
- Allows flexibility for facility constraints
- Provides flexibility in meeting staff timing issues
- **FLEXIBILITY → OPTIMIZATION**
- Despite popular opinion, it does NOT change the mathematical calculations
 - Johnny still needs to be in class for every period

Breakout 2

What does each teacher teach?

Education & Staffing Efficiency Collide

Welcome to Math 201

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Then the Educators Came

- Educational “models” are typically designed around nicely packaged sets of kids with the # of sets conveniently divisible by the model’s magic #
 - Problem is kids are not pre-made widgets
 - The more intricate designs have heavy restrictions, reducing flexibility and increasing inefficiencies
- In some cases, this educational “model” is nothing more than a principal’s pre-conceived notion with no educational benefit

Issue: Teachers Can Only Teach One Grade

- Allows for common professional development period
- Allows for group lesson planning
- Reduces the amount of teacher prep needed (multi grades implies more classes to prepare lessons for)

Math: Teachers Can Only Teach One Grade

- LMN Middle School has 216 students per grade in grades 6-8
- They have an 8 period day, with each teacher teaching 6 periods. Target class size is 25, but can go up to 30.
- If teachers can only teach one grade, they would need 2 sets of teachers per grade level (6 groups would be 36 students/class) → 6 ELA, 6 Math, etc
- By math only, you need 24 total sections (27 students/class) → 4 ELA, 4 Math, etc
 - This would require sharing across grades

Options: Teachers Can Only Teach One Grade

- Common PD: Assign each shared staff to one home grade
 - Use lunch periods and non-core subjects to free up all home grade teachers during a common period
- Group Lesson Planning: Assign each shared staff to one home grade and just communicate to others OR use “free” periods of core staff to teach electives
- Too much teacher prep: Balance the # of different classes taught. This happens across grades or across types of classes within a grade

Issue: We Need TUV Elective

- Especially in high schools, principals want to have the largest selection of electives possible
 - Most insist that there is a large need for the elective
 - Many will cite graduation requirements as well
- The most common appearance of this problem is after the baseline staffing has been determined and an extra need identified

Math: We Need TUV Elective

- XYZ High has 105 students per grade in 9-12
- They have a 7 period day, with each teacher teaching 5 periods. Target class size is 28.
- Assuming that each student receives math, english, history and science, each student has 3 periods left per day. $3 \text{ periods} \times 420 \text{ students} / 28 \text{ students/class} = 45$.
- $45 \text{ periods} / 5 \text{ periods/teacher} \rightarrow 9 \text{ teachers}$
 - Likely need 2 physical education/health, and at least 2 foreign language to meet graduation requirements \rightarrow leaves 5 positions
- Every position more than 5 means lower class sizes

Options: We Need TUV Elective

- Hire elective teachers that can teach several different desired classes
 - You may not be able to justify a full time welding teacher, but can justify a welding teacher for 2 periods/day
- Use core teachers to teach electives
 - In many cases core teachers have a period or two “free” if the class sizes were at desired levels. Use these periods to teach some of the desired electives

Options: We Need TUV Elective

- Look at alternative programs
 - Computer based programs
 - College credit programs
 - Important Note: If you use an alternative program, make sure to count the cost in your FTE count
- Look at semesters or A/B day schedule
 - Allows for a larger variety of electives since each teacher is teaching twice as many courses

Other Issues

- Kindergarten enrollment is too high for X teachers, but too low for $X+1$ teachers
 - Consider using a shared aid to allow for the kids education at a reduced cost
- Phys Ed sections are too high for X teachers, but too low for $X+1$ teachers
 - Consider consolidating classes and having an aid. This will help with the gender monitoring issue as well

General Tricks of the Trade

- Prioritize: Always protect your core
 - Think about what is really important to your school and protect that
 - By definition, if something is more important, then something else is less important → everything cannot be “required”
- Use electives to generate flexibility
 - They have less NCLB restrictions
 - Many core teachers can teach them
 - Class sizes can vary

Staffing of Other Positions

Special Education

- A school must meet the requirements of each student's IEP
- The requirements in each student's IEP is generally set by the school, in conjunction with the parents and specialists
- Remember to always balance the needs of the special education students with the needs of the general education students
- Be clear with the special education department what the priorities of the school are. Everyone wants everything, but there needs to be balance

Special Education Cont

- IEP's should not be written in a vacuum. They should match the special education program implemented by the school
- If a student only needs help in english and math, don't have the IEP require full day support
- If your school does small group instruction for reading, maybe have the IEP say that a Special Education teacher will teach the student in a small group during that block

School Administration

- Principals, assistant principals, deans, school secretaries, data people
- Think about the value of each of these positions and be weary of being too “Top Heavy”
 - Every dollar spent on admin is one less spent in the classroom
- If your teachers can’t control their classes and therefore you need extra support, think about if you have the right mix of teachers and viable demerit systems

Educational Support

- Directors of Curriculum, Lead Teachers, Master Teachers, Achievement Team
 - Similar to the school administration staff, consider their true value to the kids' education
 - Can they effectively mentor teachers to bring them to the next level?
 - Are their classroom observations providing value to justify their salaries & benefits?
 - Are data system effective in guiding instruction and monitoring progress?
 - Can you bring in a specialist for a couple of days to meet specific professional development needs rather than hiring a full time person?

Back Office

- Operations, finance, accounting, human resources, technology, food, custodial, security, transportation
- Should not detract or steal focus from the instructional program
 - Considering not involving principal involved in minor operational decisions and problems
- One school cannot afford to hire separate individuals for each function
 - Consider which you want to do in house and use specialists for the other individual functions

Sample Budget Scenario

- Kindergarten-8th grade school within a district
- The district manages the back office items, the facilities, transportation, etc. They do not provide any educational support other than books & supplies.
- K-5 runs with a 90 minute small group reading block, 7 other 45 minute education classes plus a 45 minute lunch. Teachers teach 315 minutes.
- Grades 6-8 run 7, 1 hour periods per day plus a 30 minute lunch. Teachers teach 5 periods.
- What are the options to balance the budget?

Breakout 3

Putting it All Together



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Homework

- Obtain your current school's projected enrollment by grade for the next school year
- Assume a desired class size of 25 students with a 7 hour day
 1. Determine the most efficient staffing for your school (not the actual staffing)
 2. Make a list of FTEs for teachers (both specials and classroom) and what subject/s each teaches
 3. List the number and position type of FTEs for other positions
 4. Be ready to present your enrollment and recommendations when you come to the next scheduling class in a week and a half

Questions

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