



# CLASS SIZE

**Considerations at the Elementary Level  
Education, Community and Policy Committee**

# RESEARCH

## NEPC (National Educational Policy Center) 2014 summary of research

- ❑ Cites several studies defining small classes as under 17 students (Mosteller, 1995; Molnar et al., 1999)
- ❑ Overall conclusion that students learn more when classes are under 20 or class size was reduced by at least 8 students, especially in early grades (Mosteller, 1995; Molnar et al., 1999; Angrist & Lavy, 1999; Urquiola, 2006; Browning & Heinesen, 2007)
  - ❑ Angrist & Lavy (1999) studied a maximum class size in the study was 40 students, with smaller classes of 25 - 27
  - ❑ The difference in test scores for all the studies cited is generally an increase of about 0.2 standard deviations, which is not a large difference from a practical standpoint
  - ❑ Hoxby (2000) did not see any significant effect on achievement

# RESEARCH

## NEPC (National Educational Policy Center) 2014 summary of research

- ❑ Increased outcomes from class size reduction (17 or less) are greater for low income & minority students (Mosteller, 1995; Angrist & Lavy, 1999)
- ❑ Smaller class size (under 20) yields higher student engagement & better instructional design (Mosteller, 1995; Dee & West, 2011)
  - ❑ However, shifts to more engaging instructional practices are not automatic and generally require professional development (Molnar et al, 1999)
- ❑ Limitation - most studies did not control for other potentially confounding variables, such as teacher experience or socioeconomics of the district

# Current North Penn Elementary Class Size Guidelines - Administrative Regulation 6151

<b>Grade Level</b>	<b>Range</b>
Kindergarten	22 - 25
Grade 1	23 - 26
Grade 2	23 - 26
Grade 3	23 - 26
Grade 4	25 - 29
Grade 5	25 - 29
Grade 6	25 - 29

Regulation was last revised in March 2011, raising the upper limit for all grades by 1 to address budget concerns

# Comparison to Area School Districts

- 17 area school districts provided elementary class size ranges
  - Montgomery County - Cheltenham, Colonial, Lower Merion, Lower Moreland, Methacton, North Penn, Perkiomen Valley, Pottsgrove\*, Souderton\*\*, Spring-Ford, Upper Dublin, Upper Perkiomen, Wissahickon
  - Similar Size SE PA - Central Bucks, Council Rock, Downingtown, West Chester\*\*
- Upper limit is used in the analysis because the upper limit guides when a new class or an assistant are considered

*Notes: \*District did not provide guidelines for Grades 3-6, \*\*Districts did not provide guidelines for Grade 6*

<b>Upper Size Limit</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>20 students</b>	1						
<b>21 students</b>	1	1	1				
<b>22 students</b>	5	4	2				
<b>23 students</b>				2	1		
<b>24 students</b>	3	4	4	3	1	1	
<b>25 students</b>	7	6	7	5	5	4	3
<b>26 students</b>		1	1	2	2	2	1
<b>27 students</b>			1	1		1	1
<b>28 students</b>		1	1	2	4	3	3
<b>29 students</b>					1	1	1
<b>30 students</b>					2	4	5

# Option 1: Current Guidelines with 2019 Estimated Enrollment

Implication	Estimate	Difference from 2017-18
Estimated number of elementary students	6497	-115
Number of sections needed	284	-8.0
Number of teachers needed*	265.5	-8.0
Cost differential for staffing		(\$640,000)**
Number of rooms needed	272	-8.0

*\*Note: Kindergarten teachers are assigned two sections each*

*\*\*Note: All staff costs are estimated based on salary and benefits for a Step 1, Column 1 teacher*

## Option 2: Lower all grade level guidelines by 1

<b>Implication</b>	<b>Estimate</b>	<b>Difference from Current Model</b>
Estimated number of elementary students	6497	
Number of sections needed	288	+4
Number of teachers needed	269.5	+4
Cost of additional teachers needed	\$320,000	(\$320,000)*
Number of rooms needed	276	+4

*\*Note: Net change in estimated savings for current model*



## Option 3: Lower all guidelines by 2

<b>Implication</b>	<b>Estimate</b>	<b>Difference from Current Model</b>
Estimated number of elementary students	6497	
Number of sections needed	298	+14
Number of teachers needed	279.5	+14
Cost of additional teachers needed	\$1,120,000	\$480,000*
Number of rooms needed	280	+14

*\*Note: Net change in estimated savings for current model*

## Option 4: Lower all guidelines by 3

<b>Implication</b>	<b>Estimate</b>	<b>Difference from Current Model</b>
Estimated number of elementary students	6497	
Number of sections needed	311	+27
Number of teachers needed	291	+25.5
Cost of additional teachers needed	\$2,160,000	\$1,520,000*
Number of rooms needed	297	+25

*\*Note: Net change in estimated savings for current model*

# Option 5: Lower guidelines in selected grades

- Need to determine which grade levels should have lower guidelines
- Projected number of sections based on current guidelines:

	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Current upper limit	25	26	26	26	29	29	29
Sections at upper limit	0	2	0	2	1	3	0
Sections within 1 of upper limit	0	4	5	2	7	1	7
Sections 2 or more below upper limit	37	33	37	39	33	36	34
Total number of sections	37	39	42	43	41	40	41
Projected class size range	16-22	19-26	17-25	18-26	22-29	22-29	22-28

# SPACE CONSIDERATIONS

<b>Estimate of Rooms Available based on survey of principals</b>	<b>Number of Rooms</b>
Total number of full size classrooms	355
Number of full size classrooms dedicated to art and music (3 per building)	35
Number of full size classrooms currently used for intervention that could be used for additional sections if STAR time, intervention assistants, or preschool partners are displaced	25
Number of full size classrooms currently used for required services such as reading support, special education, IU class, sensory rooms, ELD classes, or gifted support	23
Number of full size classrooms currently used for core instruction	272

# SPACE CONSIDERATIONS

- **Increasing class sections beyond capacity could displace the following to smaller spaces:**
  - Existing self-contained special education classes
  - Pre-K Counts classes (Hatfield)
  - Pre-K North Penn class (Oak Park and Knapp)
  - Dedicated full sized classrooms for Art & Music
  - Instrumental spaces for band & strings lessons
  - Full sized classrooms utilized for intervention/Title I
  - Special education resource room spaces
- **Not all schools have smaller spaces to accommodate these functions**
- **Redistricting could have some impact on space availability in any given school, but may not fully solve space concerns**

# References

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- Dee, T., & West, M. (2011). The non-cognitive returns to class size. *Educational Evaluation and Policy Analysis*, 33(1), 23 - 46.
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- Urquiola, M. (2006). Identifying class size effects in developing countries: Evidence from rural Bolivia. *Review of Economics and Statistics*, 88(1), 171 - 177.