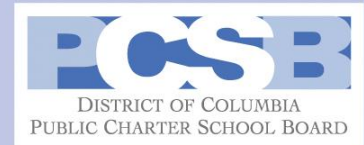# Early Childhood PMF DC CAS Equating for Norm Referenced Assessments

Tuesday, October 7, 2014

Norm Referenced Assessments

Business Rule agreed upon by task force February 2014:

Norm referenced Achievement Metrics:

Make the achievement target the 40th percentile/stanine 5 unless the probability of students subsequently scoring proficient on the DC CAS is 45% or lower at that level and the probably increases substantially (above 55%) at the next decile/stanine.
The level can be lowered if the research supports this finding. For the first three years, the achievement level will not be increased or decreased more than one level above or below the 50th percentile/stanine 5.

*Business rule can only be implemented if power analysis is .80 or greater and desired n has been met

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Norm Referenced Changes for 2014-15

Assessment	Business Rule Implemented Prior to Equating	2014 Equating
NWEA MAP - Math	40th percentile	No change
NWEA MAP - Reading	40th percentile	No change
GMADE – Math	Stanine 5	No change
SAT 10 – Math	Stanine 5	No change
SAT 10 – Reading	Stanine 6*	No change
Terra Nova – Math	40th percentile	No change
Terra Nova - Reading	40th percentile	No change

* This assessment was increased based on business rule last year for 2014-15

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Assessment: MAP
Subject: Reading
Grades: 2
Current Achievement Indicator: 40th percentile
Proposed Achievement Indicator: no change

P=.001
Power=.99
Desired Ns = 18

ScoreType	Decile	% Prof	N
Percentile	0	3%	102
Percentile	1	12%	57
Percentile	2	20%	79
Percentile	3	30%	44
Percentile	4	49%	75
Percentile	5	56%	70
Percentile	6	69%	51
Percentile	7	80%	56
Percentile	8	95%	40
Percentile	9	100%	29

Assessment: MAP
Subject: Math
Grades: 2
Current Achievement Indicator: 40th percentile
Proposed Achievement Indicator: no change

P= .001
Power= 1
Desired Ns = 6

ScoreType	Decile	% Prof	N
Percentile	0	5%	37
Percentile	1	11%	55
Percentile	2	29%	58
Percentile	3	42%	67
Percentile	4	56%	80
Percentile	5	80%	60
Percentile	6	78%	49
Percentile	7	85%	59
Percentile	8	94%	48
Percentile	9	98%	41

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Assessment: GMADE
Subject: Math
Grades: K-2
2014-15 Achievement Indicator: Stanine 5
Proposed Achievement Indicator: No change

ScoreType	Level	% Prof	N
Stanine	2	0%	1
Stanine	3	0%	6
Stanine	4	18%	17
Stanine	5	73%	11
Stanine	6	71%	21
Stanine	7	0%	2
Stanine	8	80%	5
Stanine	9	80%	5

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P = .004
Power = .81

ScoreType	Level	% Prof	N
Stanine	1	0%	1
Stanine	4	14%	7
Stanine	5	36%	11
Stanine	6	50%	22
Stanine	7	58%	12
Stanine	8	33%	3
Stanine	9	67%	3

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Assessment: TerraNova
Subject: Math
Grades: K-2
Current Achievement Indicator: 40th Percentile
Proposed Achievement Indicator: No change

P= .62
Power= .08
Desired Ns = 379

ScoreType	Decile	% Prof	N
Percentile	0	0%	20
Percentile	1	7%	14
Percentile	2	29%	7
Percentile	3	4%	25
Percentile	4	33%	18
Percentile	5	48%	23
Percentile	6	52%	21
Percentile	7	63%	19
Percentile	8	71%	21
Percentile	9	79%	24

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Assessment: TerraNova
Subject: Reading
Grades: K-2
Current Achievement Indicator: 40th Percentile
Proposed Achievement Indicator: No change

ScoreType	Decile	% Prof	N
Percentile	0	2%	44
Percentile	1	0%	12
Percentile	2	23%	30
Percentile	3	43%	23
Percentile	4	55%	33
Percentile	5	75%	24
Percentile	6	68%	25
Percentile	7	75%	16
Percentile	8	90%	20
Percentile	9	96%	23