Center for Assessment

Skip-Year Growth Analyses – Phase 2

Illinois State Board of Education

Technical Advisory Committee

September 3, 2020

Context

- Suspension of assessment in 2020 created a gap, which impedes the calculation of growth.
- The growth model used in Illinois is SGP, which is also a prominent component of the state accountability system.
- Regardless of whether or not flexibility for school accountability is an alternative (right now it is not), the state may want to produce and distribute a measure of academic growth. The TAC began an inquiry of 'skip year' growth at the June meeting. At that time, we reviewed some high-level state results based on student level analyses.
- The TAC suggested expanding these analyses to explore school level outcomes and to include relationship with selected school characteristics, which is the focus of today's discussion.

Center for Assessment

Skip-Year Growth

- Using historical data from 2016 to 2019, two-year SGPs were calculated using 2019 as the dependent variable and 2016 and 2017 as the independent variables.
- The analyses presented today are based on the highest order SGP available (typically order 2) for 2019.
  - Skip year: Priors = 2016 (when available) and 2017
  - Standard: Priors = 2017 (when available) and 2018
- Except as noted, all analyses are at the school level where n >=10

Student Level Correlations to Mean Prior Scale Score

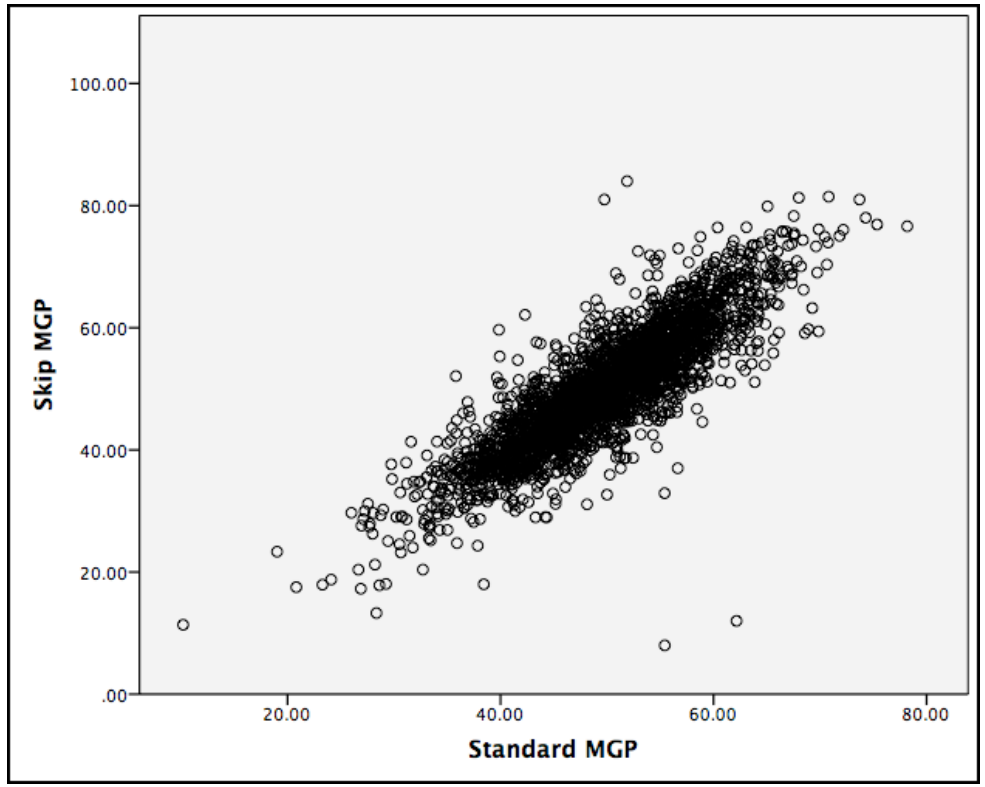
	Mathematics			
	Standard SGP to Mean SS Prior	N	Skip SGP to Mean SS Prior	N
Grade 4	0.000	135,167	-	-
Grade 5	0.001	139,286	0.000	136,019
Grade 6	0.002	140,559	0.001	137,494
Grade 7	0.002	137,674	0.001	134,271
Grade 8	0.001	135,517	0.001	133,452

	ELA			
	Standard SGP to Mean SS Prior	N	Skip SGP to Mean SS Prior	N
Grade 4	0.001	135,033	-	-
Grade 5	0.001	139,260	0.000	135,827
Grade 6	0.002	140,613	-0.001	137,429
Grade 7	0.002	137,744	0.000	134,271
Grade 8	0.001	136,567	0.001	133,836

Mean prior scale score is the most recent value used in the calculation (Standard = 2018; Skip=2017)

Mathematics
All Grades

Relationship between Standard and Skip MGP

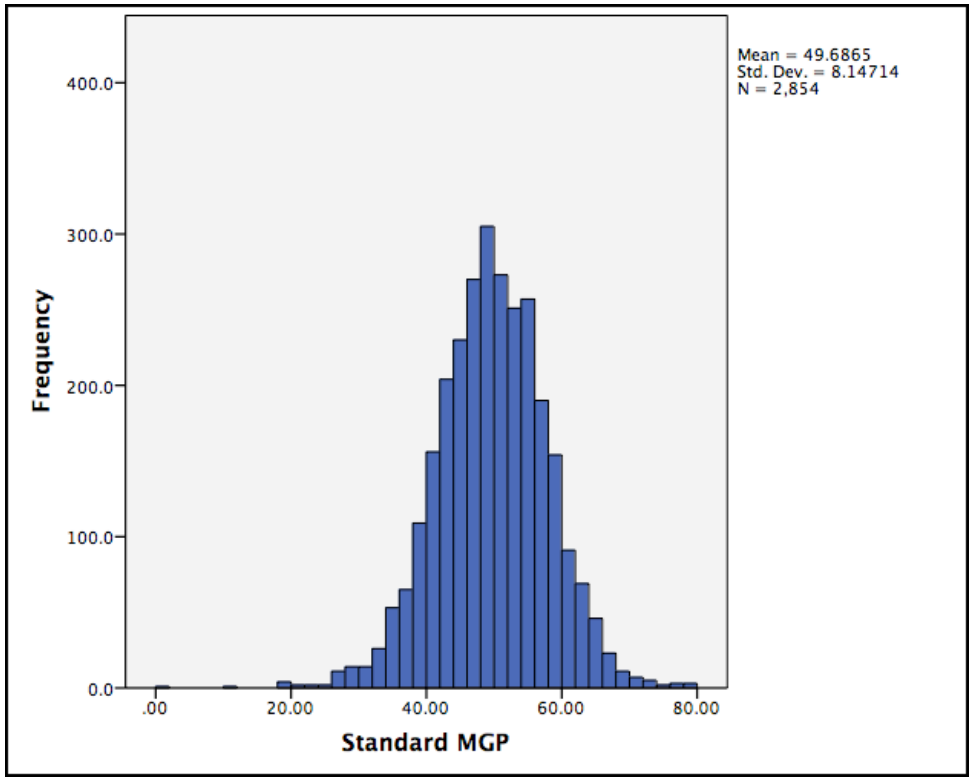


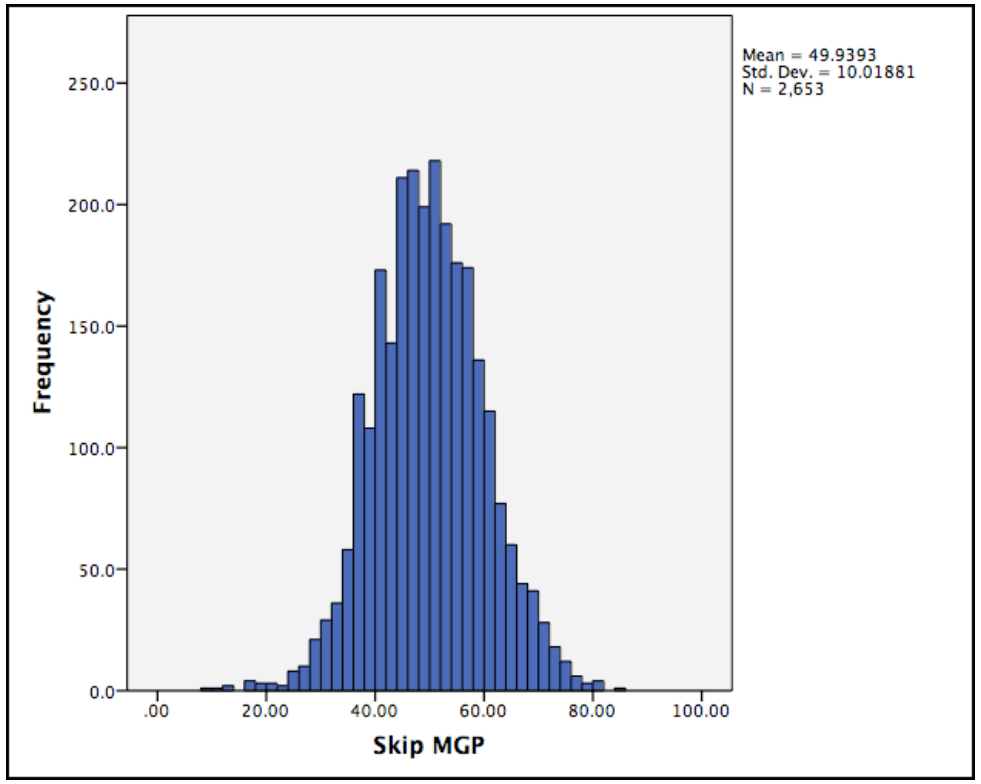
Content = Mathematics
Grades = All available

Correlation = .861

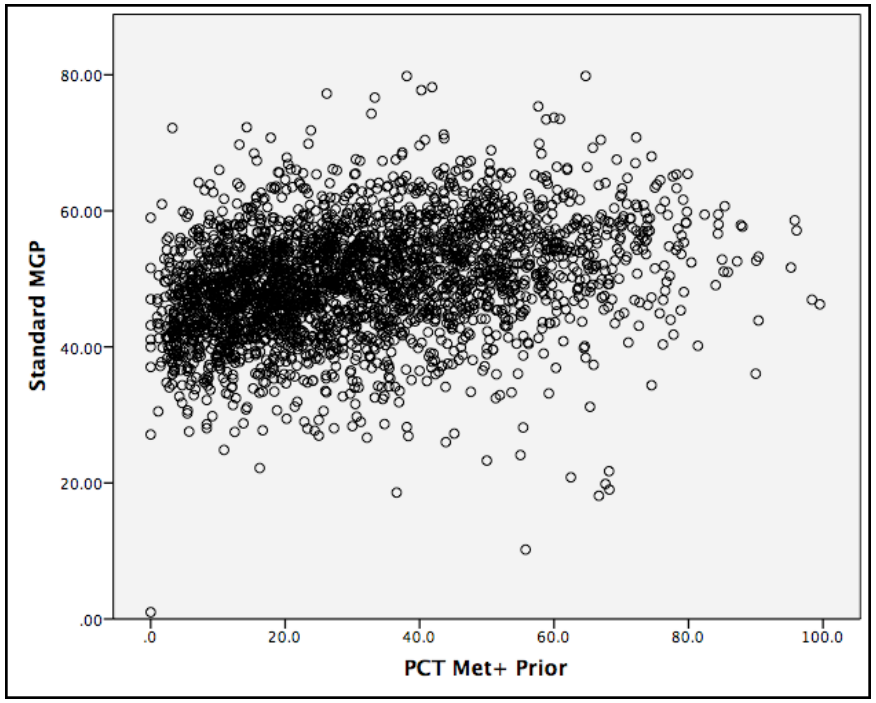
Histograms: Standard and Skip MGP

Content = Mathematics
Grades = All available

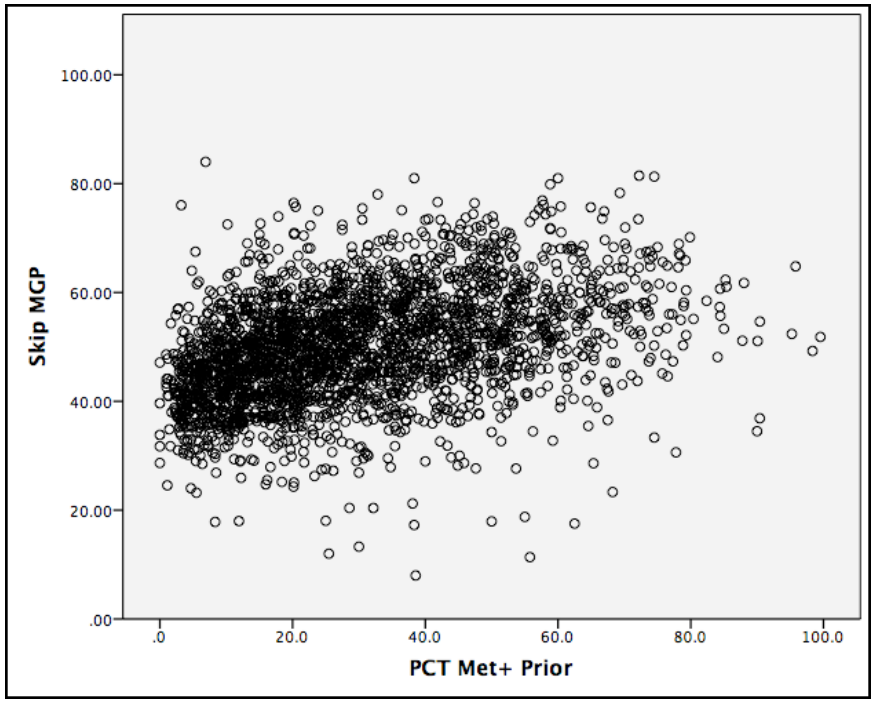




Relationship to Prior Year Status (Percent Meeting)



r = .480



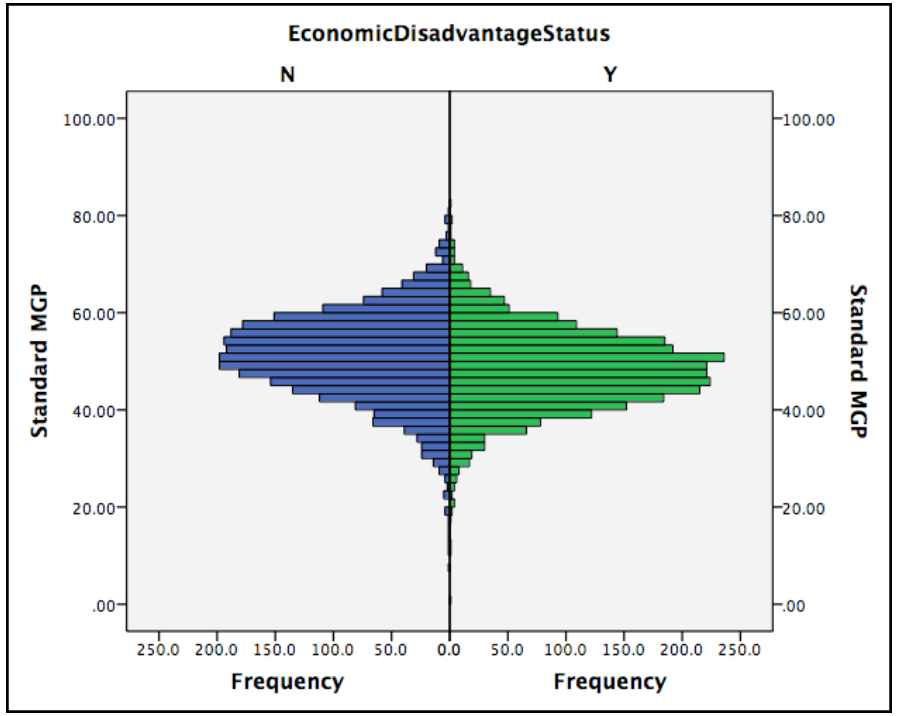
r = .505

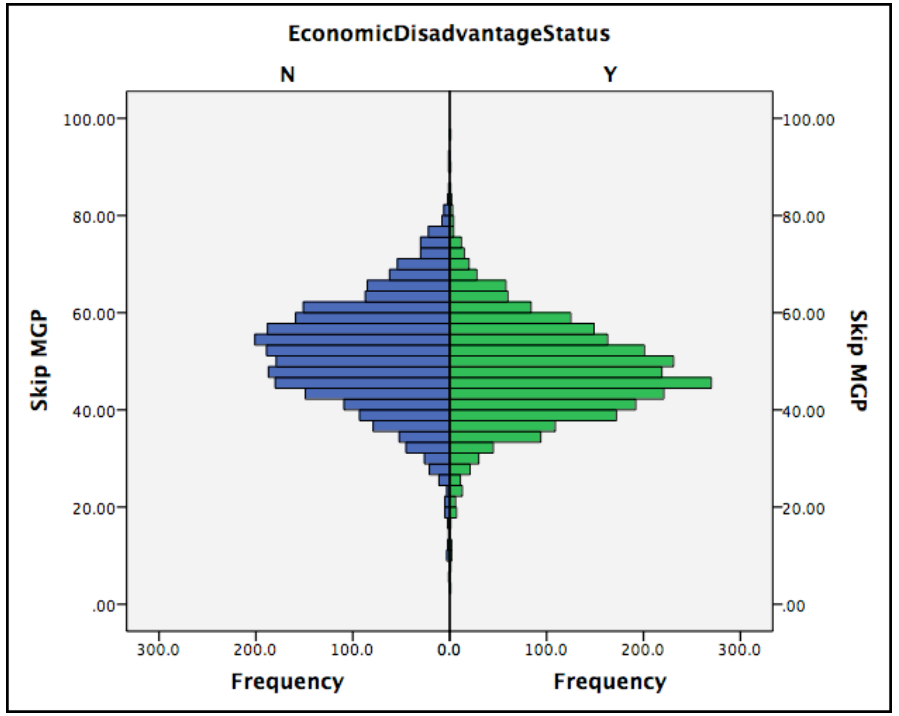
Content = Mathematics

Grades = All available

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





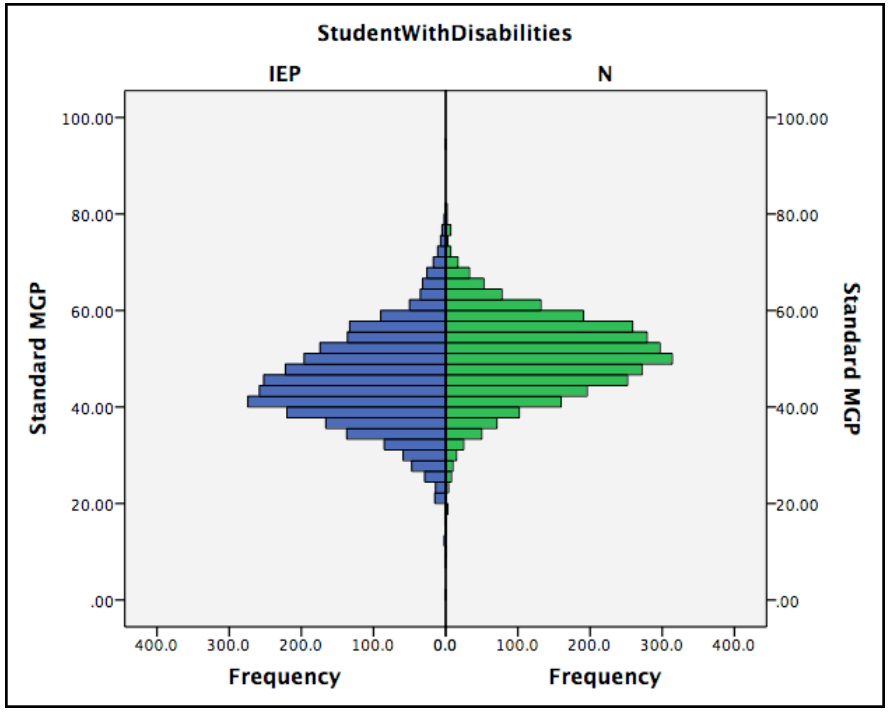
Content = Mathematics

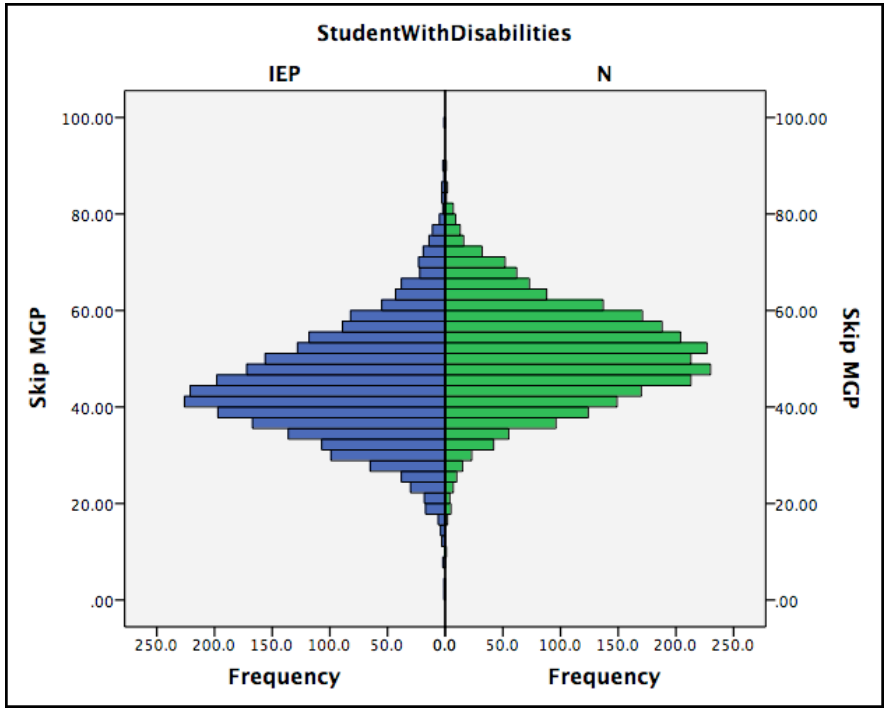
Grades = All available

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	50.95	48.32
Skip Mean	51.65	48.10

Students with Disabilities (IEP)





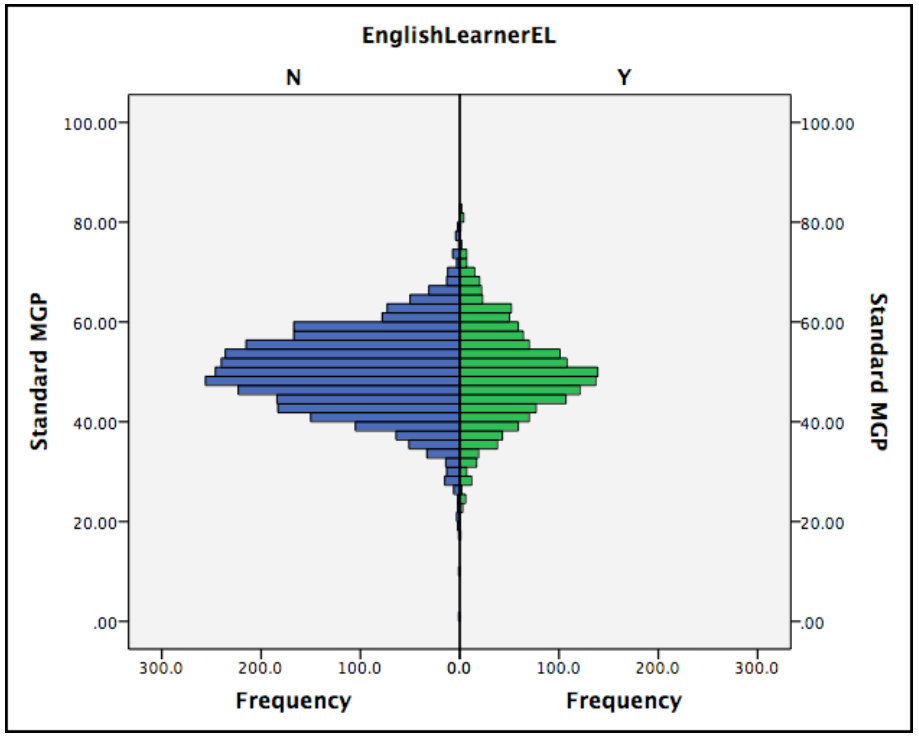
Content = Mathematics

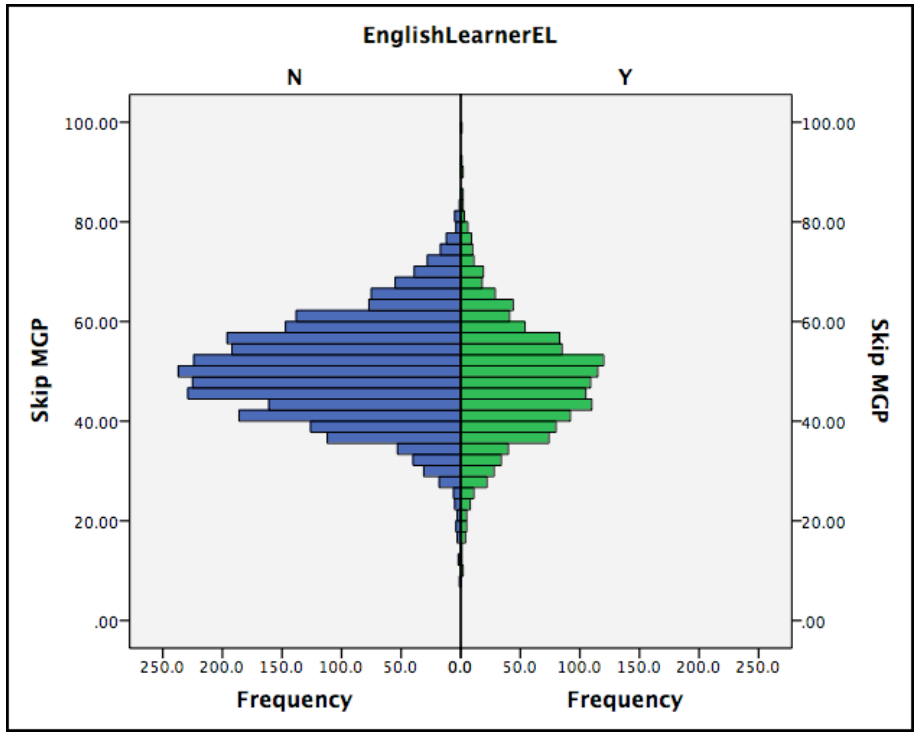
Grades = All available

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	50.45	45.40
Skip Mean	50.91	44.59

English Learner Status





Content = Mathematics

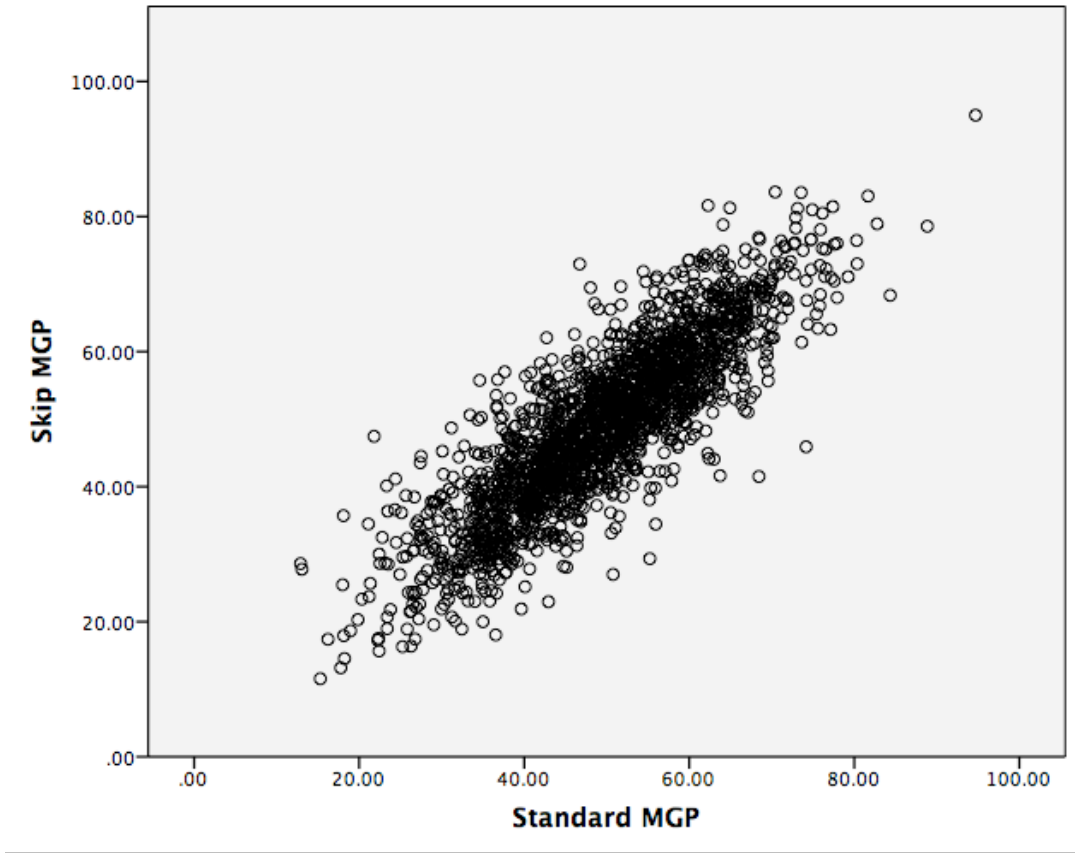
Grades = All available

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	49.83	49.7
Skip Mean	50.24	48.32

Mathematics
Grade 5

Relationship between Standard and Skip MGP

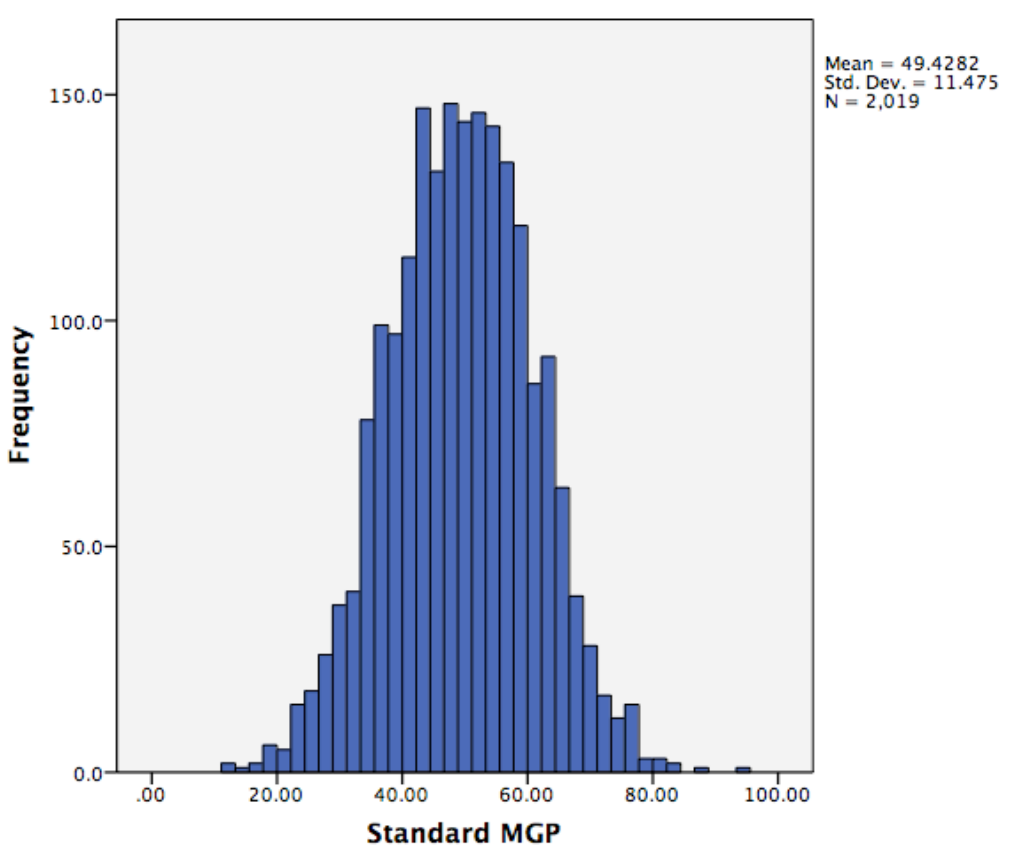


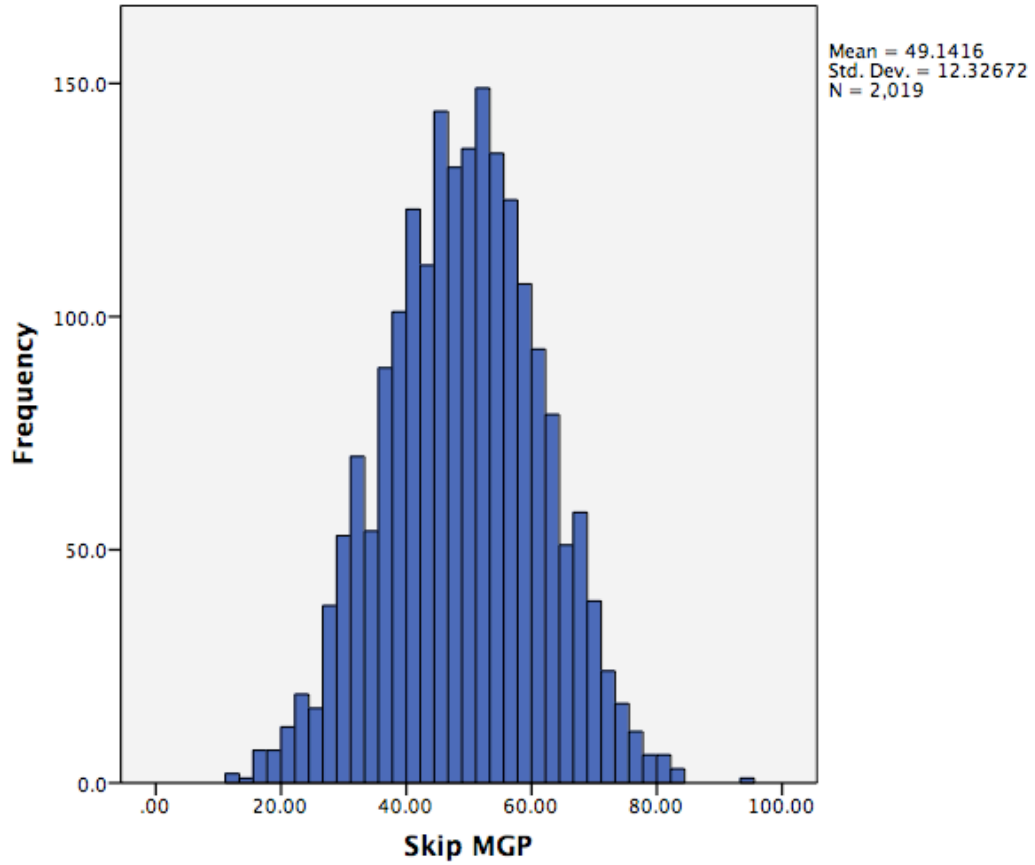
Content = Mathematics
Grade = 5

Correlation = .856

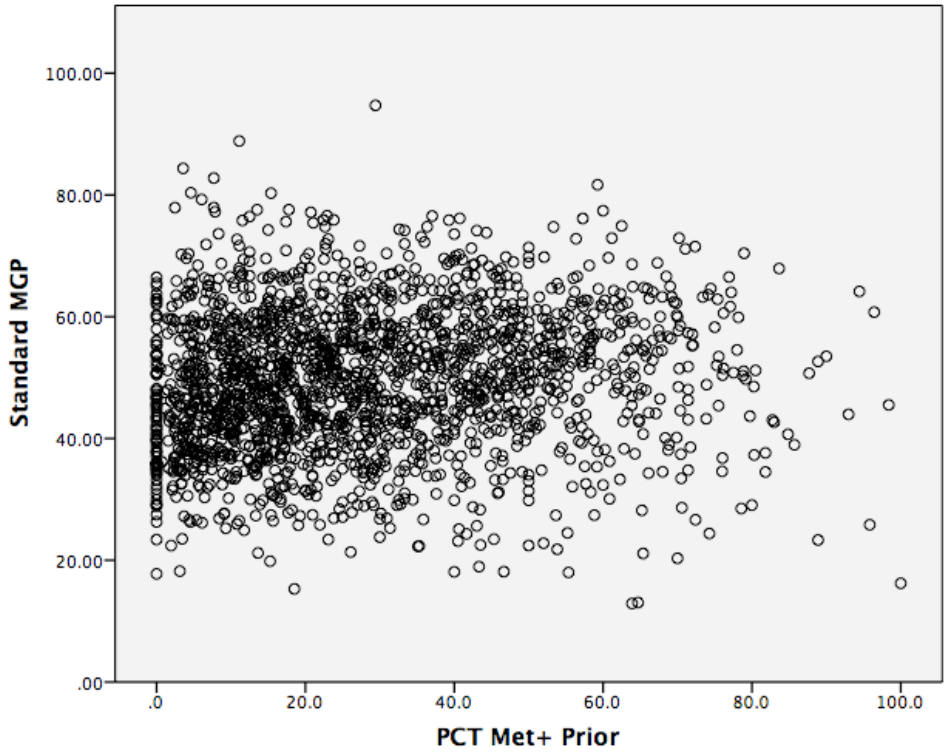
Content = Mathematics
Grade = 5

Histograms: Standard and Skip MGP

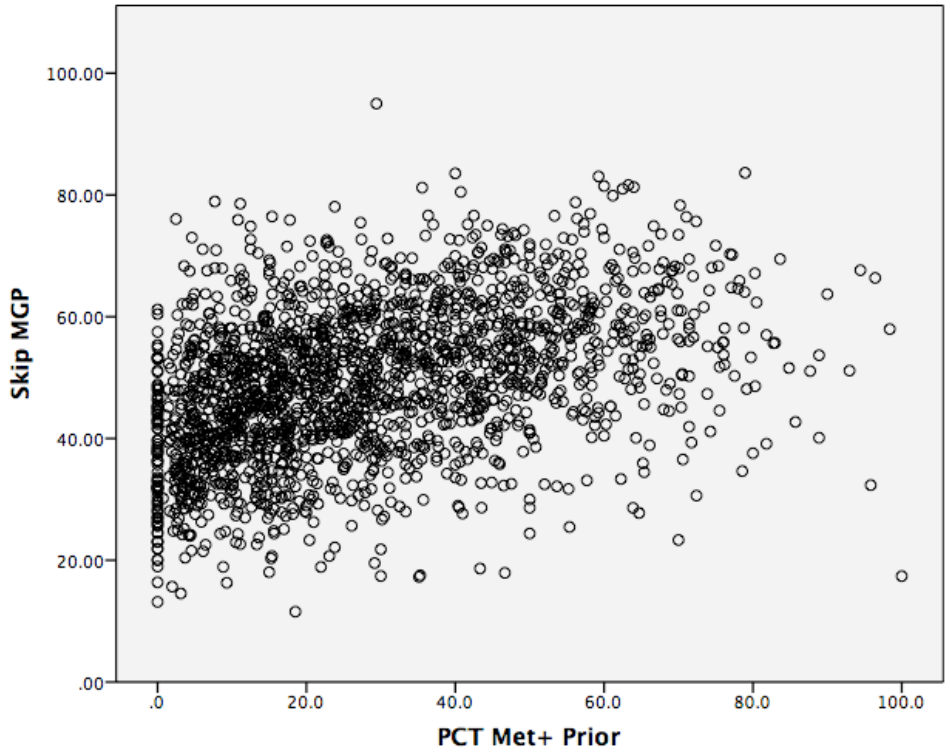




Relationship to Prior Year Status (Percent Meeting)



r = .477



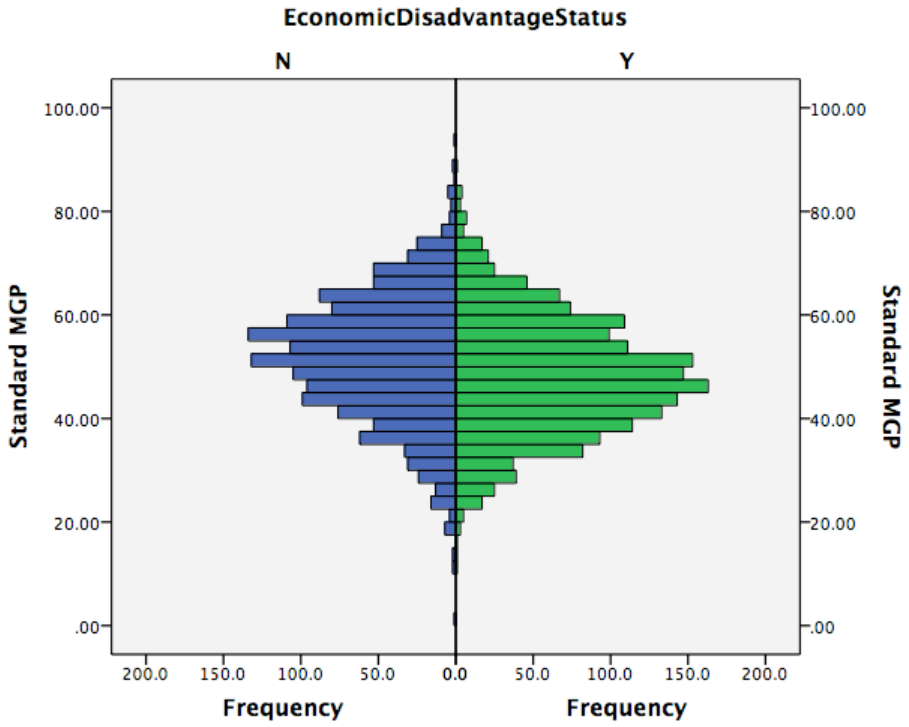
r = .630

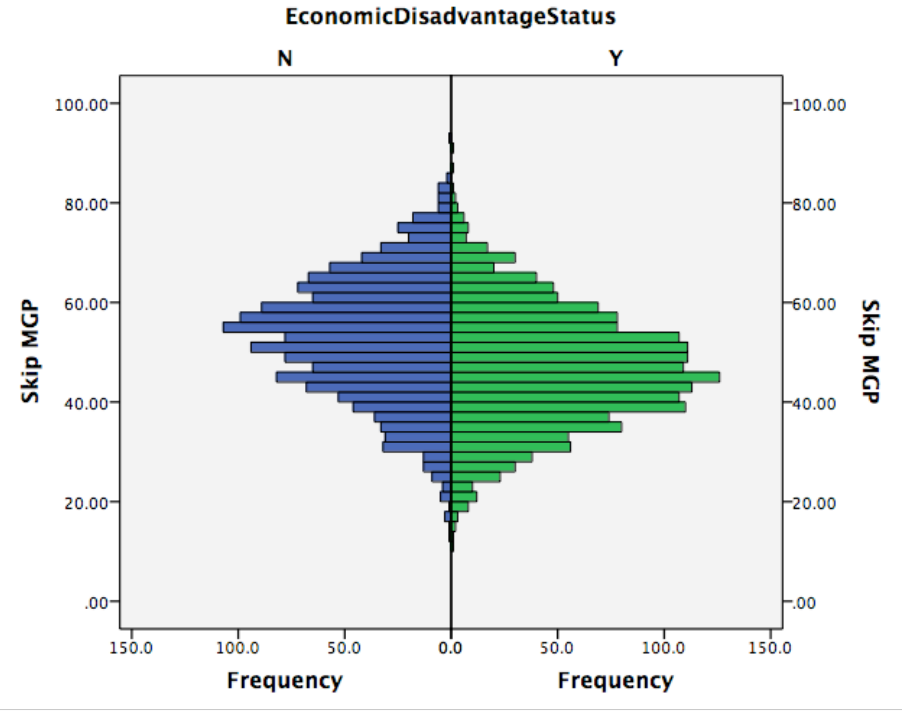
Content = Mathematics

Grade = 5

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





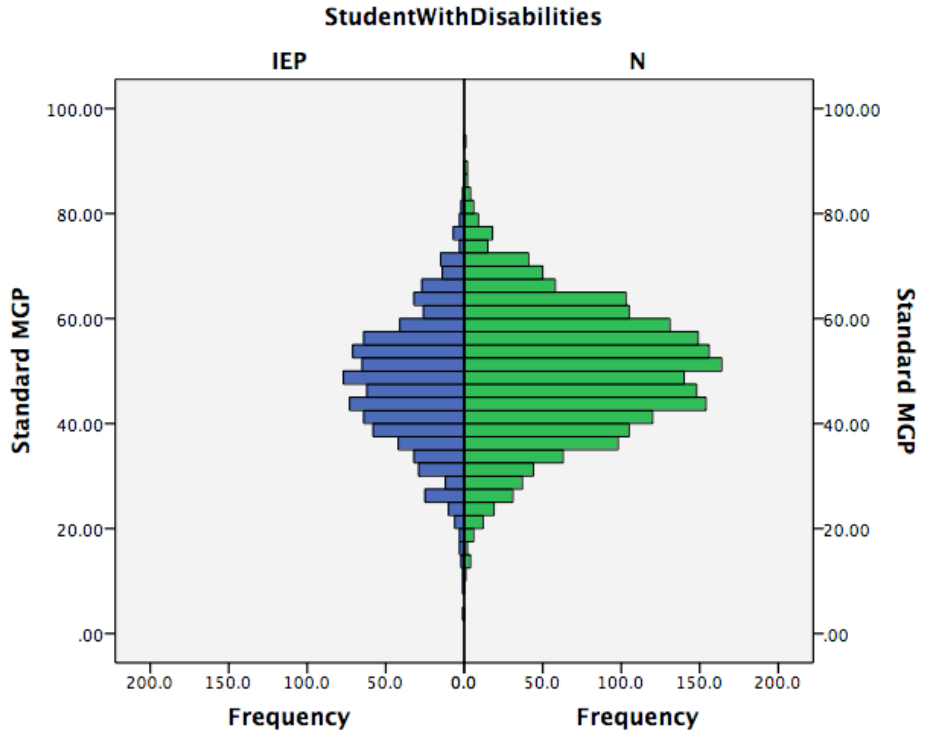
Content = Mathematics

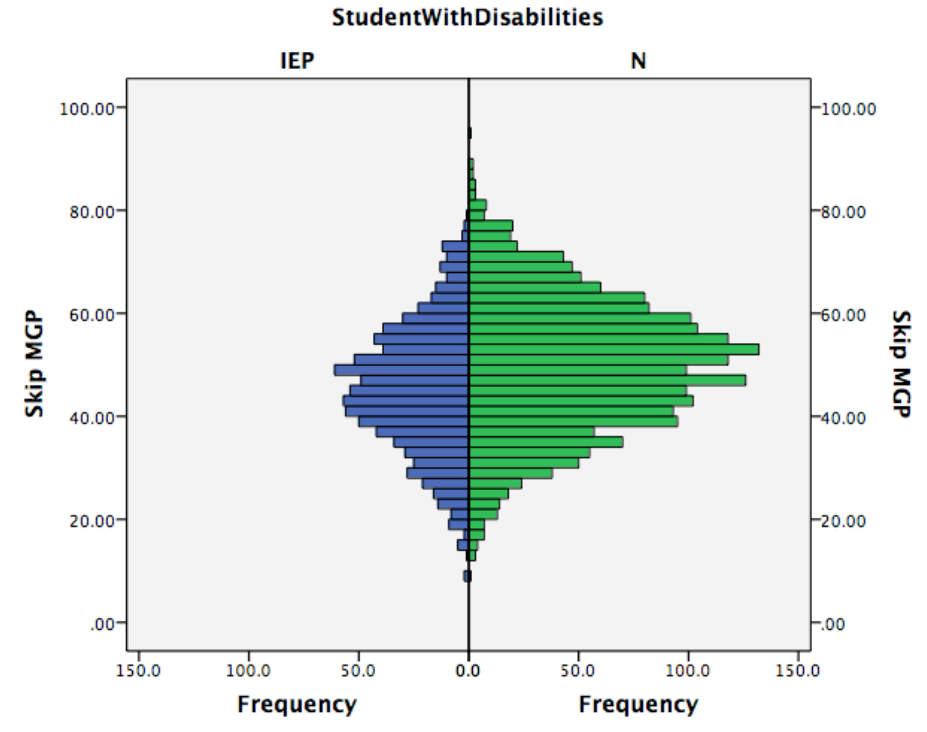
Grade = 5

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	51.51	48.20
Skip Mean	52.88	46.80

Students with Disabilities (IEP)





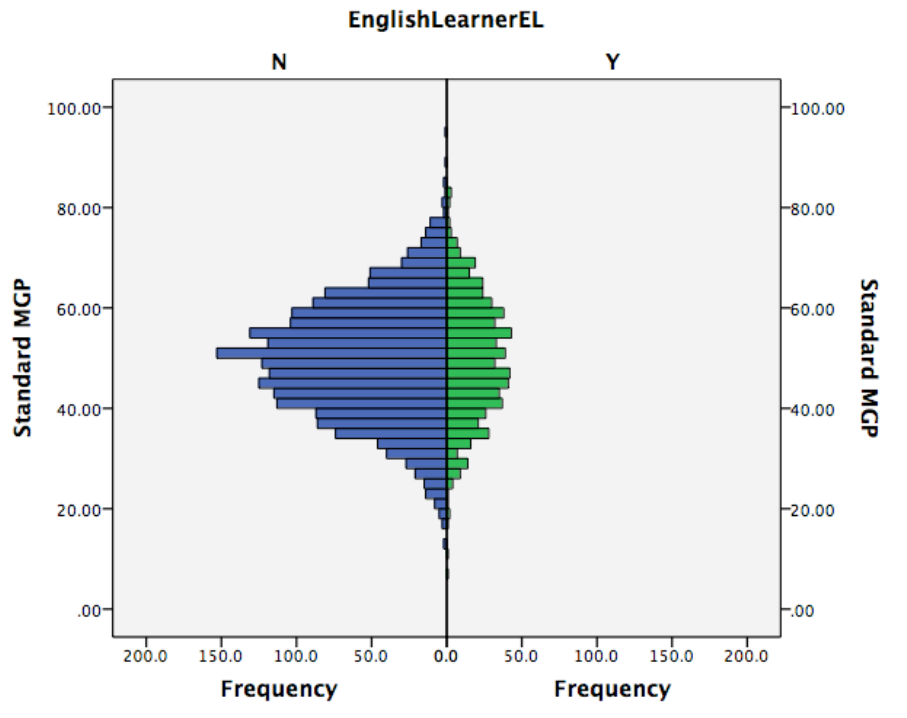
Content = Mathematics

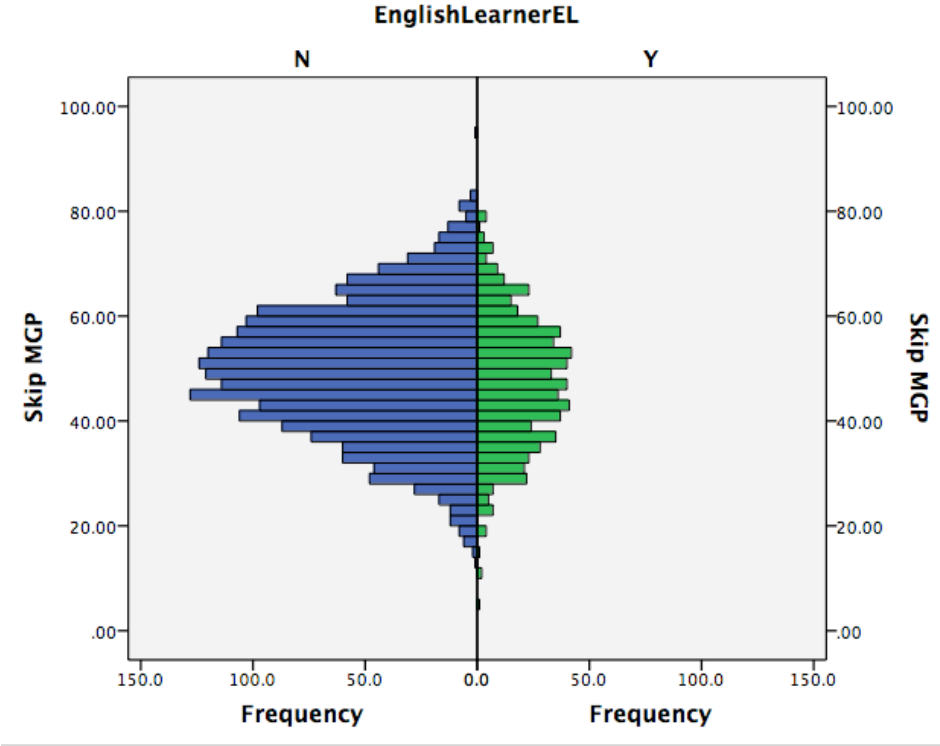
Grades = 5

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	49.93	47.64
Skip Mean	50.00	45.37

English Learner Status





Content = Mathematics

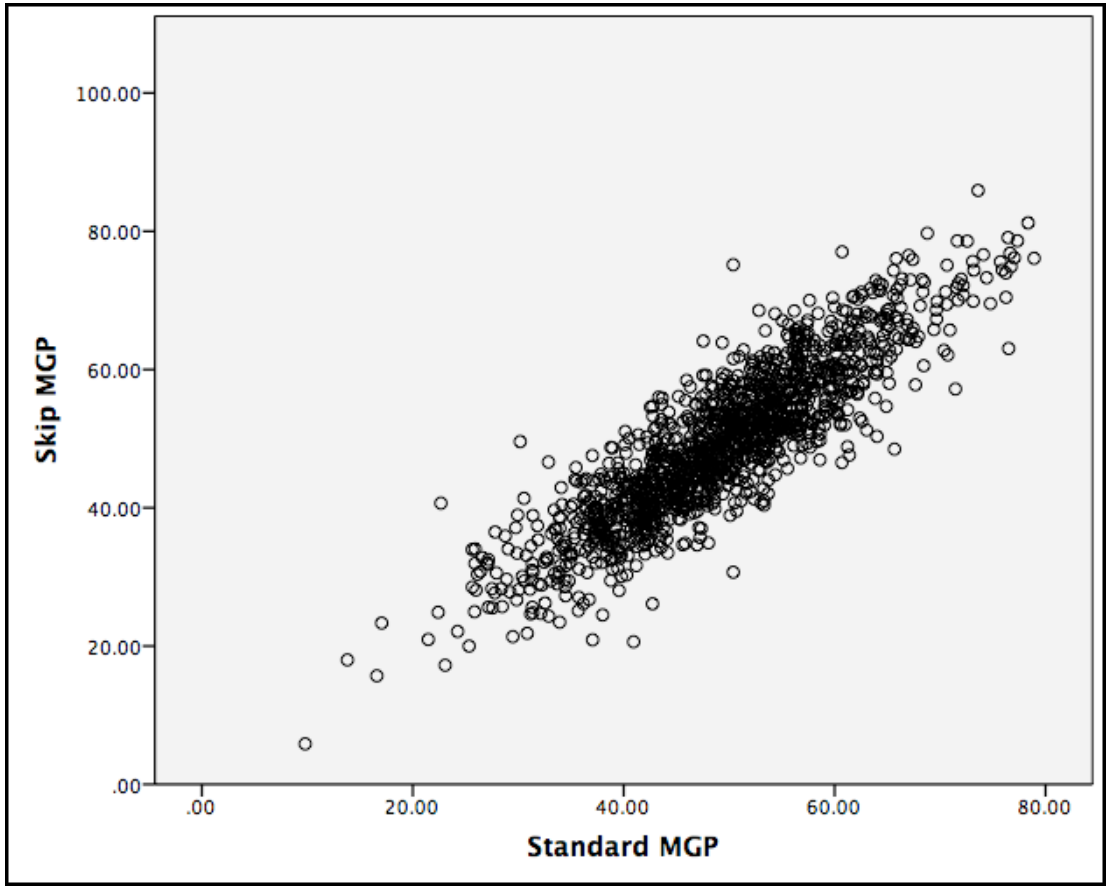
Grade = 5

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	49.48	50.04
Skip Mean	49.47	47.36

Mathematics
Grade 8

Relationship between Standard and Skip MGP

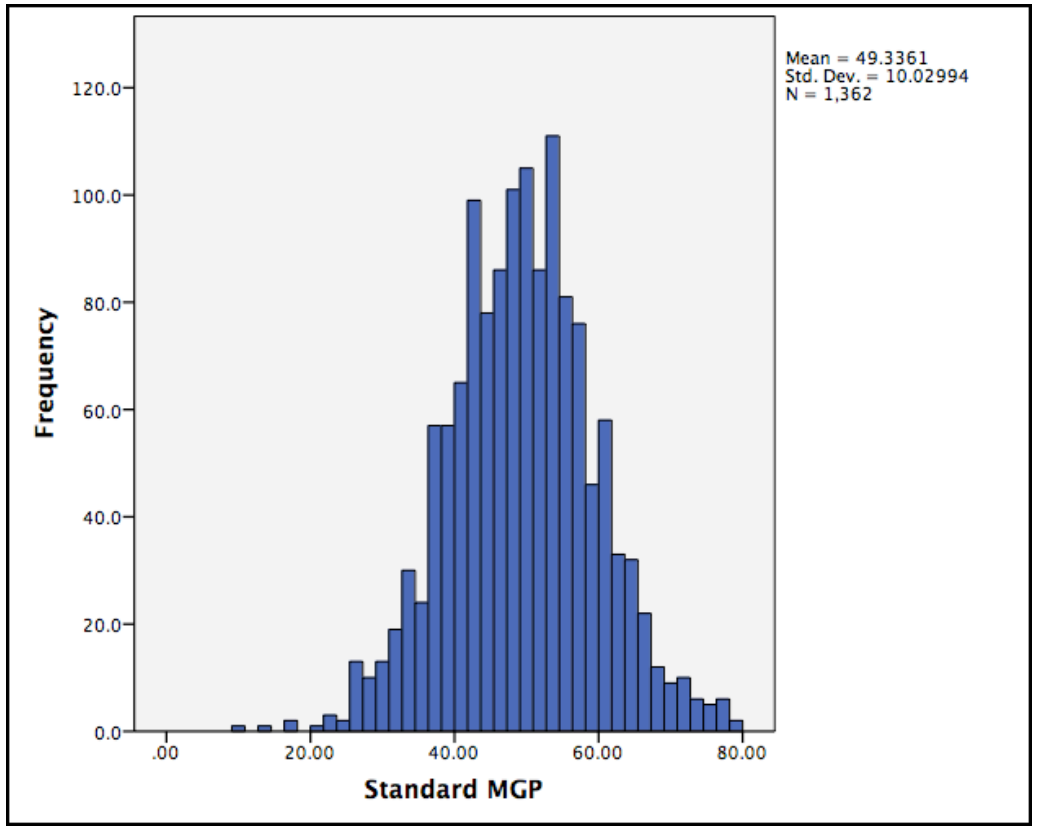


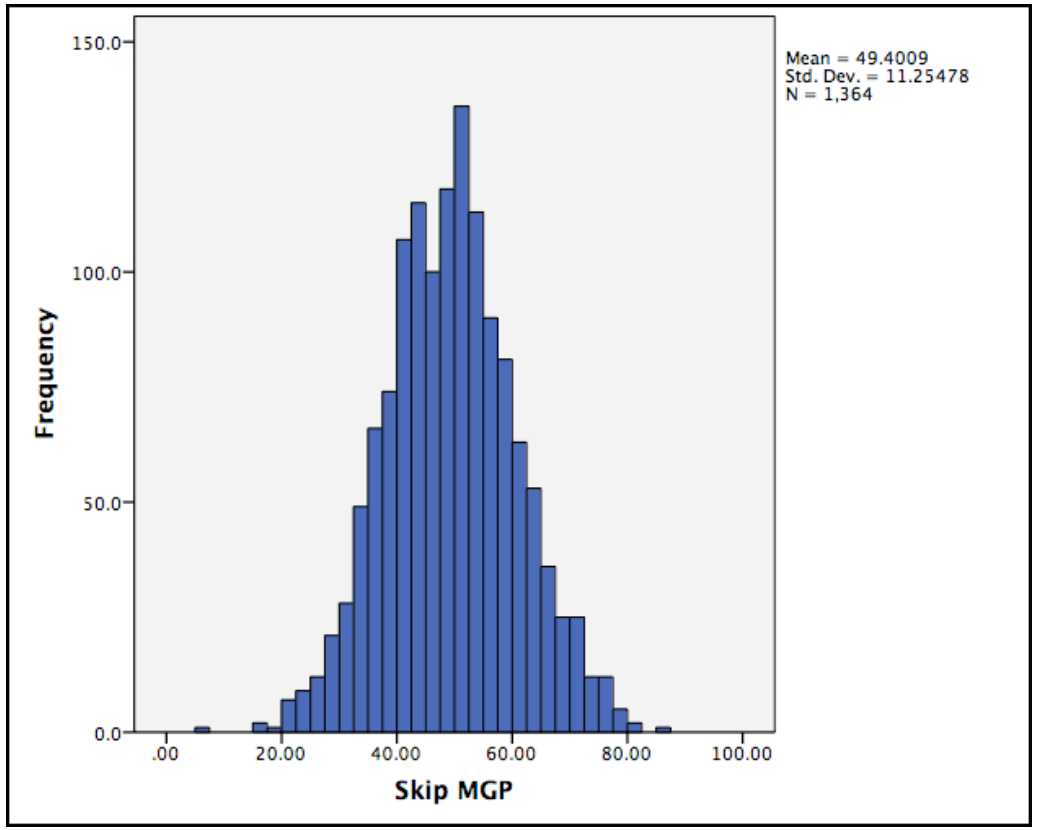
Content = Mathematics
Grade = 8

Correlation = .883

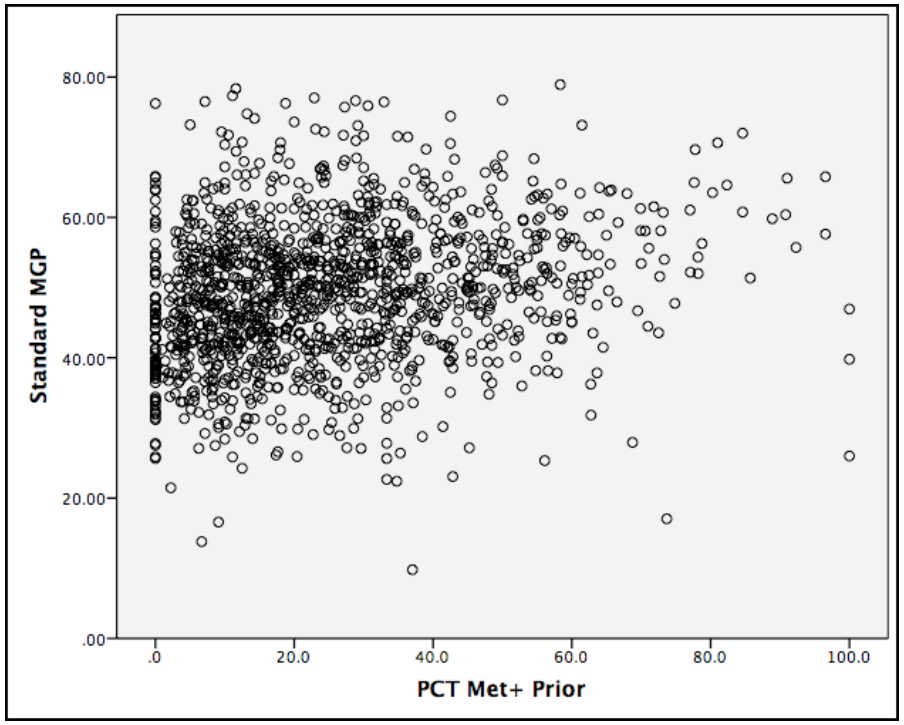
Content = Mathematics
Grade = 8

Histograms: Standard and Skip MGP

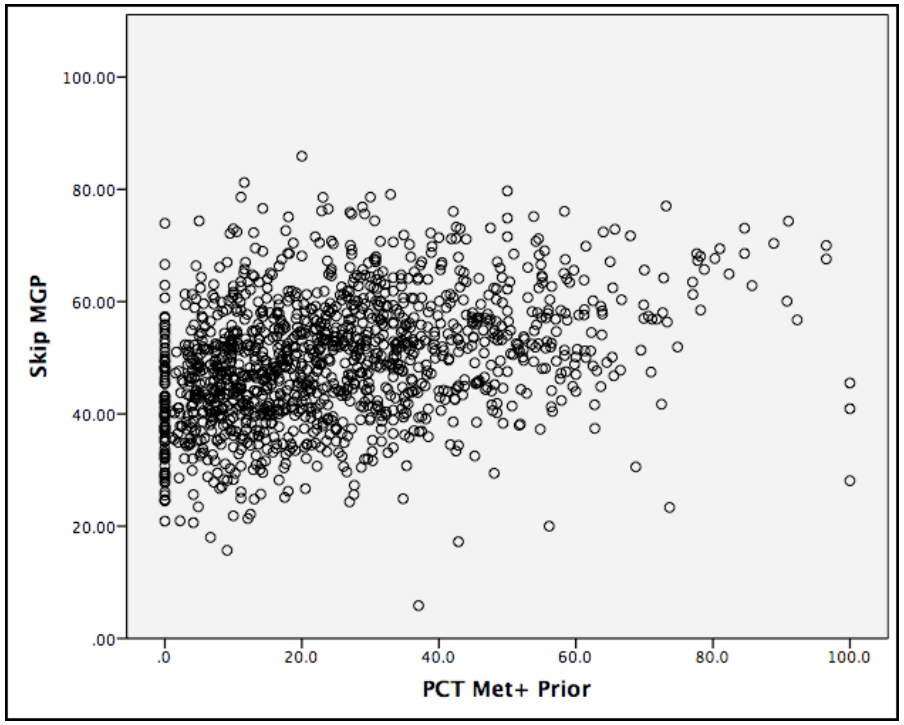




Relationship to Prior Year Status (Percent Meeting)



r = .471



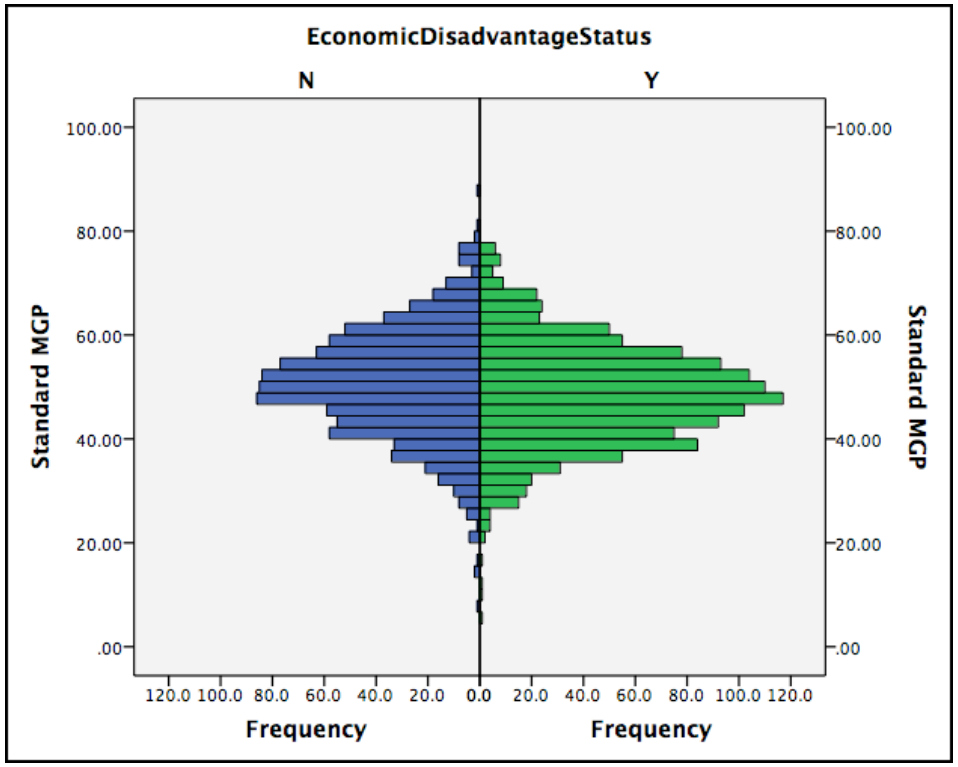
r = .528

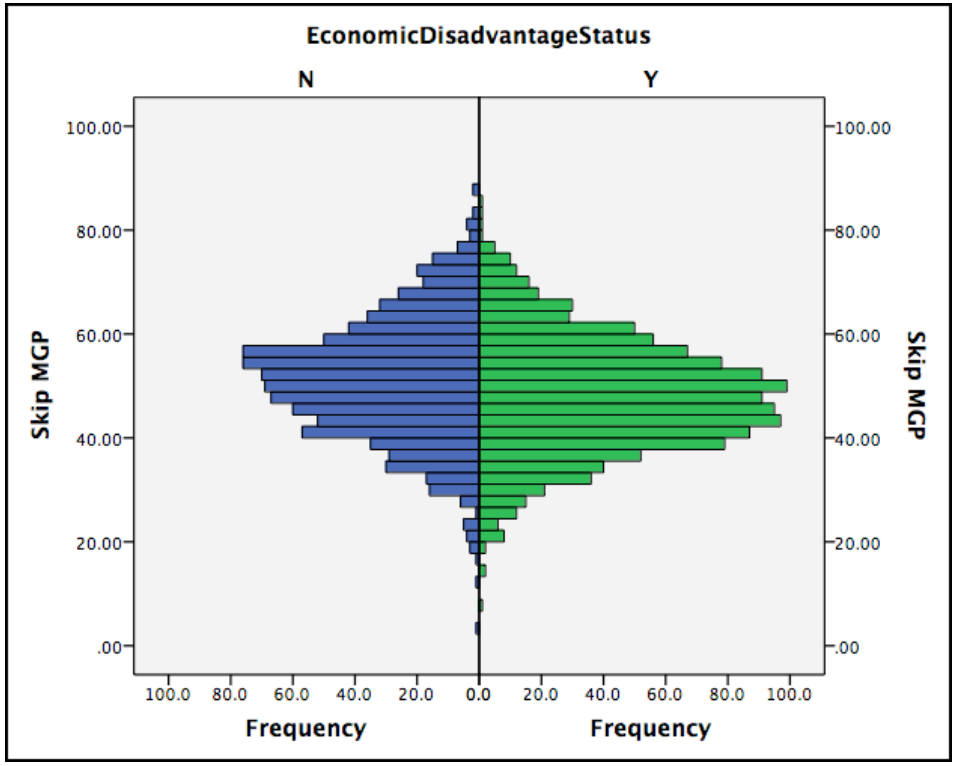
Content = Mathematics

Grade = 8

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





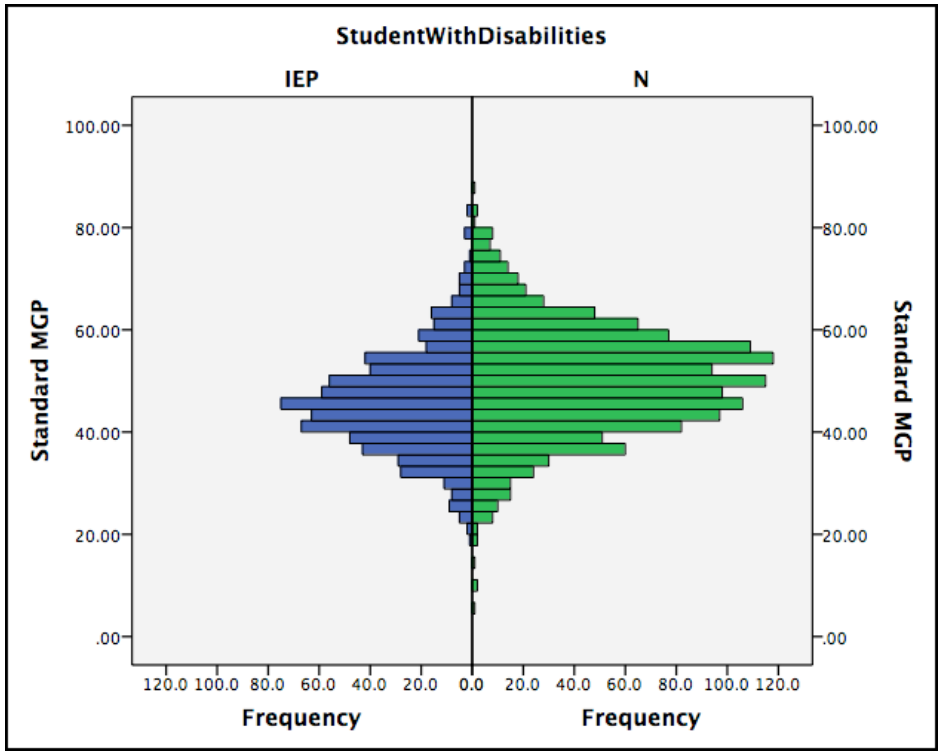
Content = Mathematics

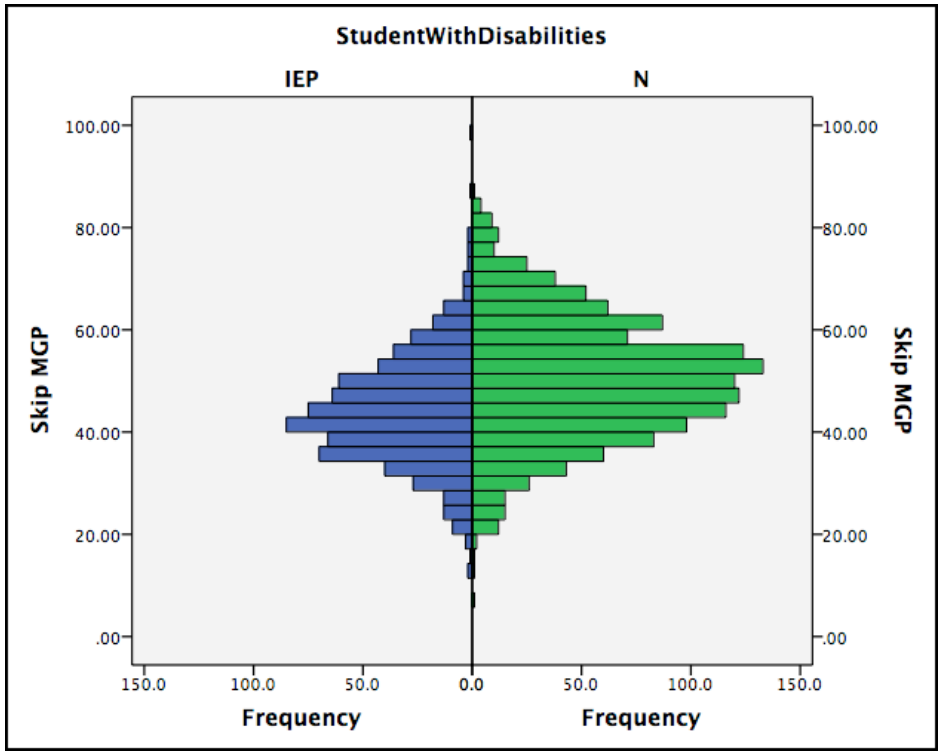
Grade = 8

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	50.61	48.62
Skip Mean	51.39	48.23

Students with Disabilities (IEP)





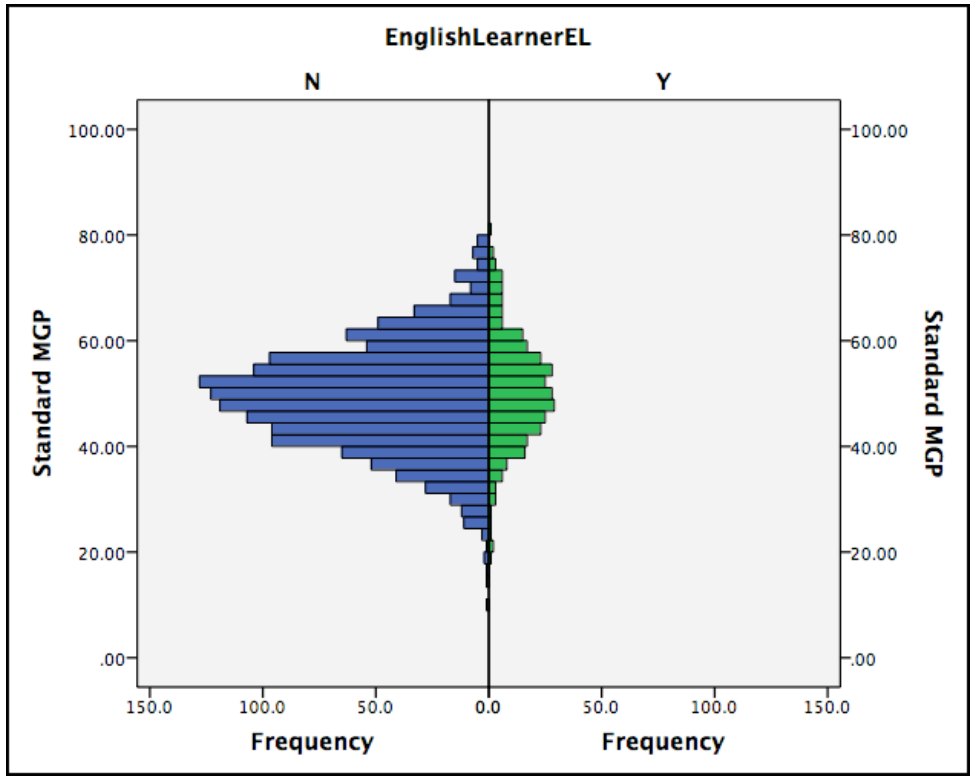
Content = Mathematics

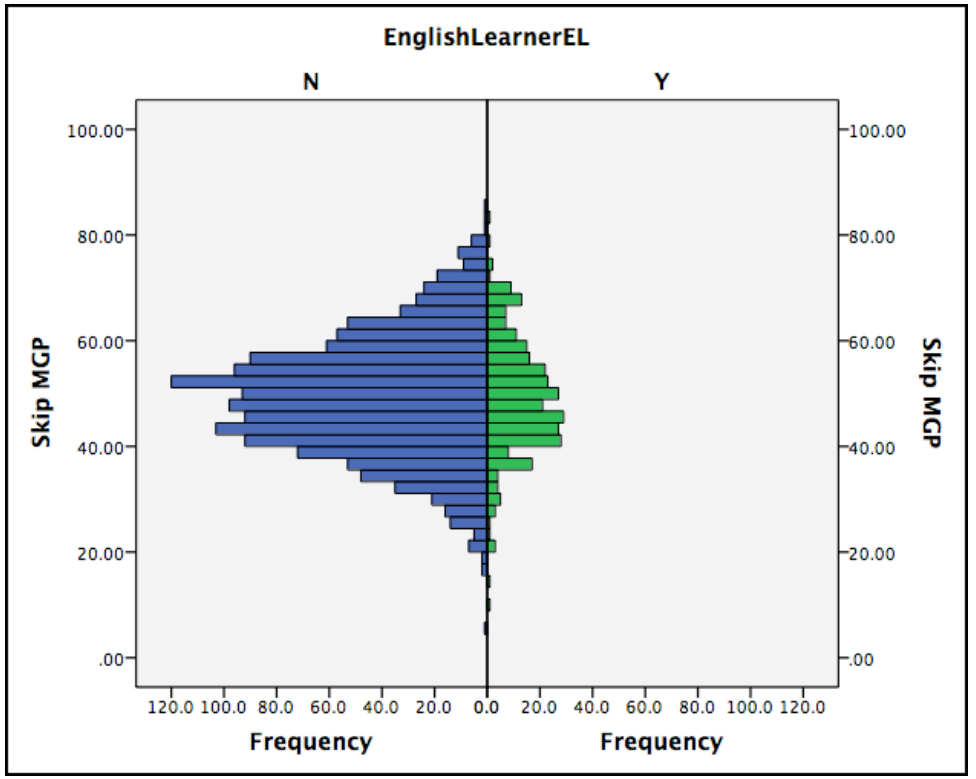
Grades = 8

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	50.10	45.81
Skip Mean	50.52	44.03

English Learner Status





Content = Mathematics

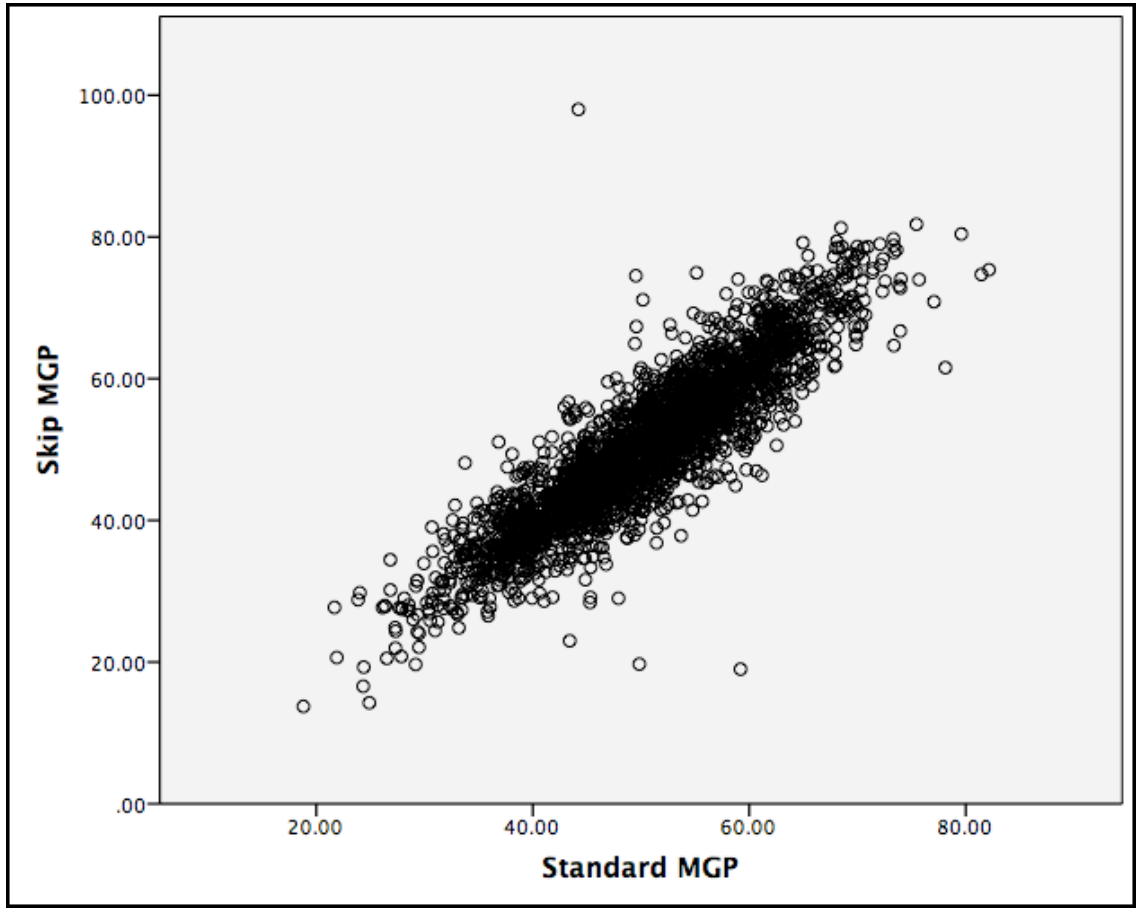
Grade = 8

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	49.31	50.66
Skip Mean	49.44	49.38

ELA
All Grades

Relationship between Standard and Skip MGP

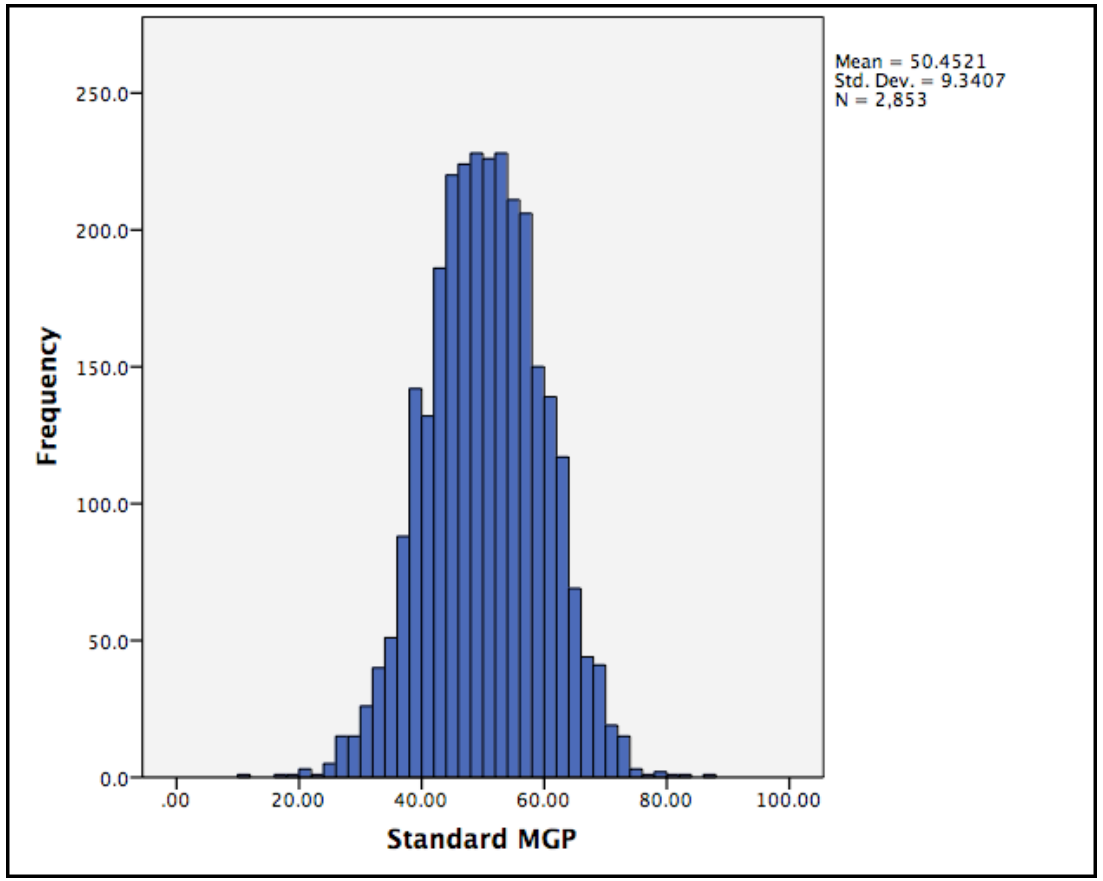


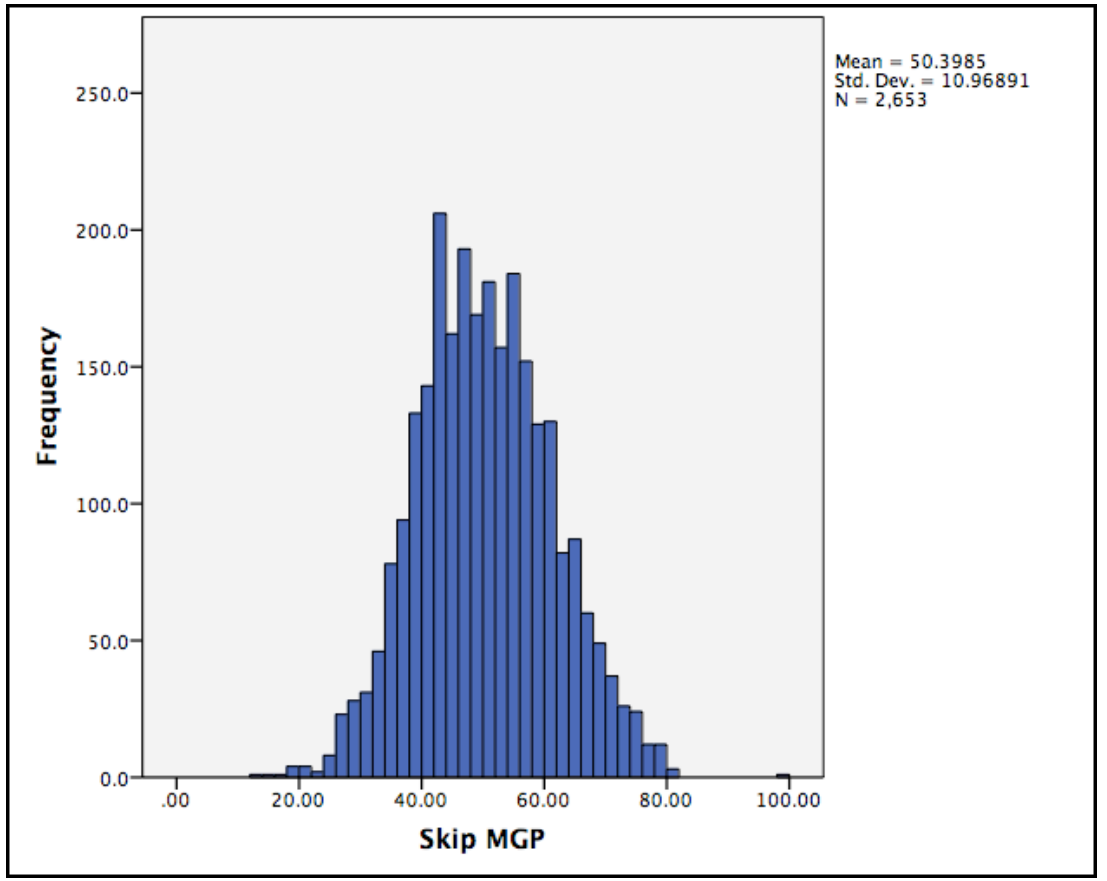
Content = ELA
Grades = All available

Correlation = .896

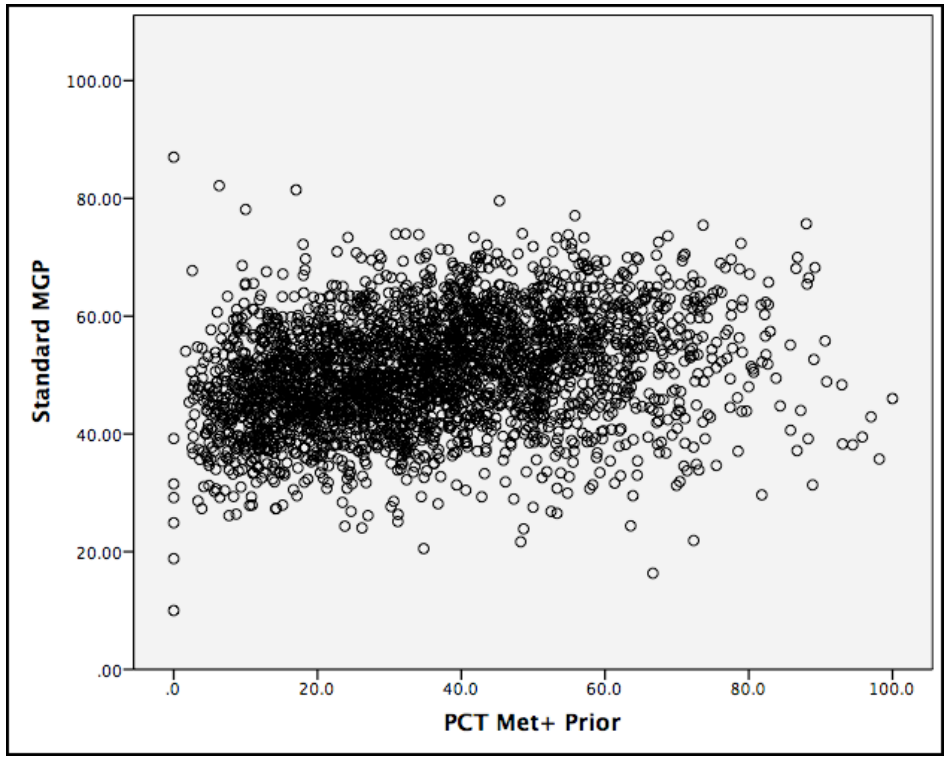
Histograms: Standard and Skip MGP

Content = ELA
Grades = All available

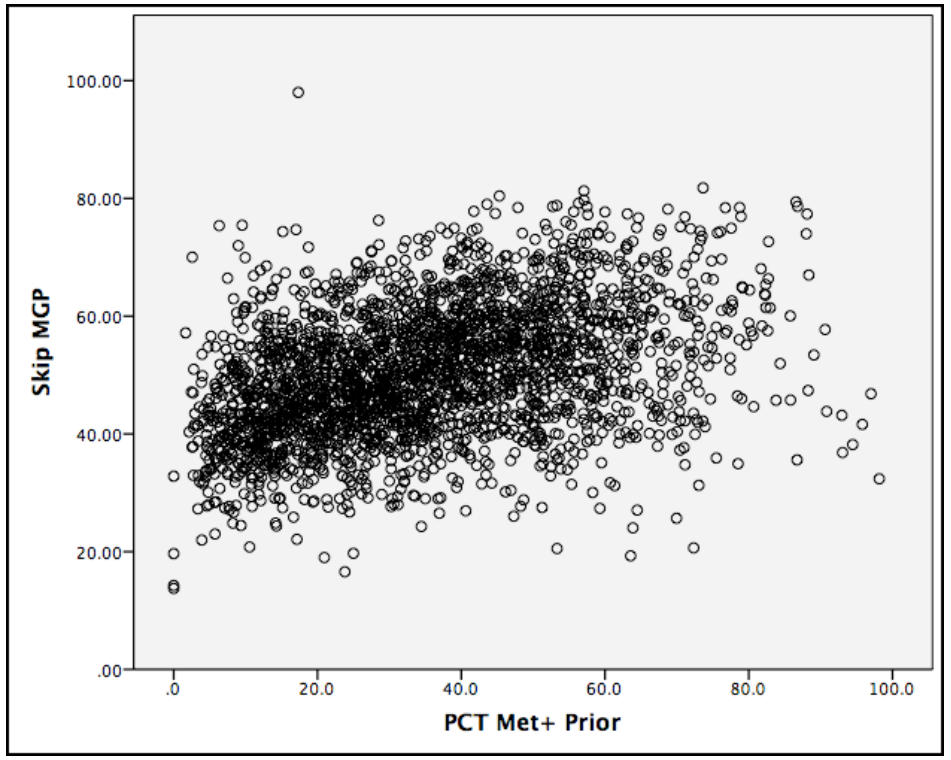




Relationship to Prior Year Status (Percent Meeting)



r = .542



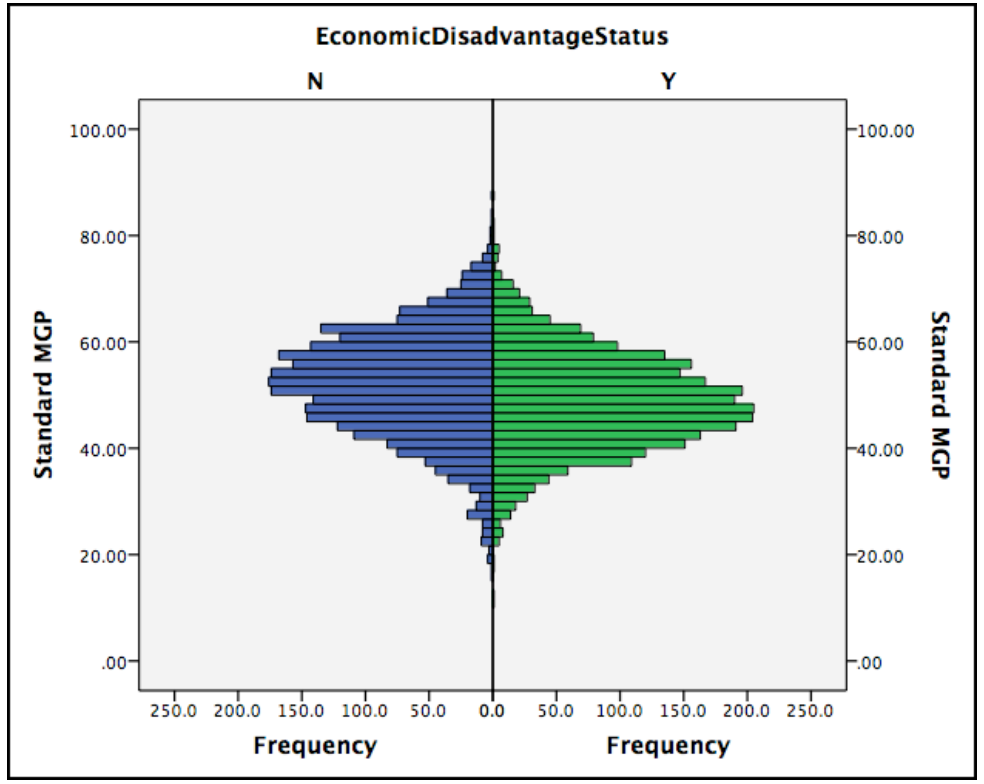
r = .575

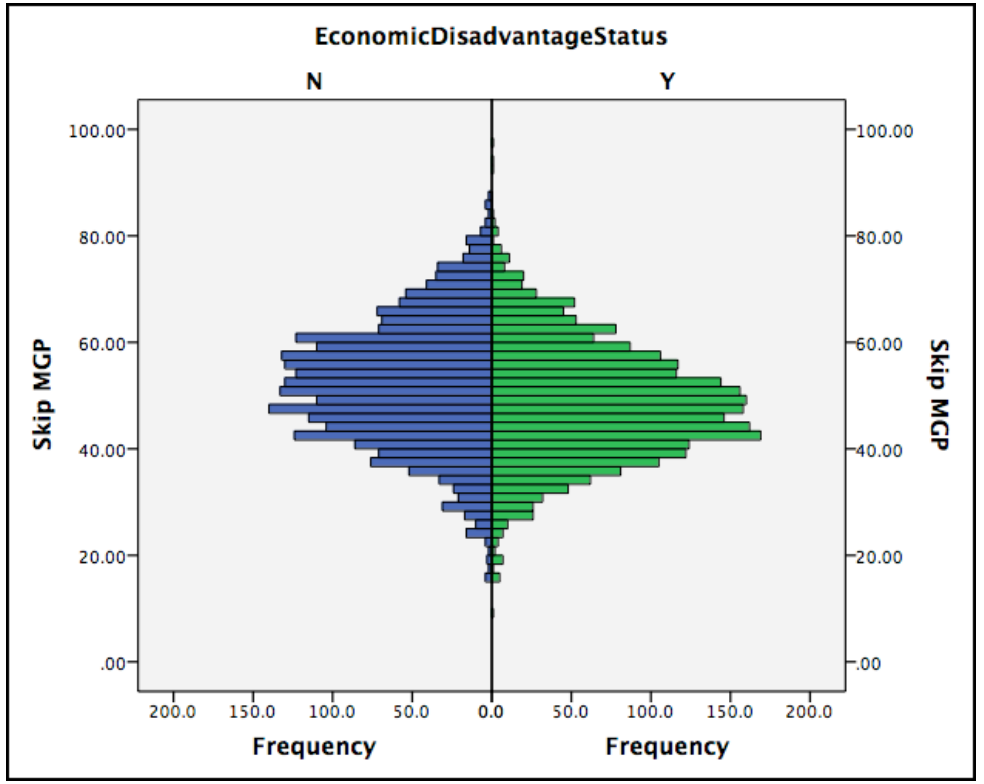
Content = ELA

Grades = All available

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





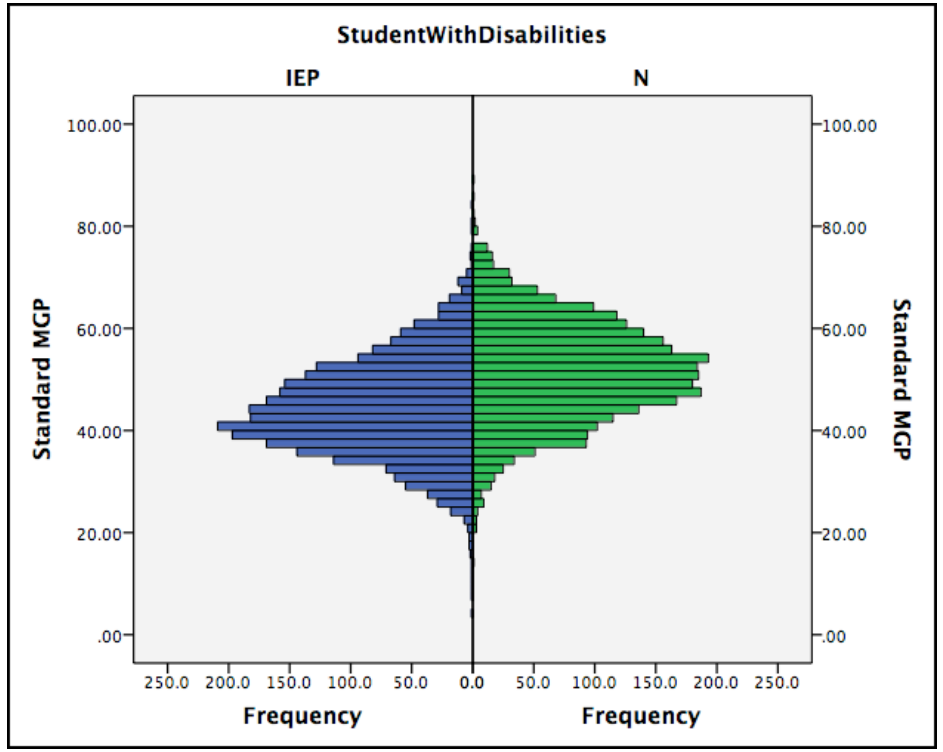
Content = ELA

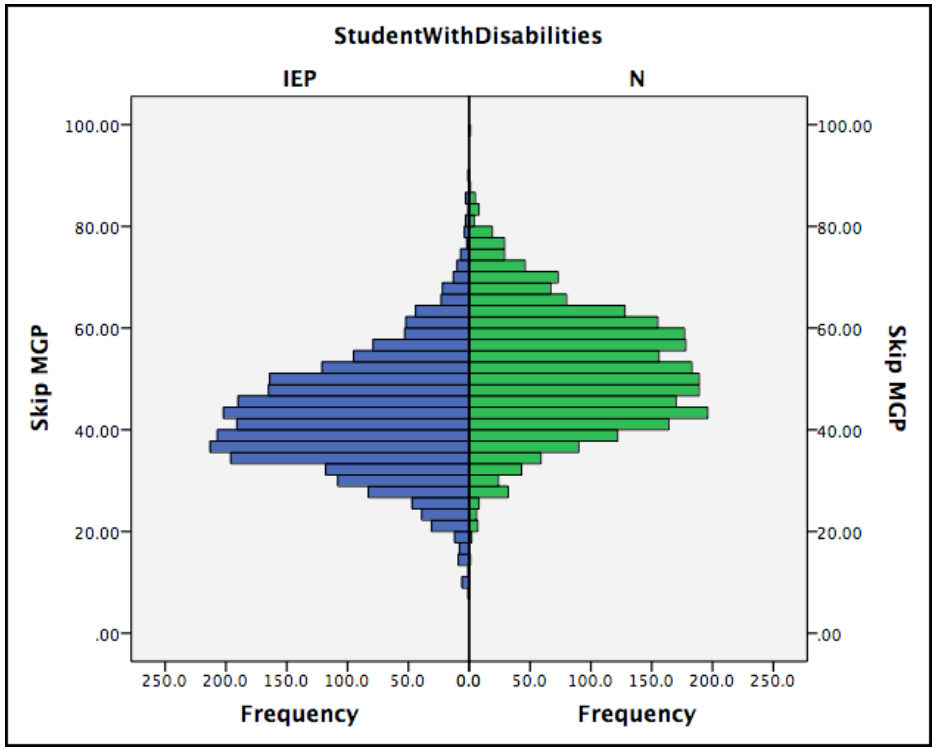
Grades = All available

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	52.01	48.86
Skip Mean	52.19	48.77

Students with Disabilities (IEP)





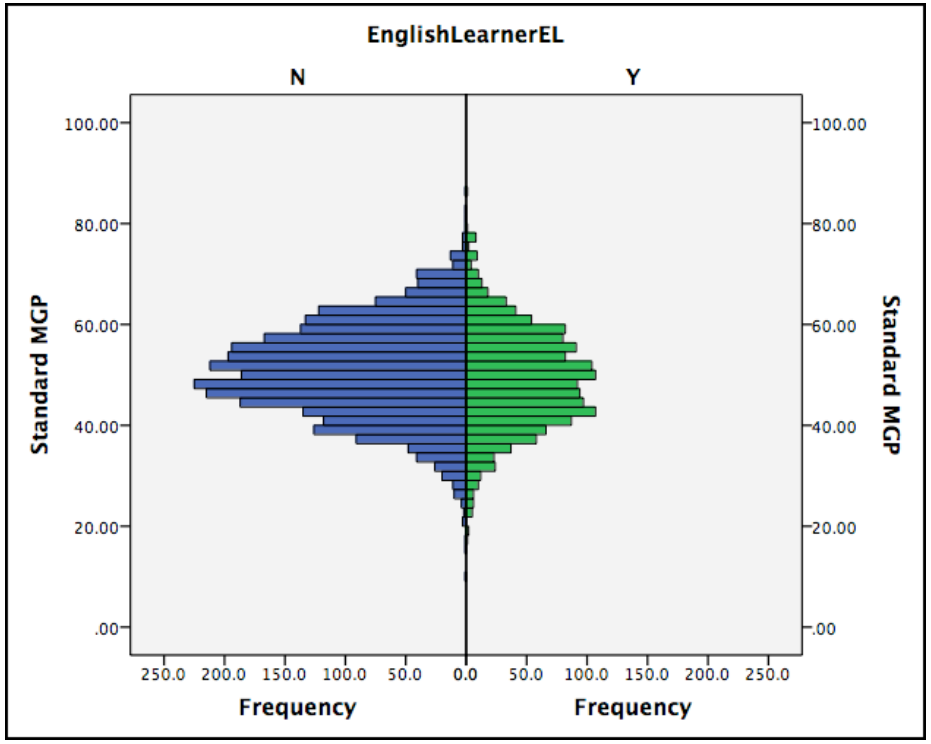
Content = ELA

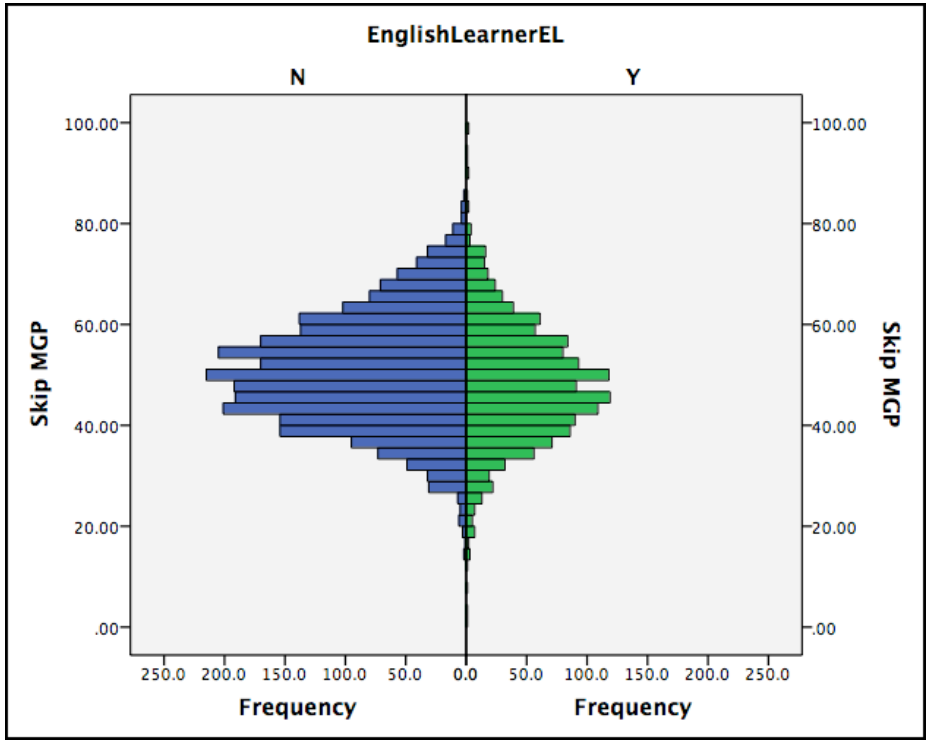
Grades = All available

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	51.60	44.27
Skip Mean	51.84	42.76

English Learner Status





Content = ELA

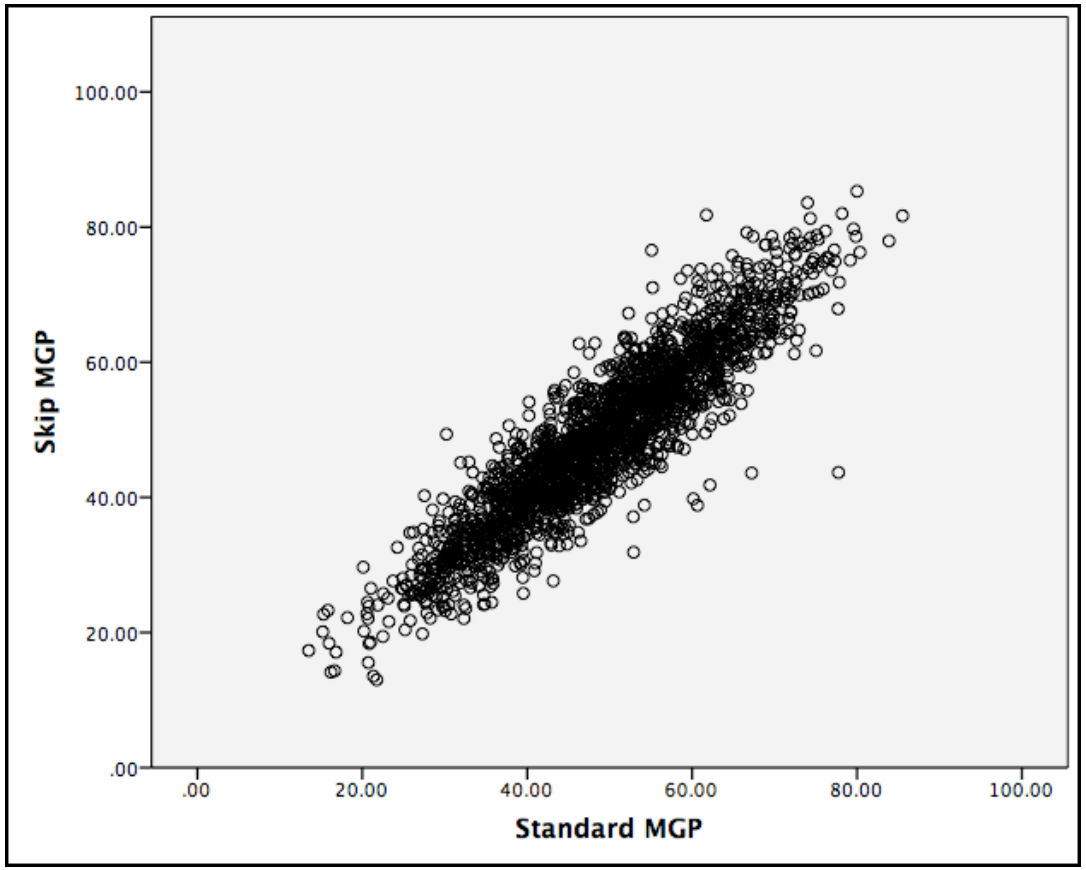
Grades = All available

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	50.72	49.24
Skip Mean	50.75	48.28

ELA
Grade 5

Relationship between Standard and Skip MGP

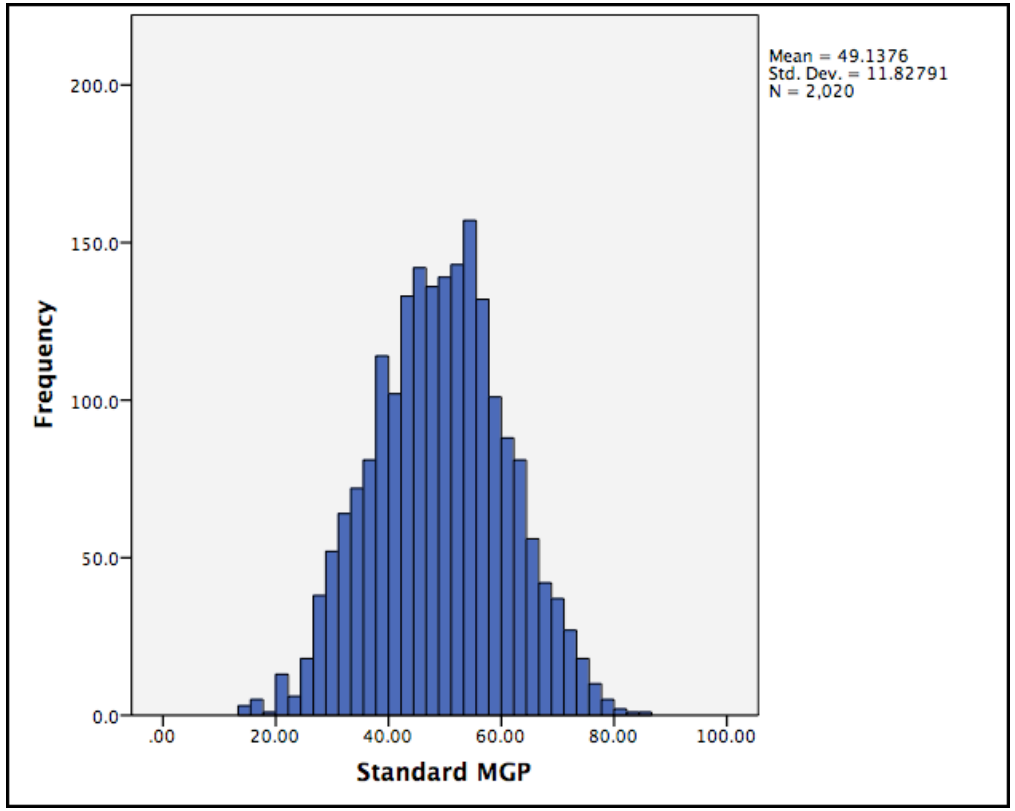


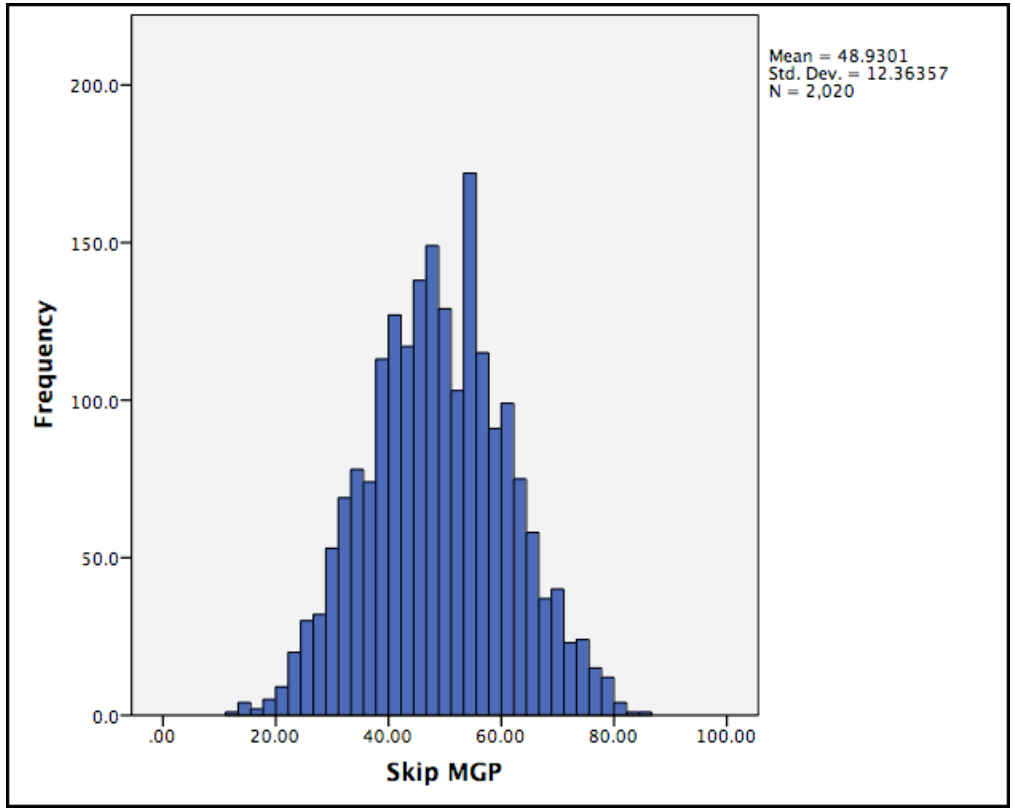
Content = ELA
Grade = 5

Correlation = .914

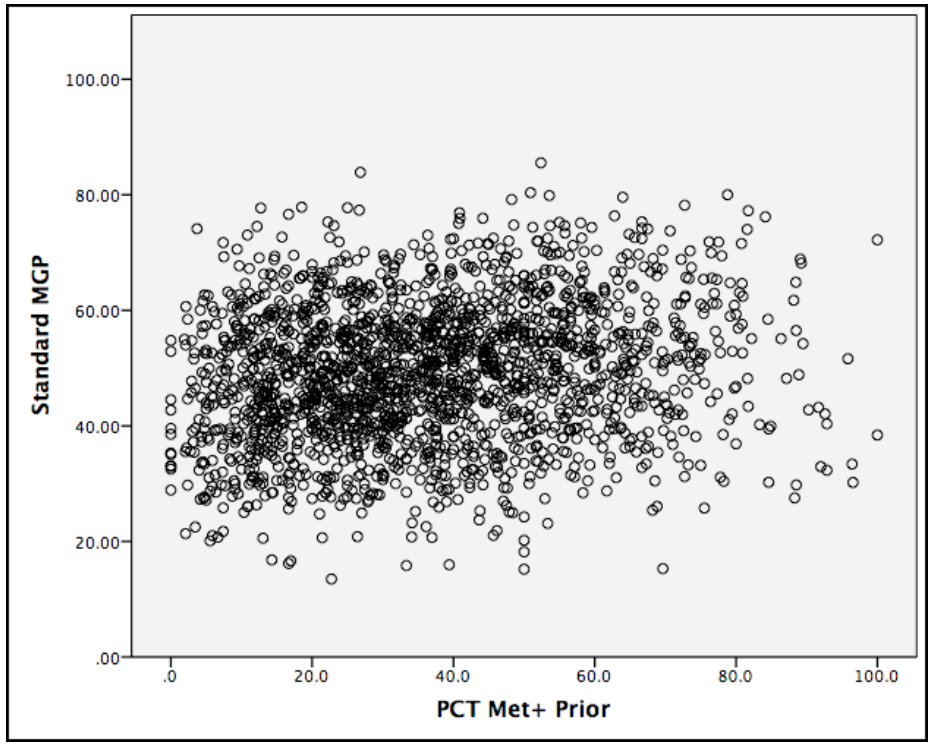
Content = ELA
Grade = 5

Histograms: Standard and Skip MGP

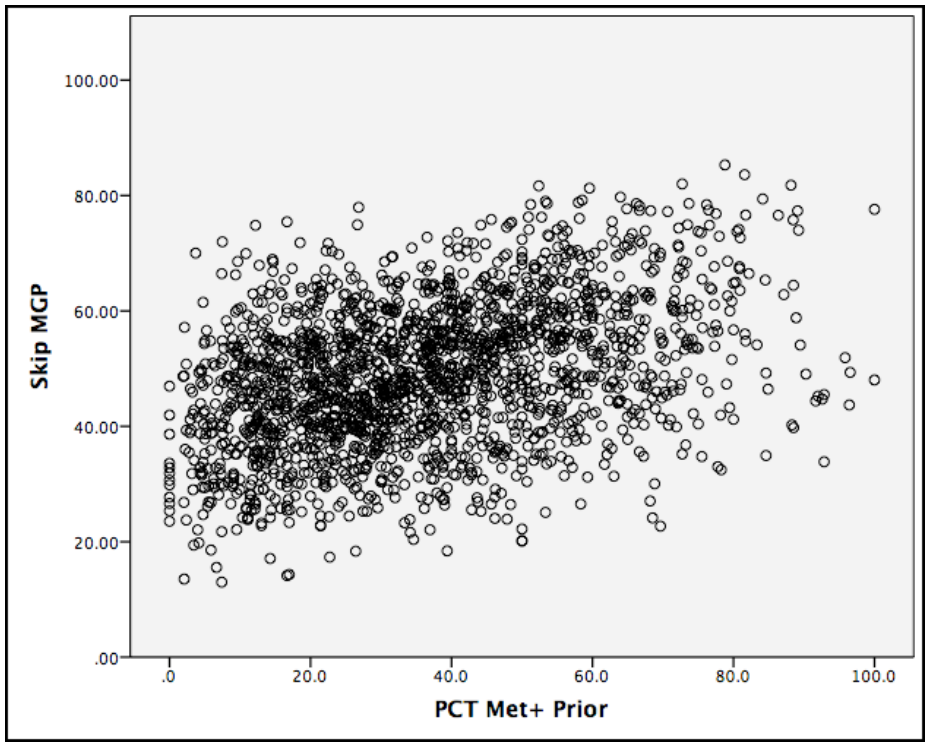




Relationship to Prior Year Status (Percent Meeting)



r = .578



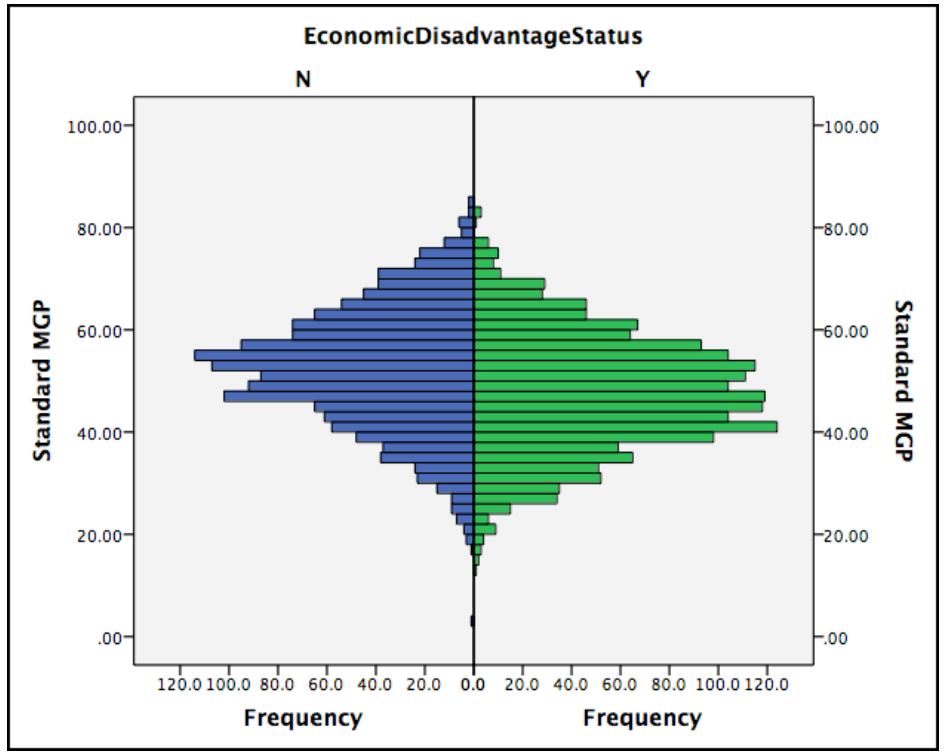
r = .684

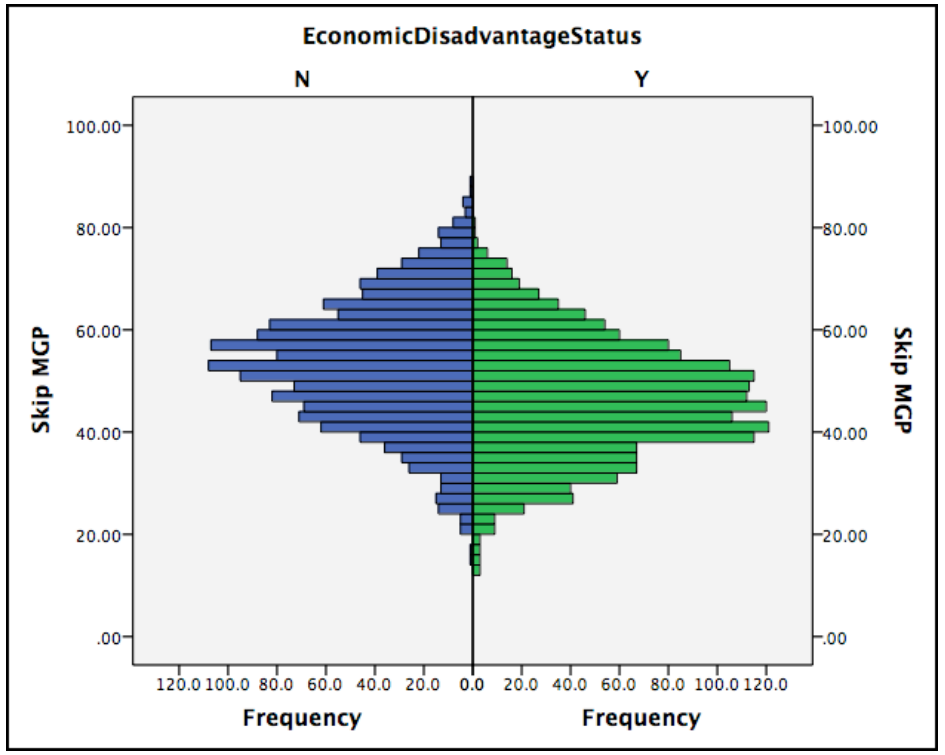
Content = ELA

Grade = 5

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





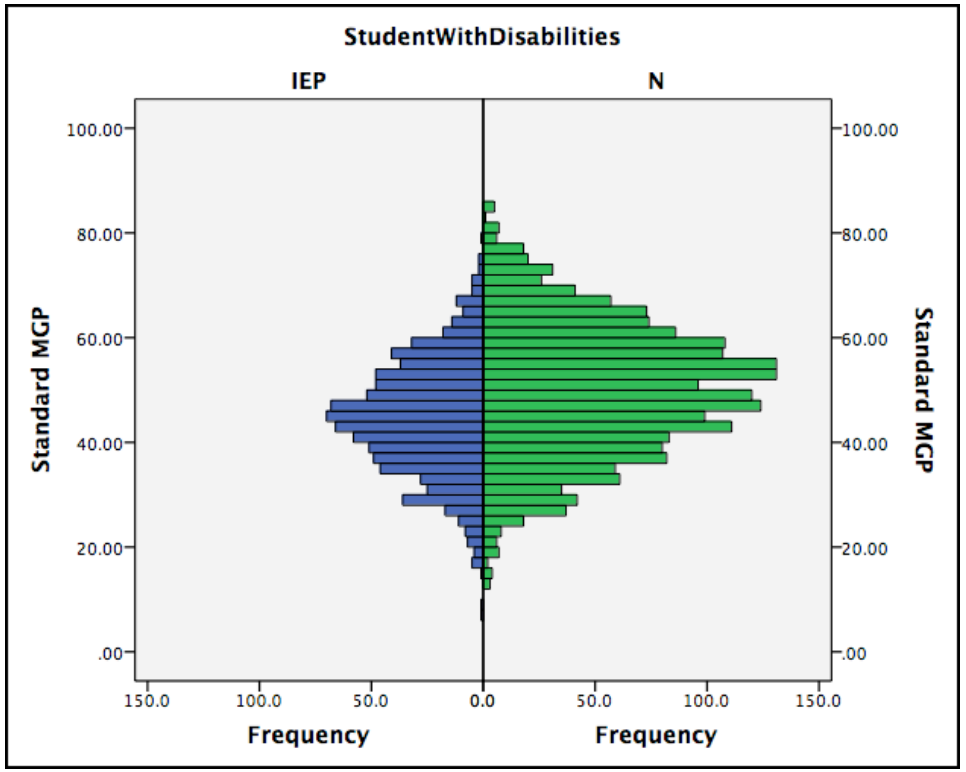
Content = ELA

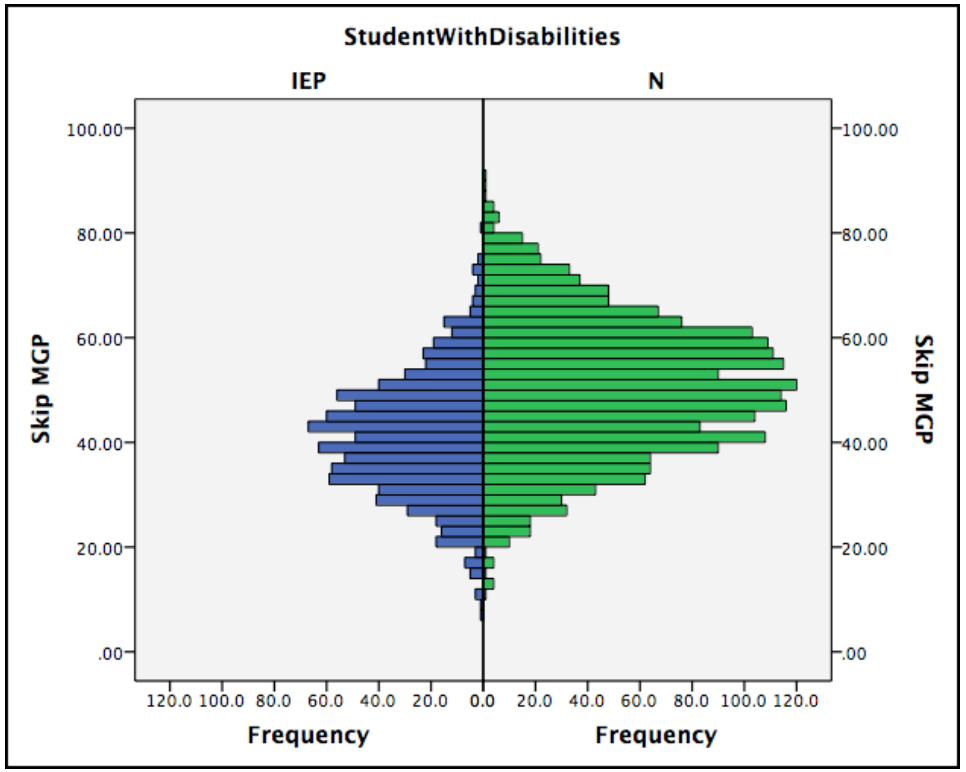
Grade = 5

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	52.48	47.65
Skip Mean	53.24	46.49

Students with Disabilities (IEP)





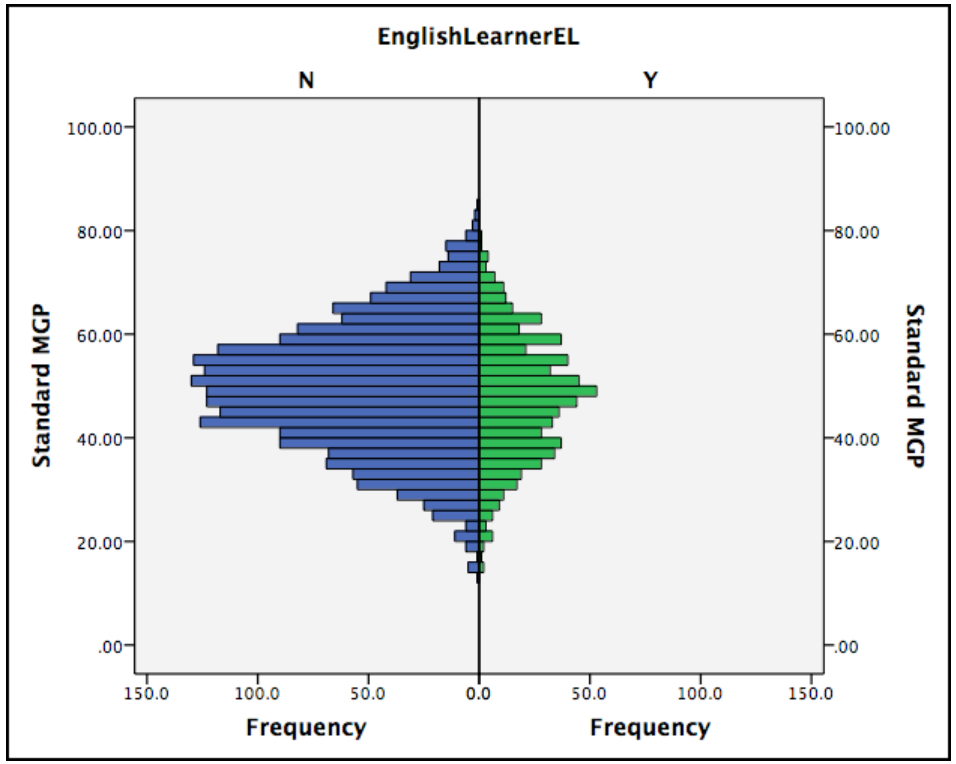
Content = ELA

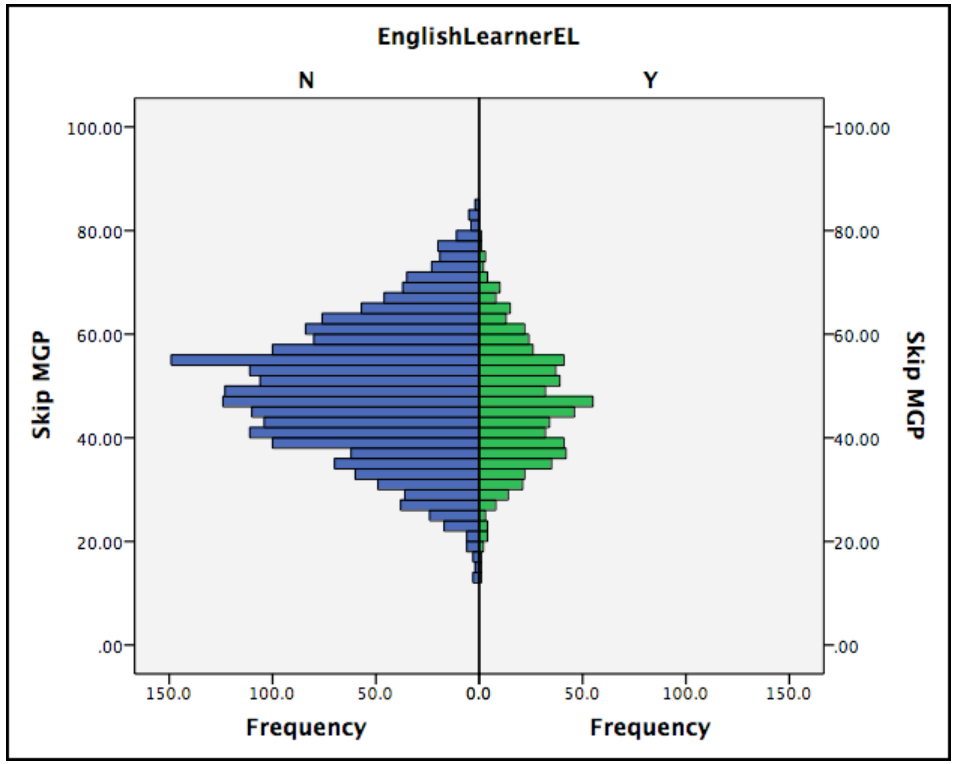
Grades = 5

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	50.14	44.61
Skip Mean	50.52	41.10

English Learner Status





Content = ELA

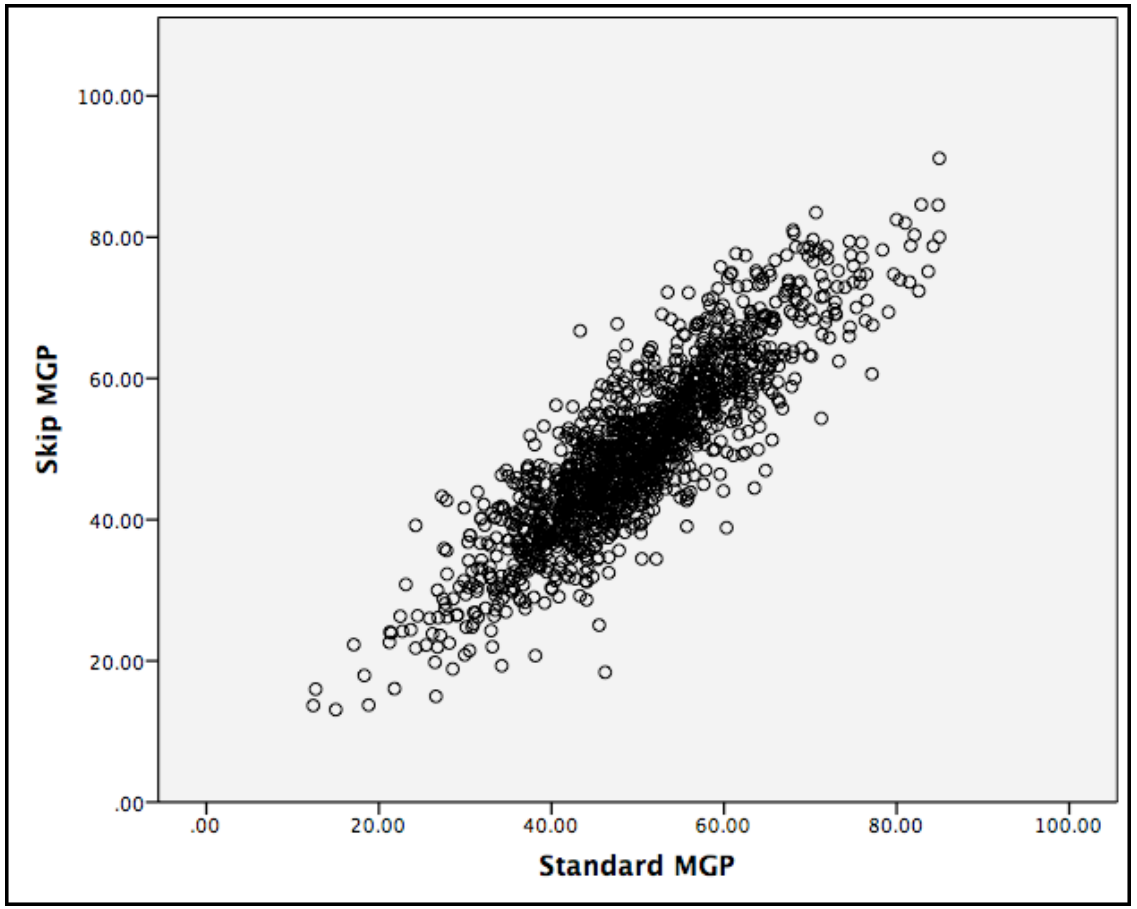
Grade = 5

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	49.38	47.82
Skip Mean	49.41	46.50

ELA
Grade 8

Relationship between Standard and Skip MGP

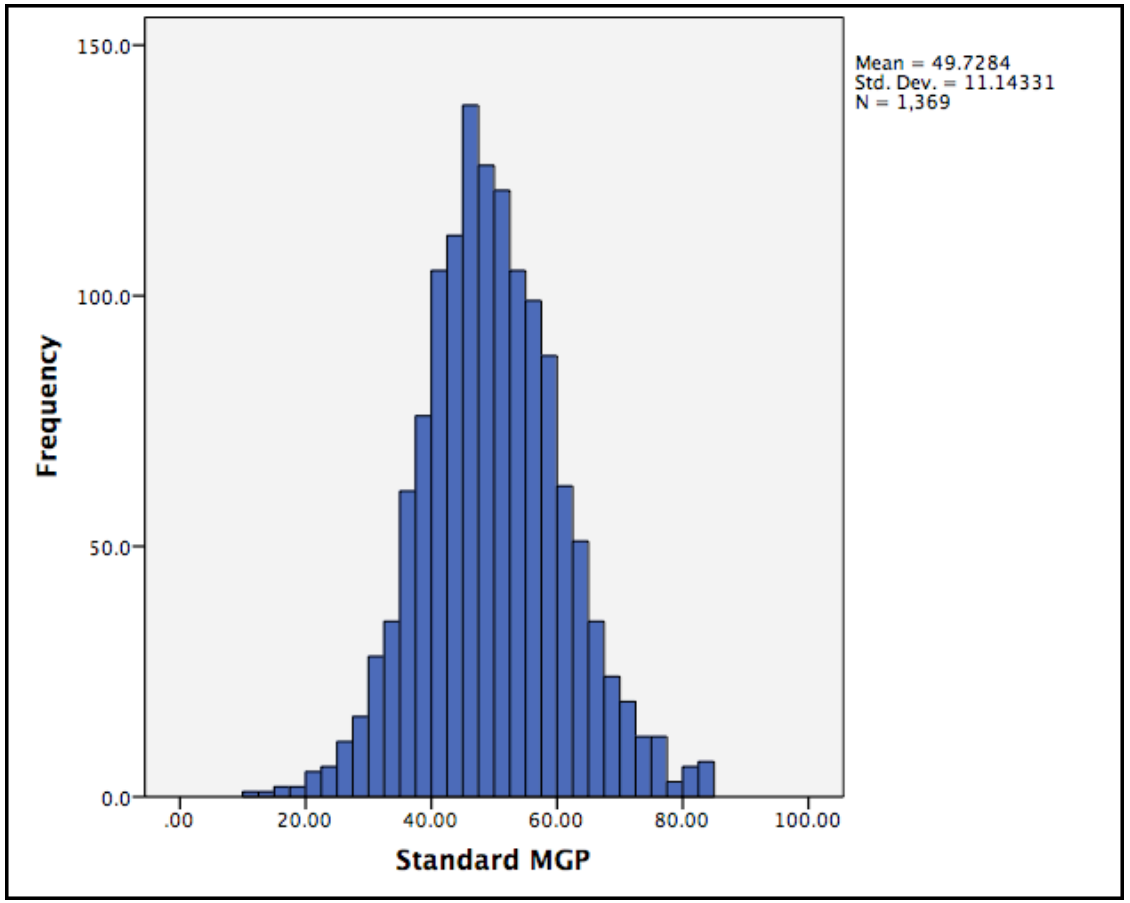


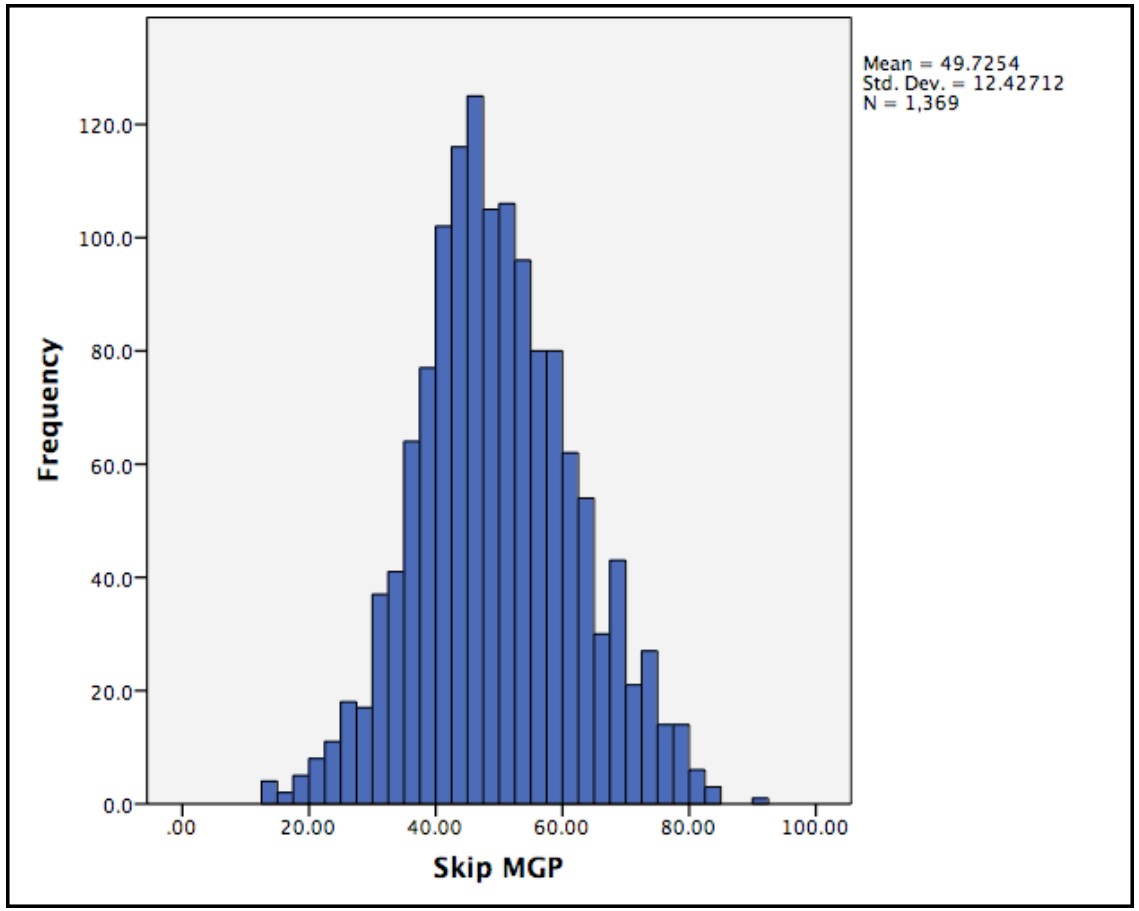
Content = ELA
Grade = 8

Correlation = .874

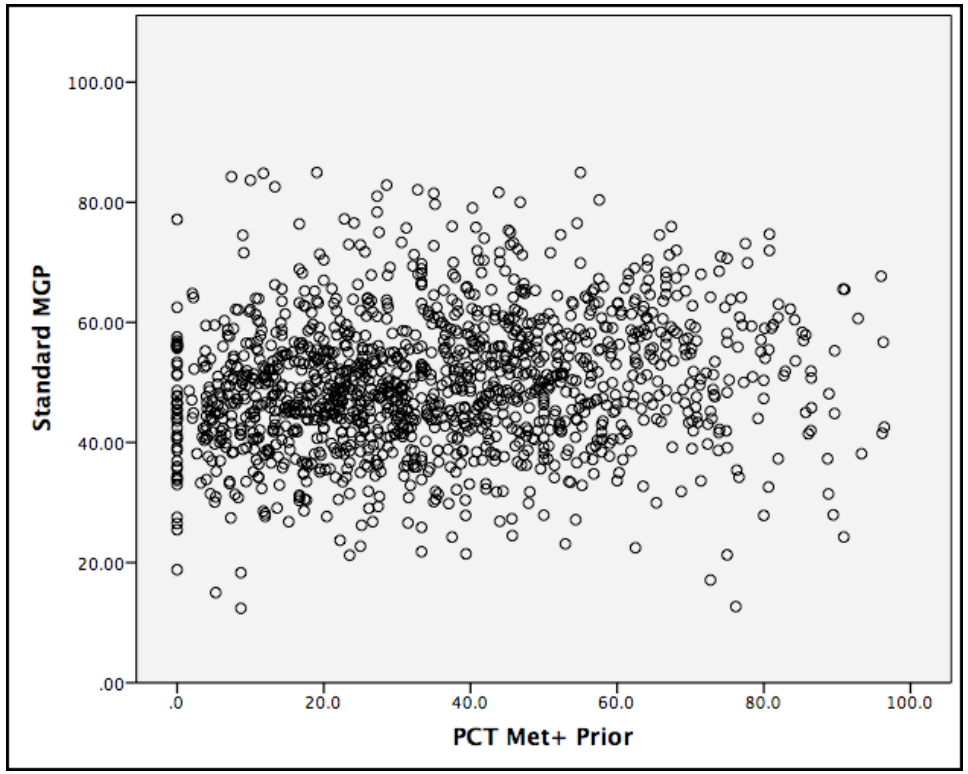
Content = ELA
Grade = 8

Histograms: Standard and Skip MGP

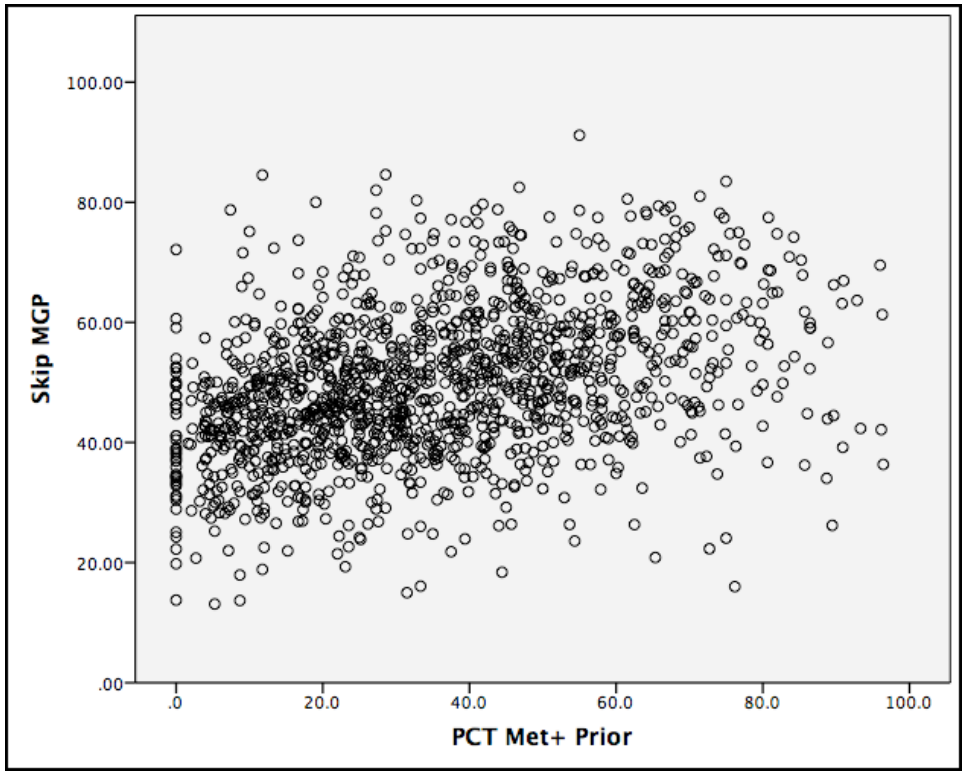




Relationship to Prior Year Status (Percent Meeting)



r = .512



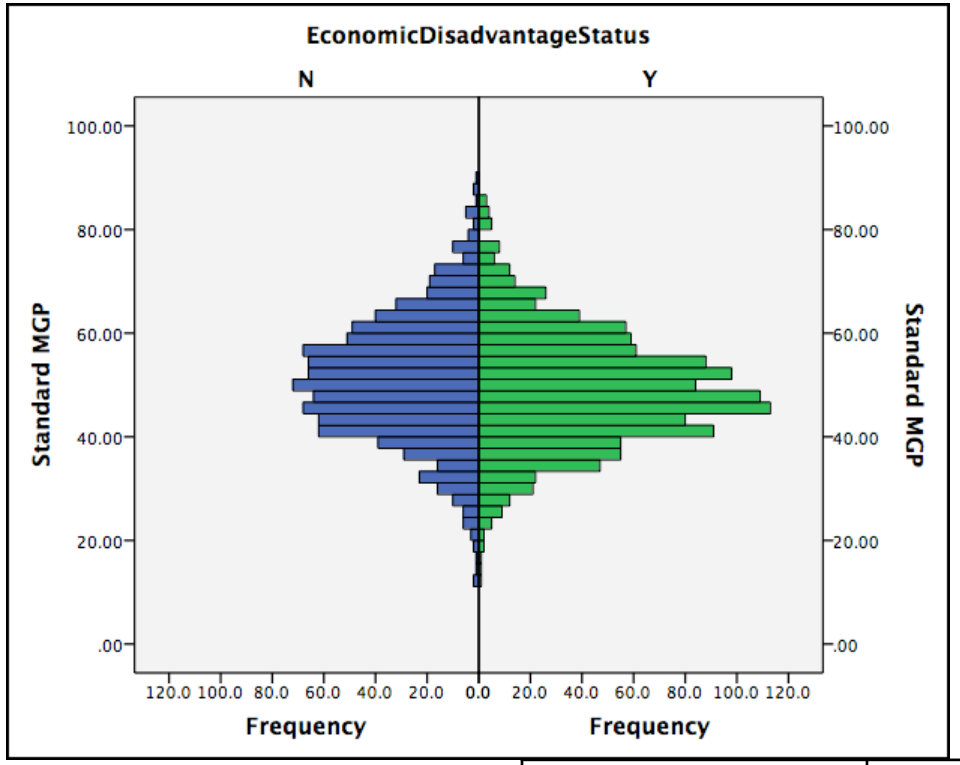
r = .618

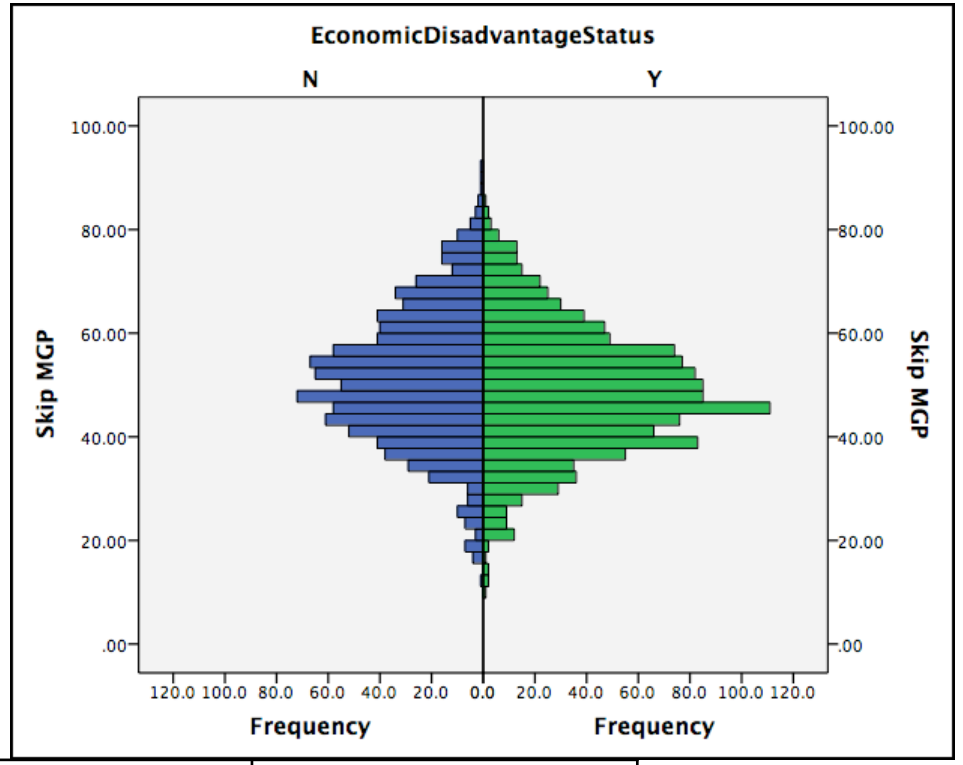
Content = ELA

Grade = 8

Prior Year Status = Percent in Level 4 or 5 in 2018

Economically Disadvantaged





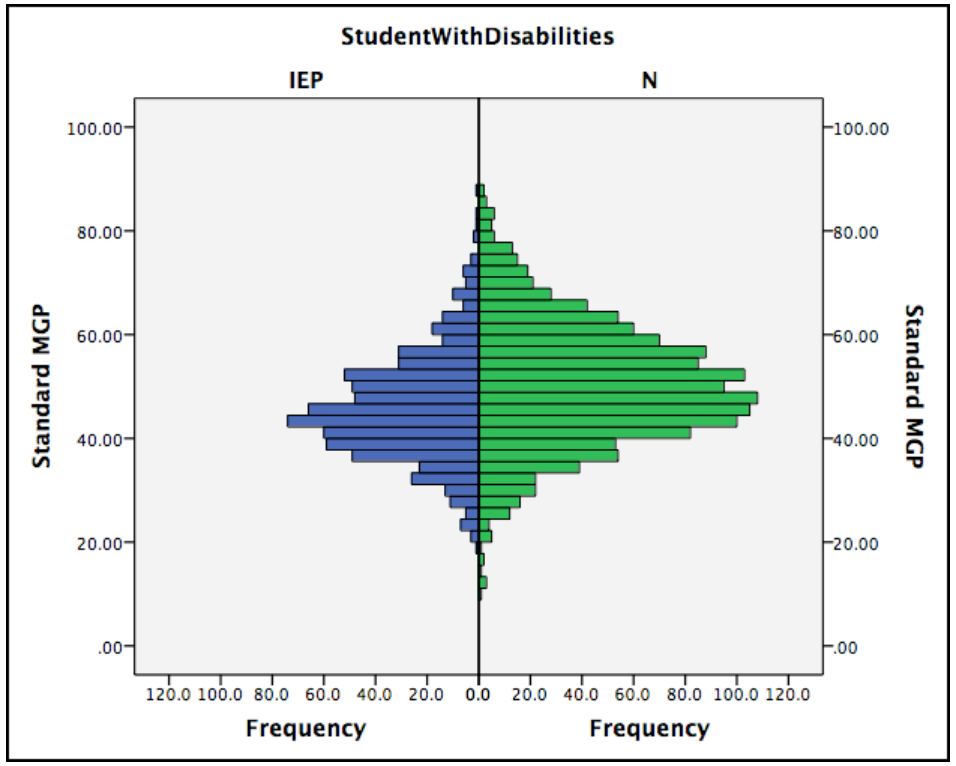
Content = ELA

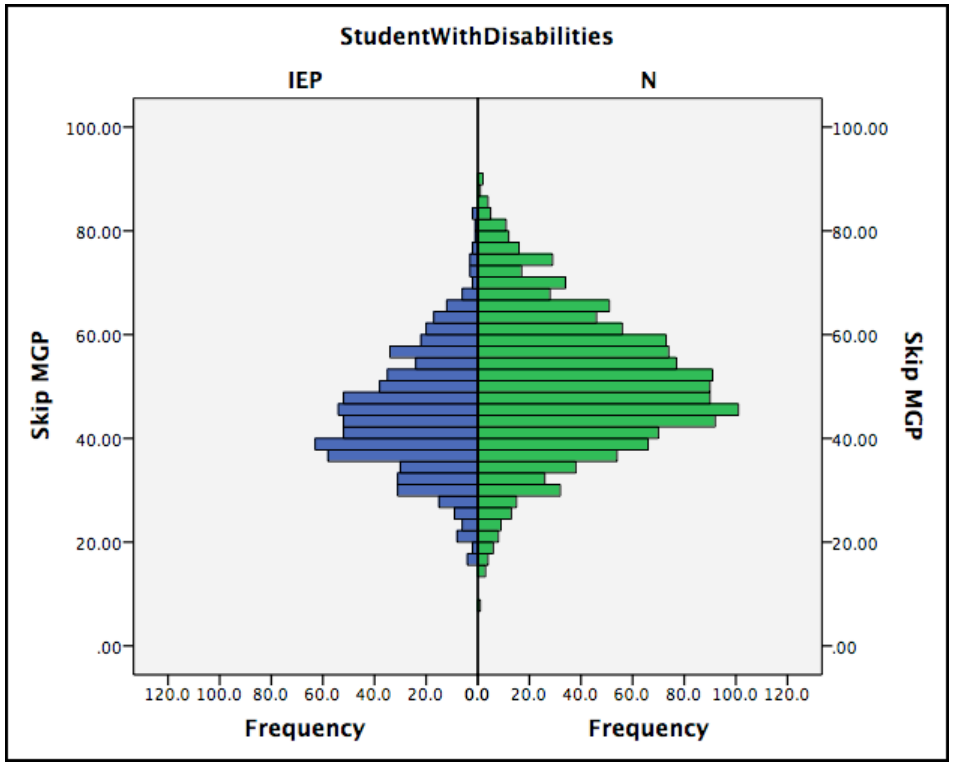
Grade = 8

Separate histograms for schools based on student ED status for all schools where n >=10 for the group included.

	ED = N	ED = Y
Standard Mean	50.94	49.16
Skip Mean	51.45	48.82

Students with Disabilities (IEP)





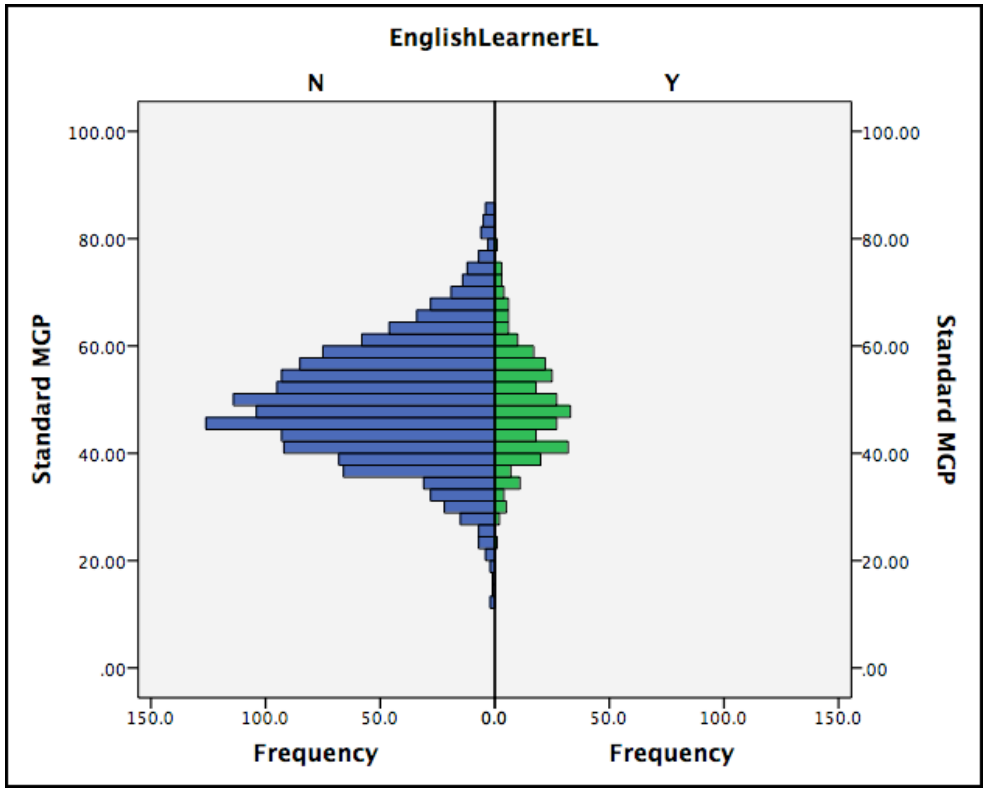
Content = ELA

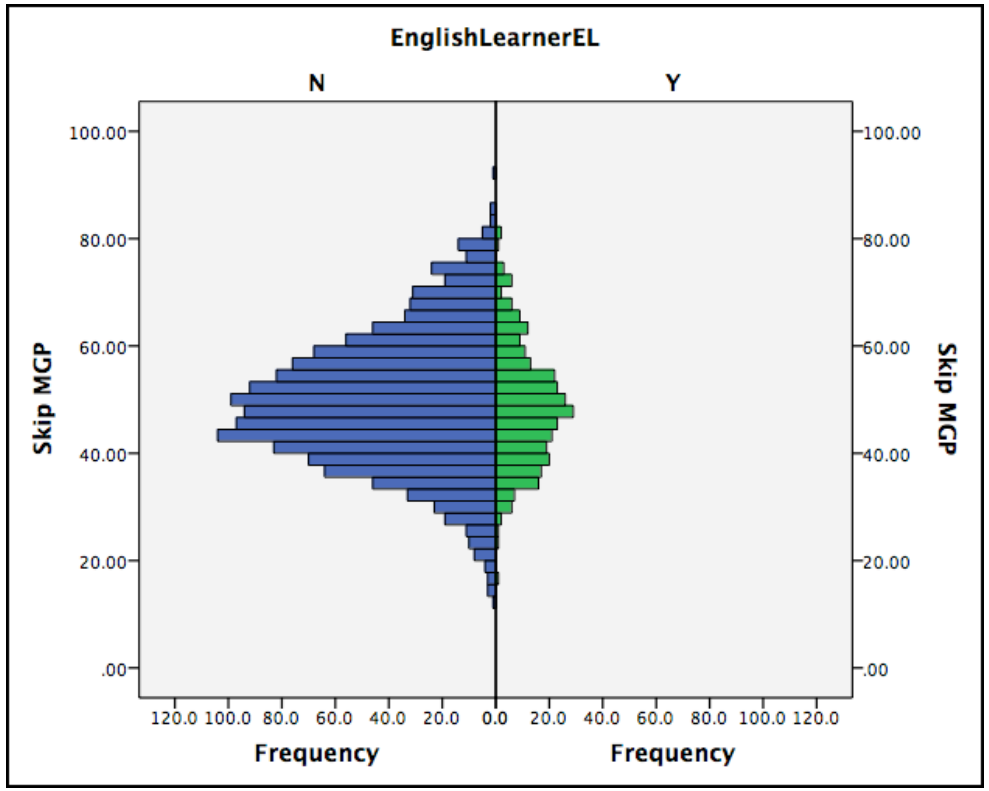
Grades = 8

Separate histograms for schools based on student IEP status for all schools where n >=10 for the group included.

	IEP = N	IEP = Y
Standard Mean	50.44	45.97
Skip Mean	50.62	44.66

English Learner Status





Content = ELA

Grade = 8

Separate histograms for schools based on student EL status for all schools where n >=10 for the group included.

	EL = N	EL = Y
Standard Mean	49.69	49.15
Skip Mean	49.72	48.82

Observations

- The student level correlations with prior year status (defined as mean SS) are very similar for Standard and Skip SGPs. Importantly, these values are all at or near zero.
- The distribution of school MGPs were very similar for standard MGPs compared to skip MGPs. Differences in means were very small and not uniform in direction.
- Relationship to prior status (defined as percent meeting + for 2018 only) were slightly higher for skip MGPs compared to standard MGPs. This is not unexpected since SGPs did not condition on the prior year.
- Distributions for selected student groups were very similar and show that a full range of MGPs can be achieved for ED, SWD, and EL with both the standard and skip method.
- There appears to be a slightly more pronounced shift to lower values for some student groups particularly for grade 5 for skip MGPs compared to standard MGP.
    - One hypothesis is that the differences are primarily related to computations based on first order SGP compared to second order. Grade 5 skip SGPs can only be order 1.

Discussion

- What feedback does the TAC have about the analyses presented today? Does the TAC recommend changes to these analyses and/or additional investigations?
- What are the implications of the findings reviewed today for ISBE's for 1) reporting and 2) school accountability?
- Given that the 'pandemic effect' cannot be modeled with legacy data, what additional recommendations does the TAC to explore this during the 2020-2021 academic year?
- If ISBE moves forward to produce growth estimates based on skip methodology, what additional supports will help promote appropriate interpretation and use?