Center for Assessment

Skip-Year Growth Follow-Up

Illinois State Board of Education

Technical Advisory Committee

January 21, 2021

Context

- Previous inquiries:
  - June 2020 meeting: reviewed student level results to gauge overall characteristics and features
  - September 2020: compared distributions and characteristics for schools and selected student groups
- Today we are following-up on two TAC suggestions:
  - To what extent are group differences associated with different SGP orders?
  - What are the characteristics of schools that receive different growth scores?

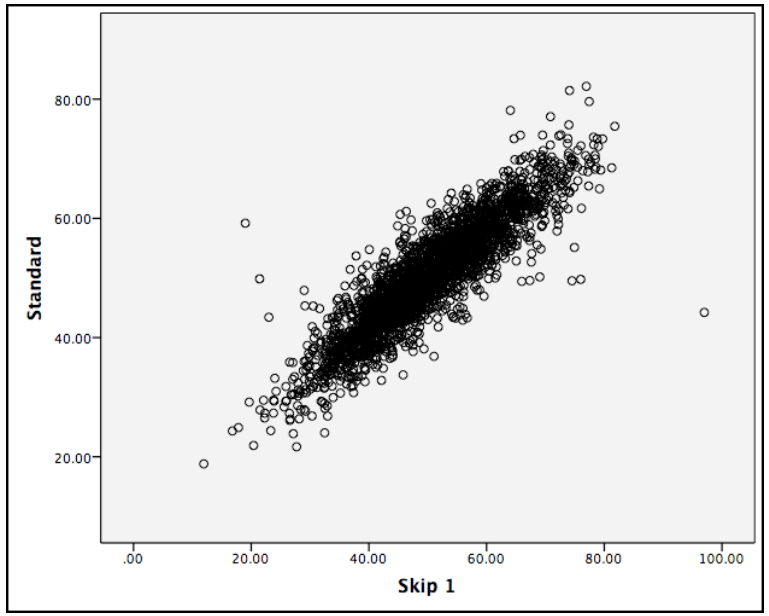
Skip-Year Growth

- 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 previously were based on the highest order SGP available (usually order 2) for 2019.
- Today, we'll look at first and second order skip SGPs compared to standard SGPs.
  - Skip 1: 2017 → 2019
  - Skip 2: 2016, 2017 → 2019
  - Skip Combined: (~70%) 2016, 2017 → 2019
  - Standard: (~80%) 2017, 2018 → 2019
- Except as noted, all analyses are at the school level where n >=10.

ELA

Relationship between Standard and Skip MGP

Content = ELA
Grades = All available



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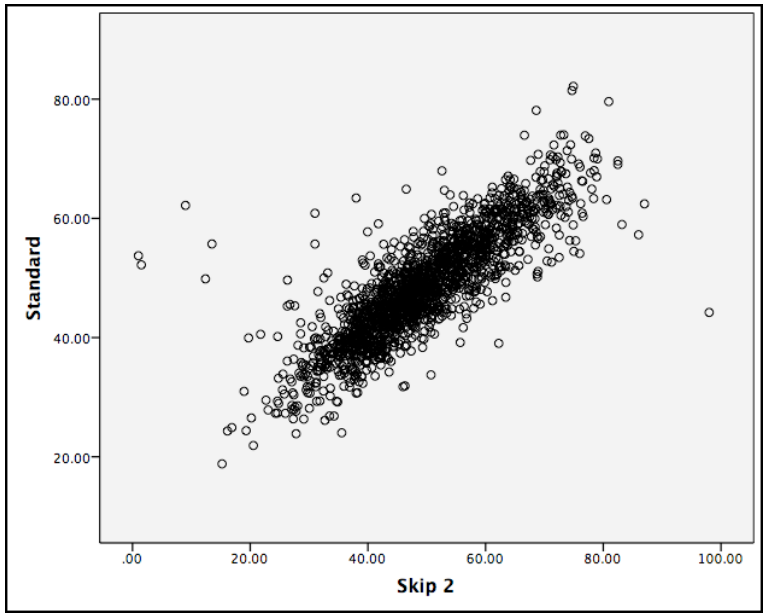

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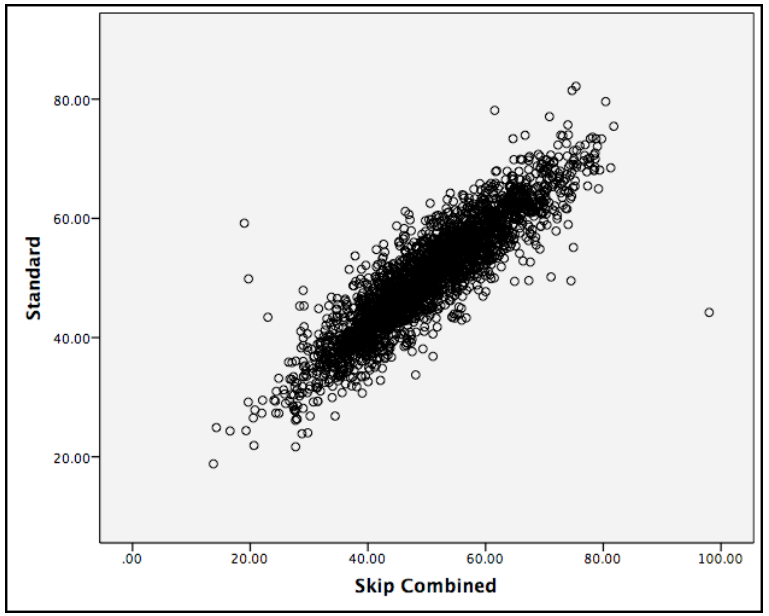

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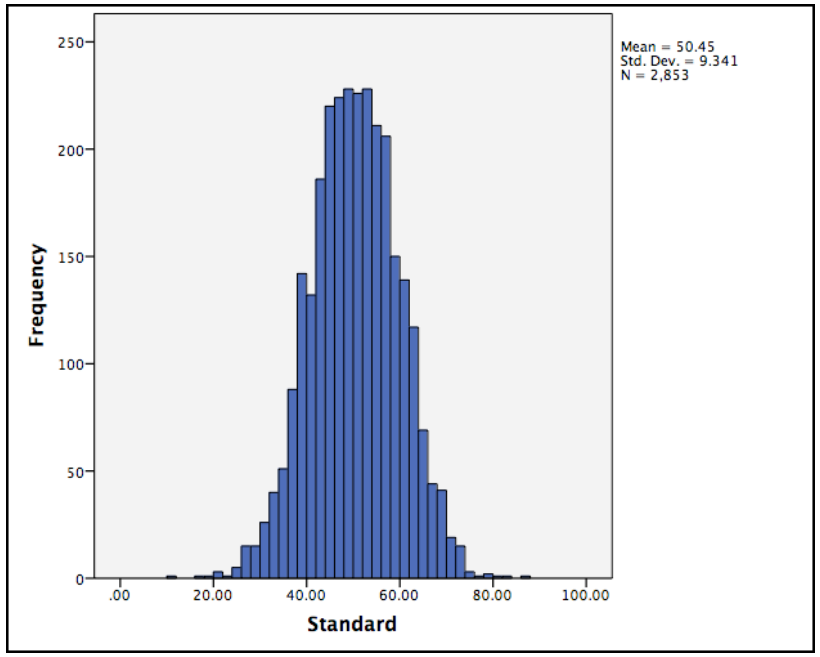
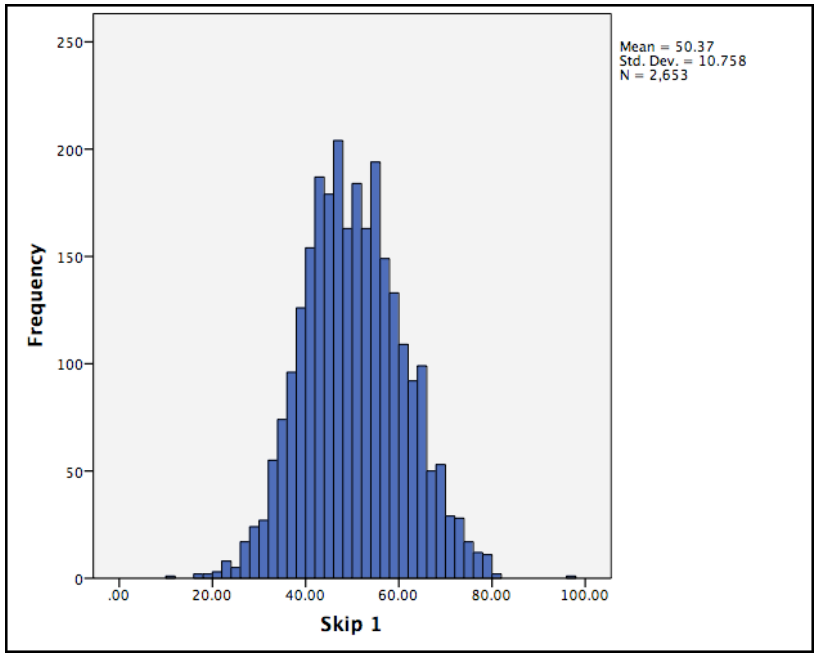
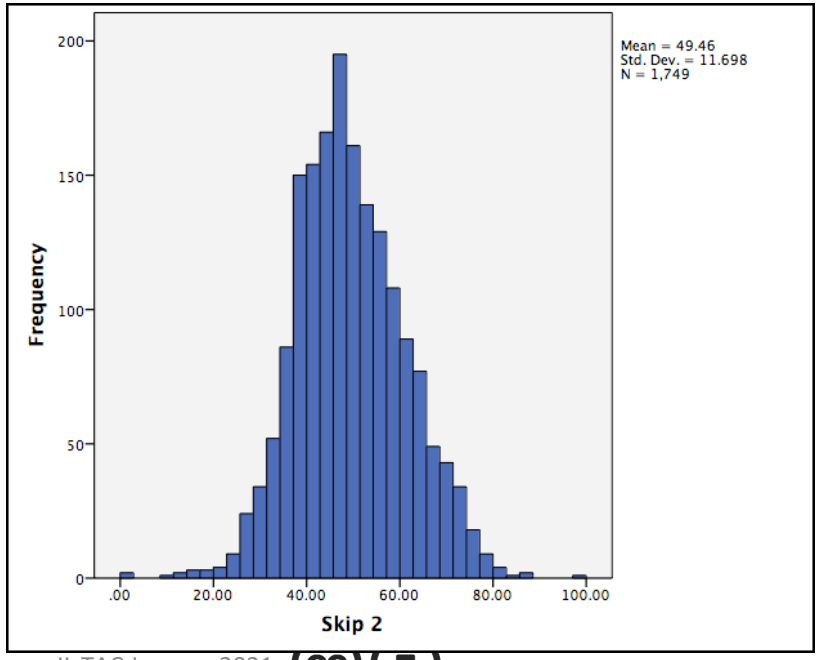
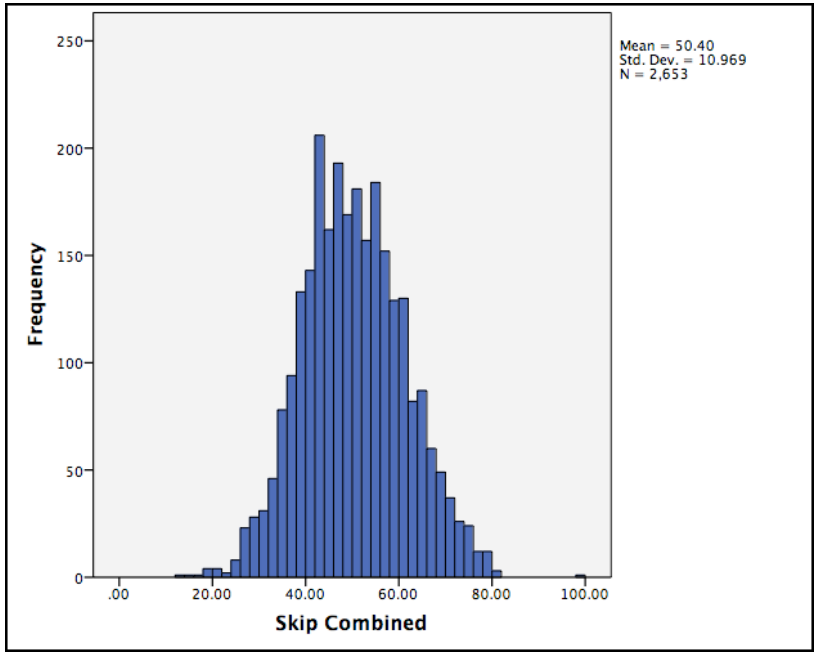






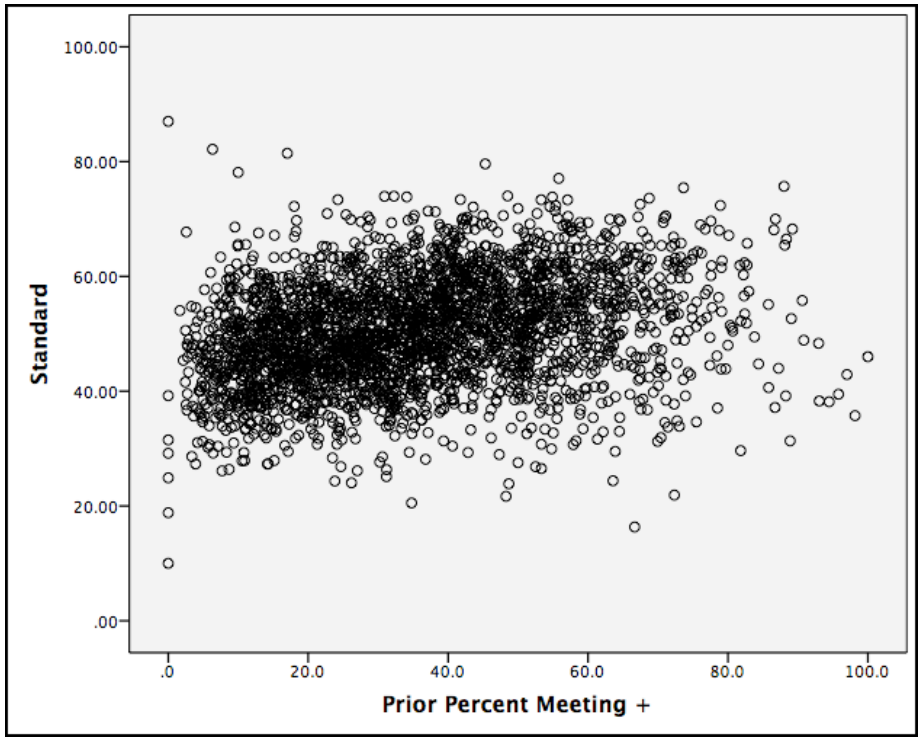


Histograms:

Standard
Skip 1
Skip 2
Skip Combined

Content = ELA
Grades = All available

Relationship to Prior Year Status (Percent Meeting +)



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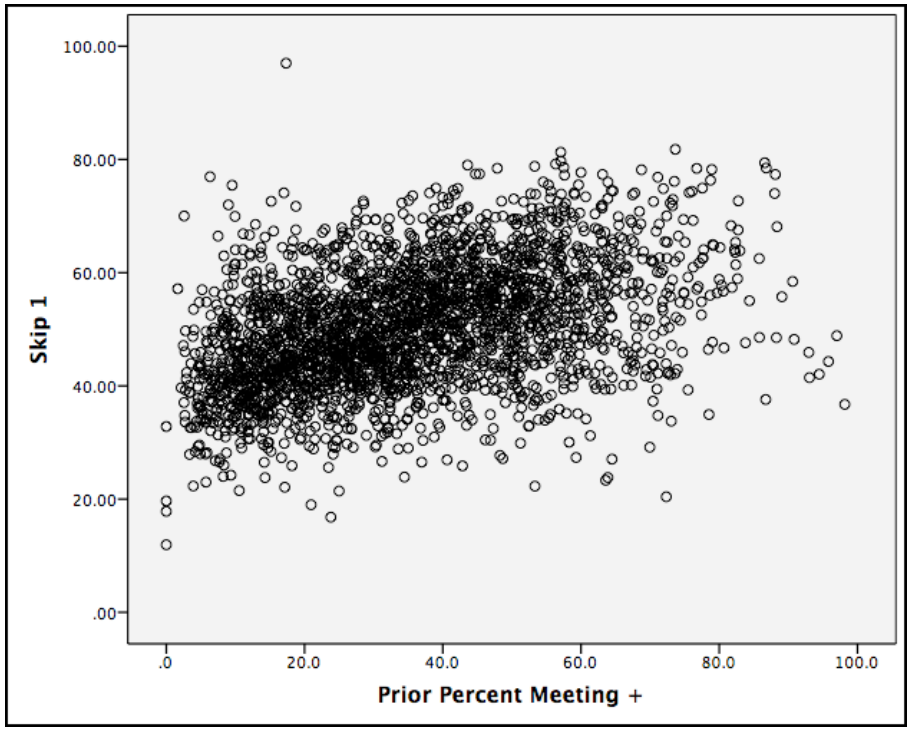

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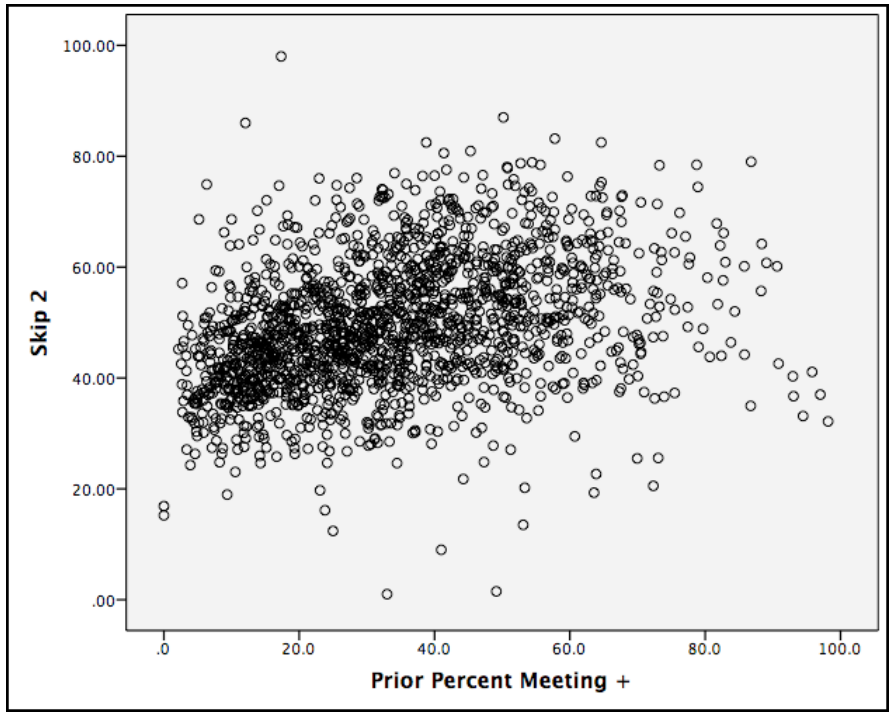
Content = ELA

Grades = All available

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

Relationship to Prior Year Status (Percent Meeting +)



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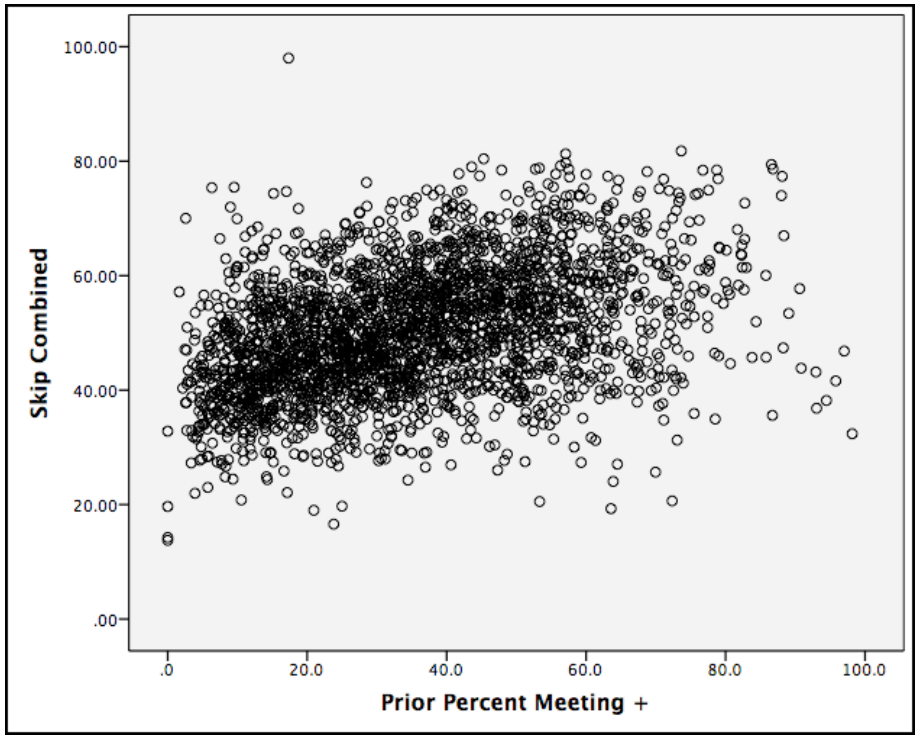

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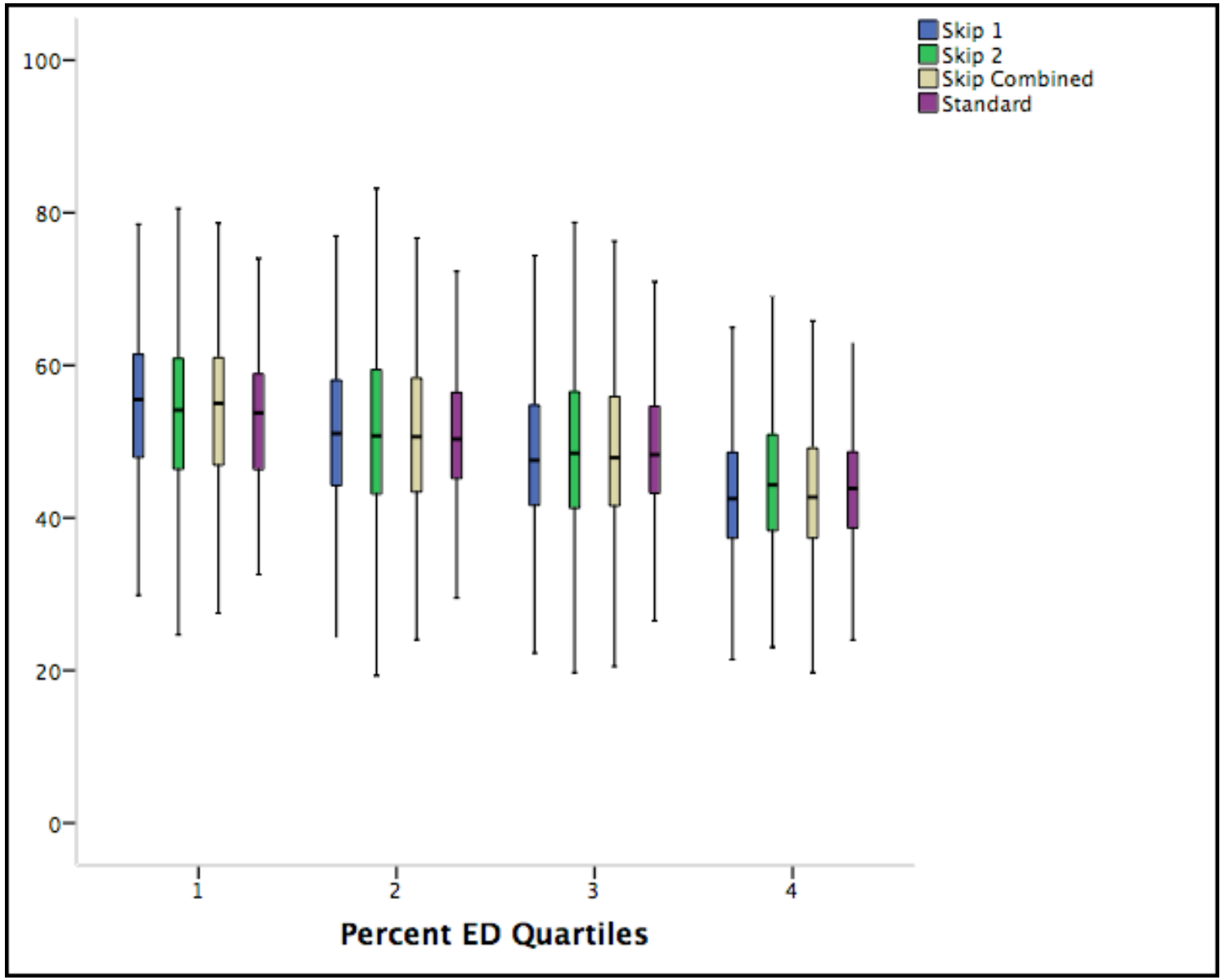
Content = ELA

Grades = All available

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



MGP distributions by economic disadvantage quartile

Distributions of Skip (order 1, 2, and combined) and Standard MGP by school

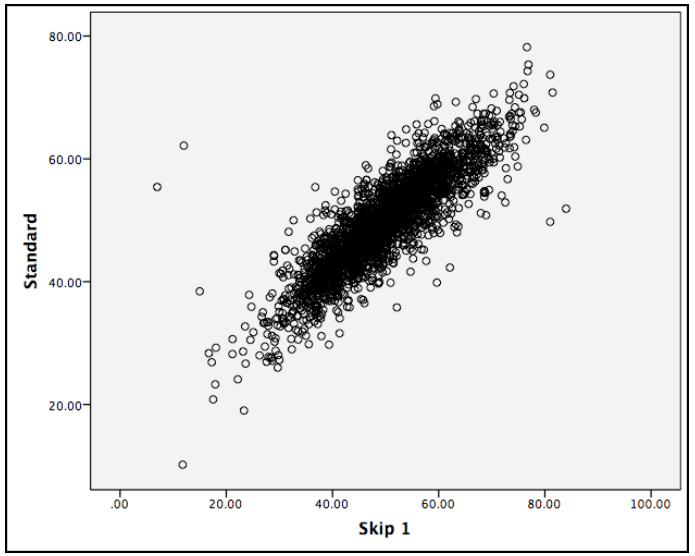
Content = ELA
Grades = All available

ED Quartiles: quartile clusters by percent economically disadvantaged from lowest (group 1) to highest (group 4)

Math

Relationship between Standard and Skip MGP

Content = Math
Grades = All available



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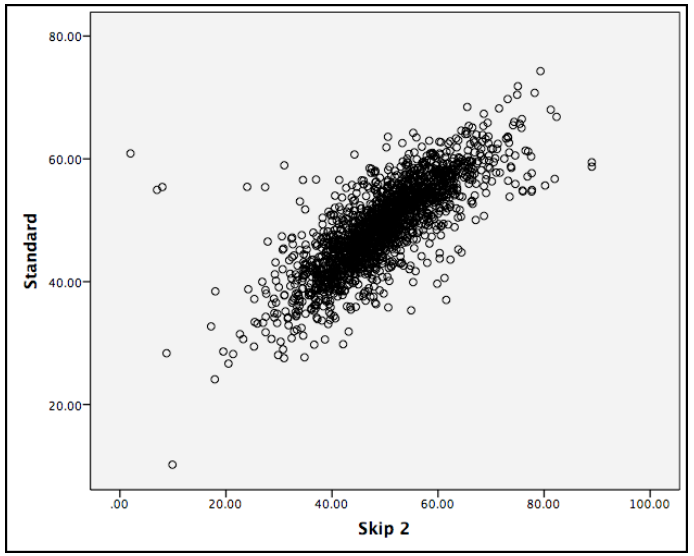
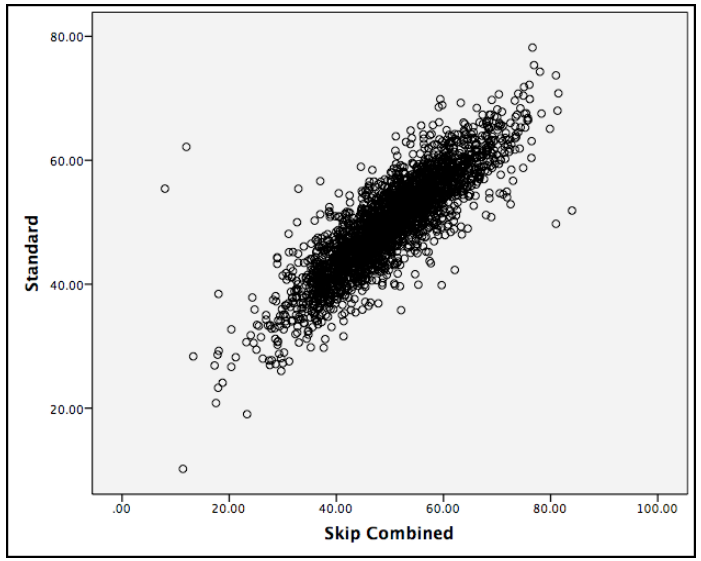


r= .781; n=1749



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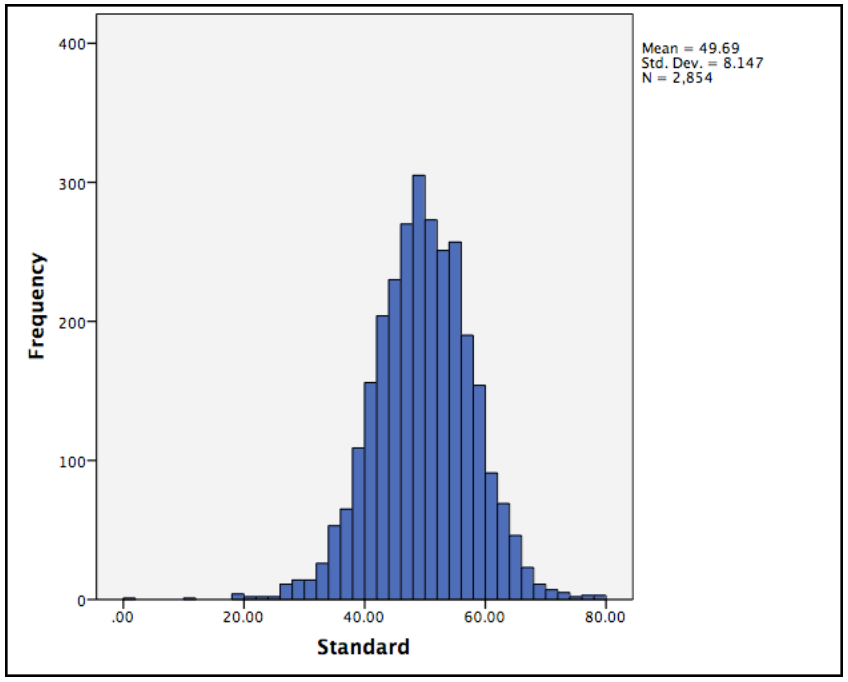
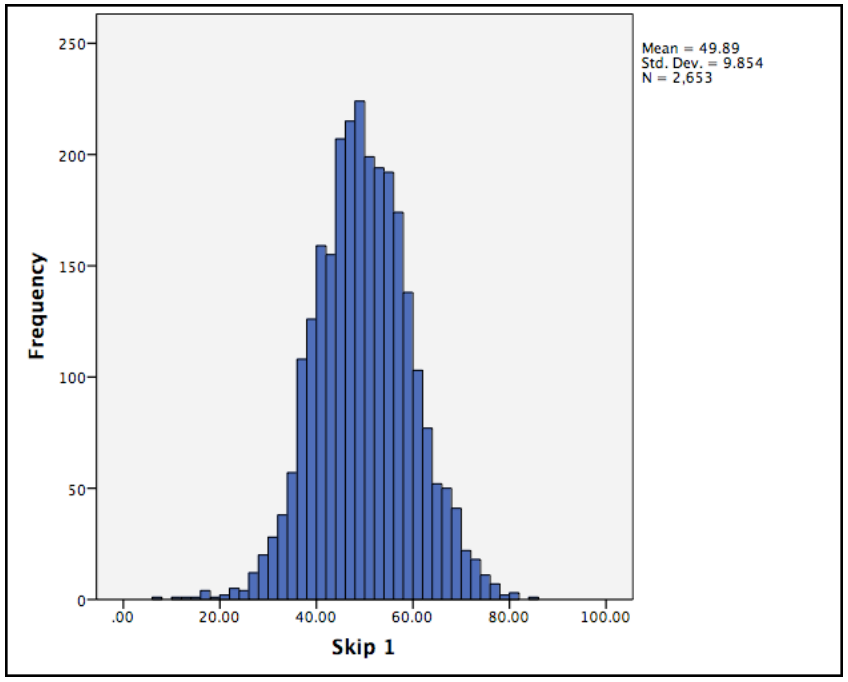
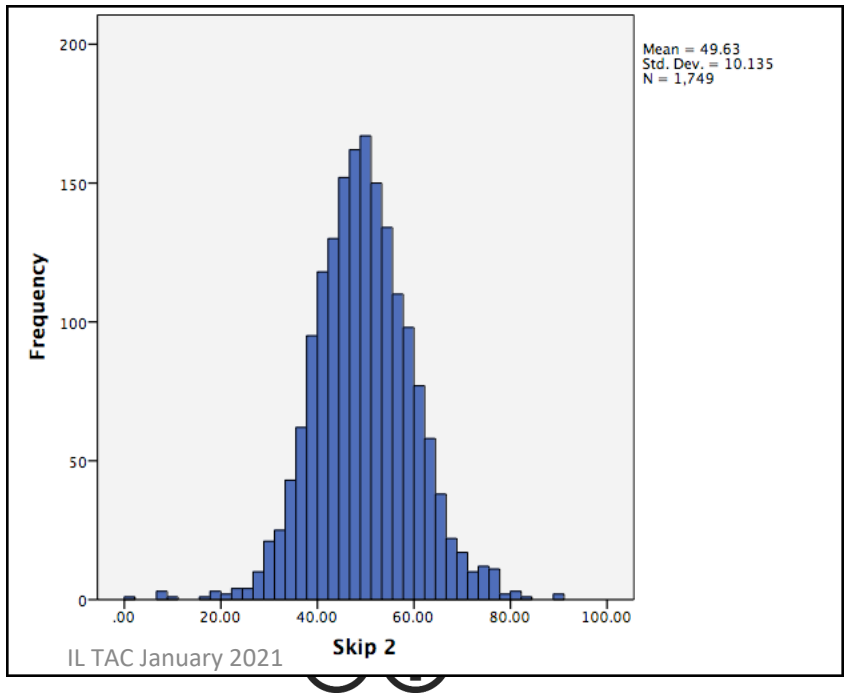
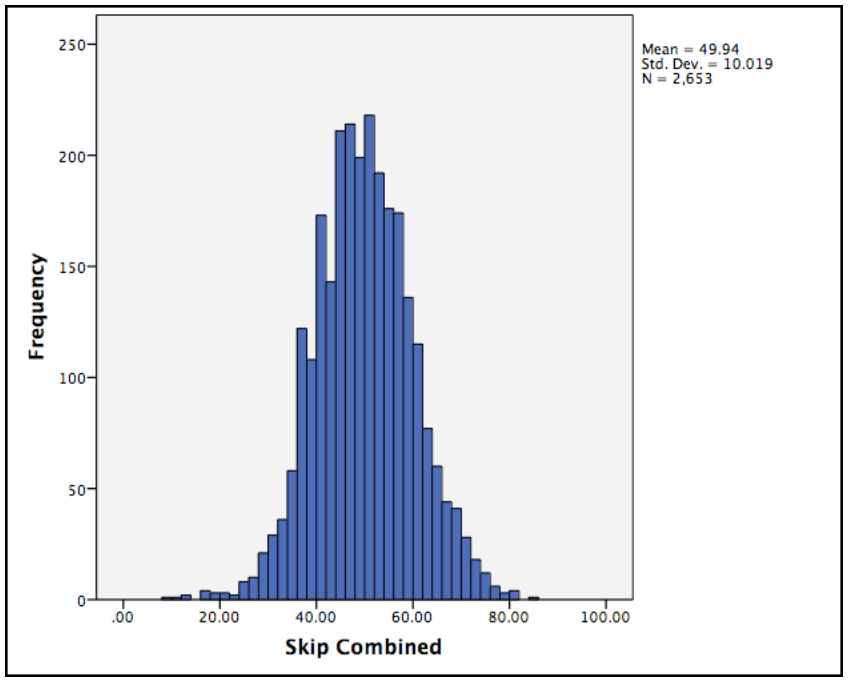






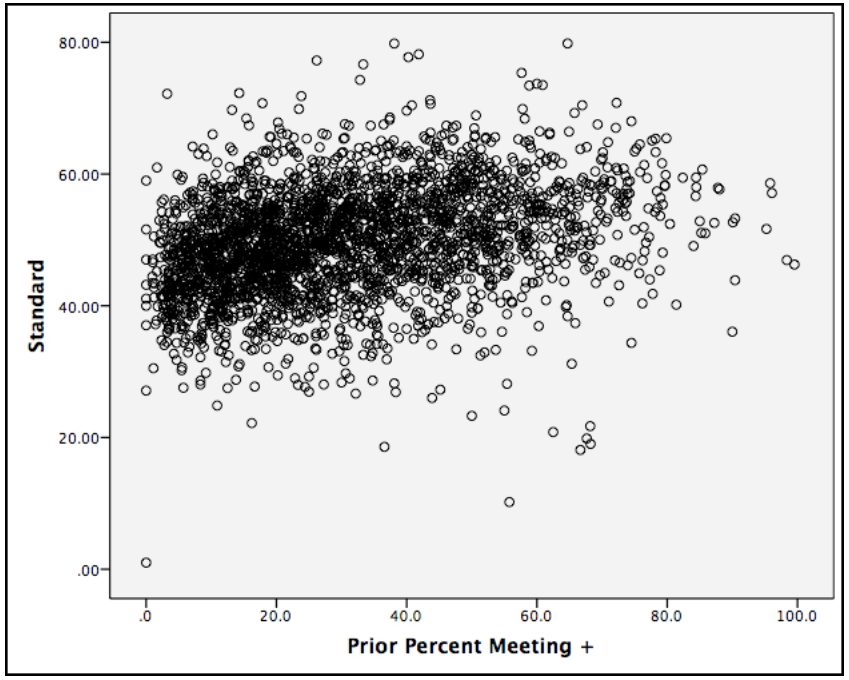


Histograms:

Standard
Skip 1
Skip 2
Skip Combined

Content = Math
Grades = All available

Relationship to Prior Year Status (Percent Meeting +)



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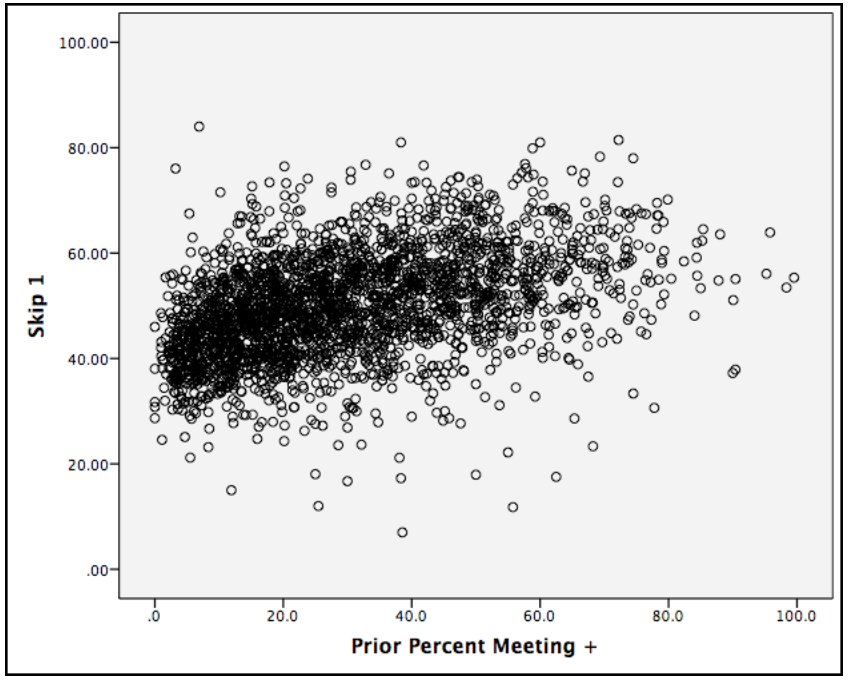

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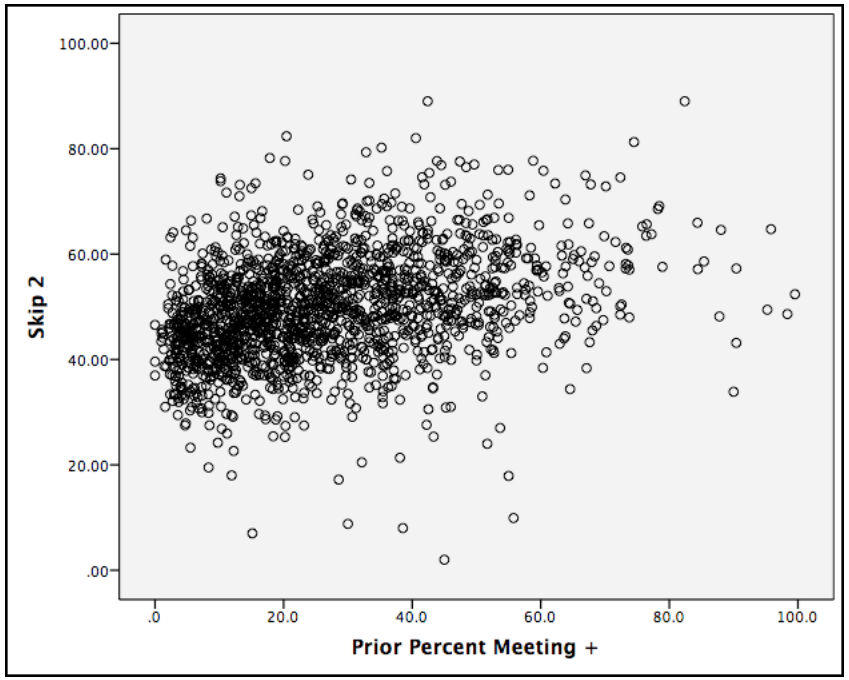
Content = ELA

Grades = All available

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

Relationship to Prior Year Status (Percent Meeting +)



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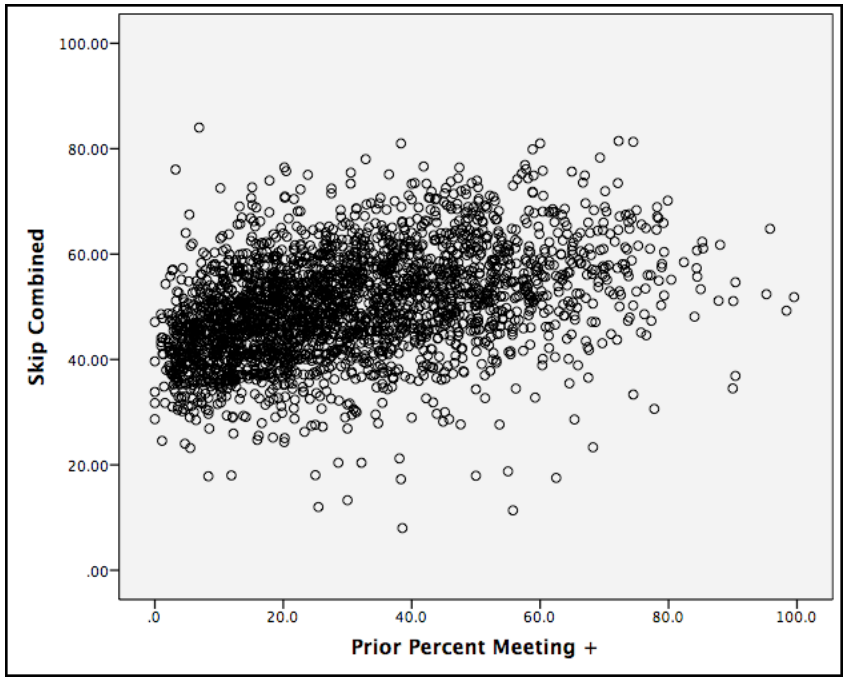
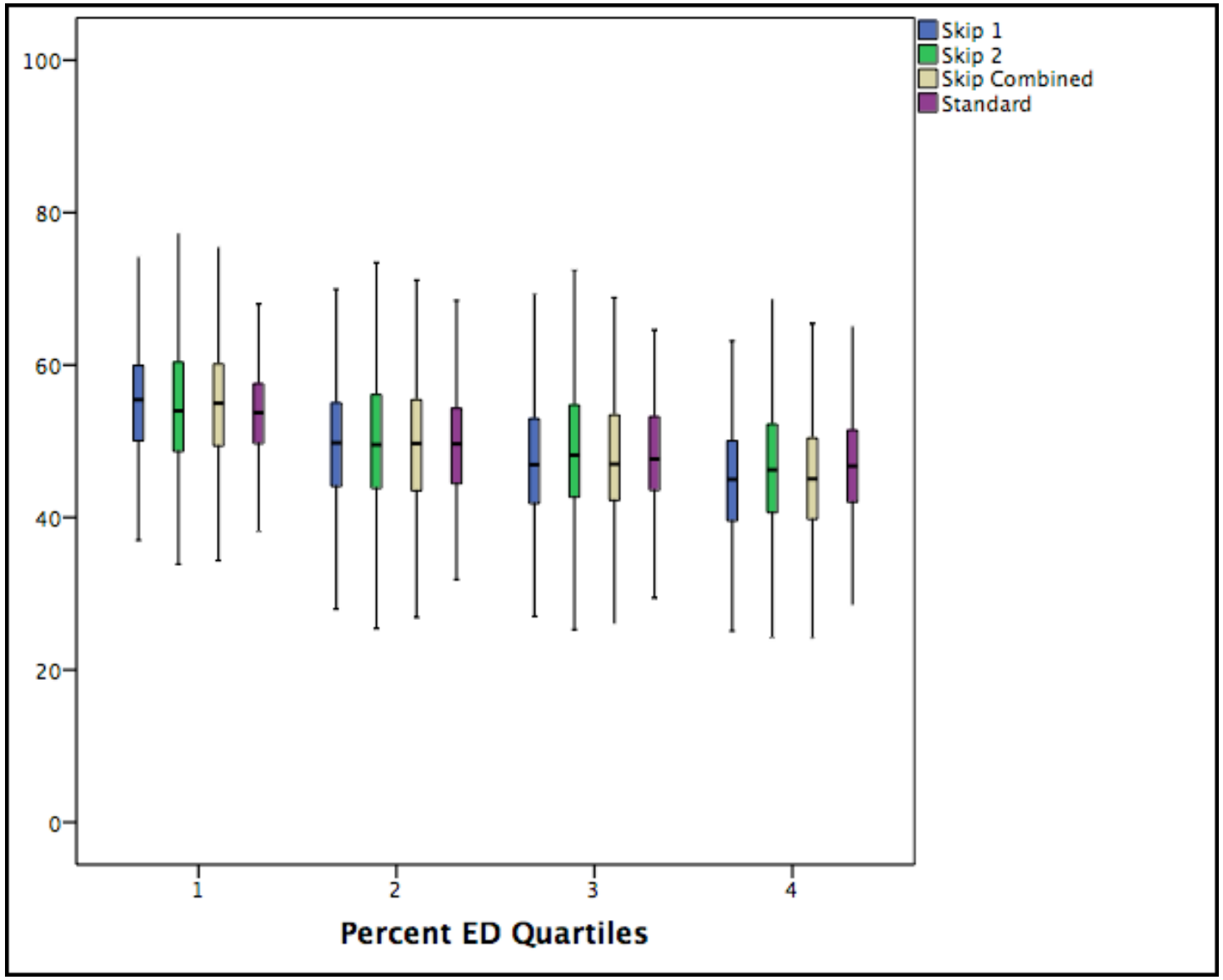


r = .393

Content = Math

Grades = All available

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



MGP distributions by Economic Disadvantage Quartile

Distributions of Skip (order 1, 2, and combined) and Standard MGP by school

Content = Math
Grades = All available

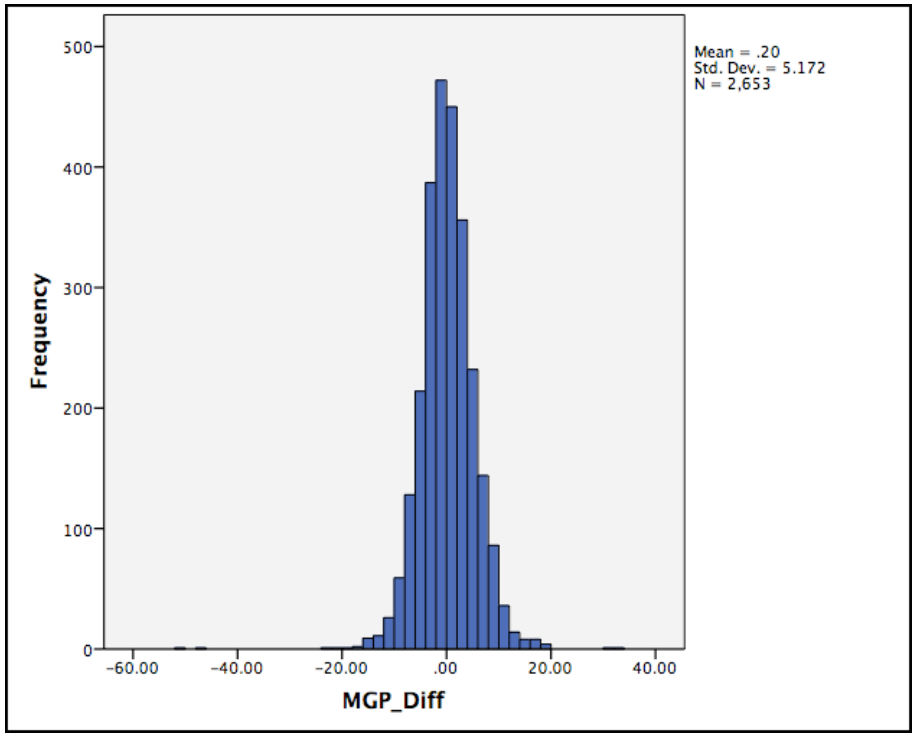
ED Quartiles: quartile clusters by percent economically disadvantaged from lowest (group 1) to highest (group 4)

Observations and Recommendation

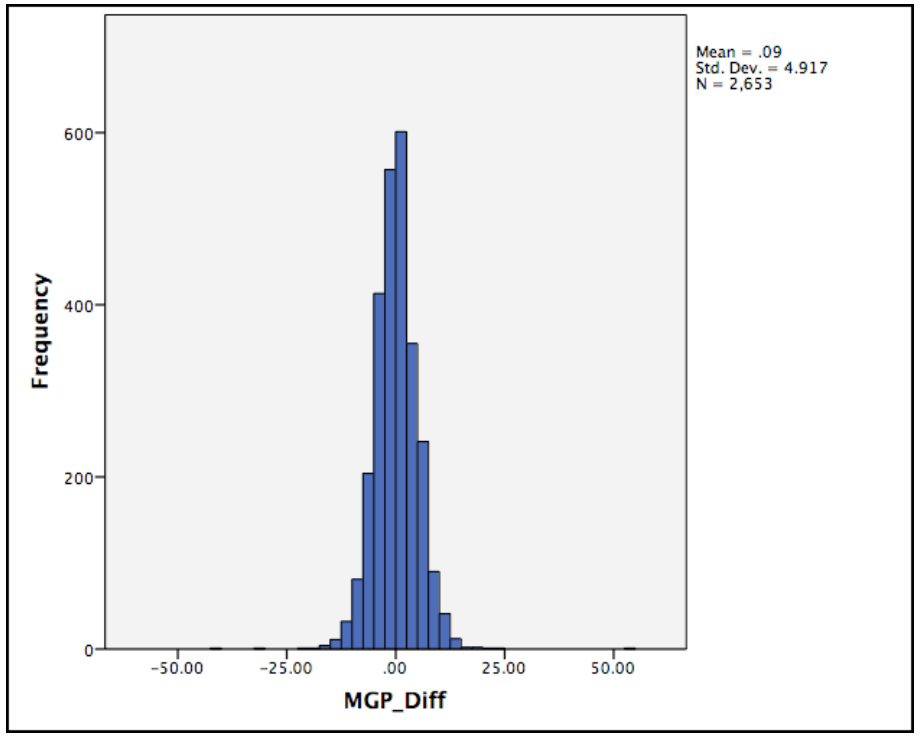
- First order skip MGPs and combined skip MGPs were more closely correlated with standard MGPs compared to second order skip MGPs. This may be due to the influence of priors from 2016.
- The distribution of school MGPs were very similar for standard MGPs compared to skip MGPs at all levels.
- Importantly, second order and combined MGPs have a weaker relationship with prior status. The added information seems to help disentangle status from growth.
- Using 2nd order MGPs only would reduce the number of schools with growth information.
- The distribution of school MGPs by ED quartile were similar within quartile.
- ***Recommendation: If ISBE moves forward with reporting growth information, use the highest order available (Combined Skip). This will minimize the relationship with status and include the most schools.***

Characteristics of Schools with Different Growth Scores

Distribution of School Level 'Difference Scores'



Math



ELA

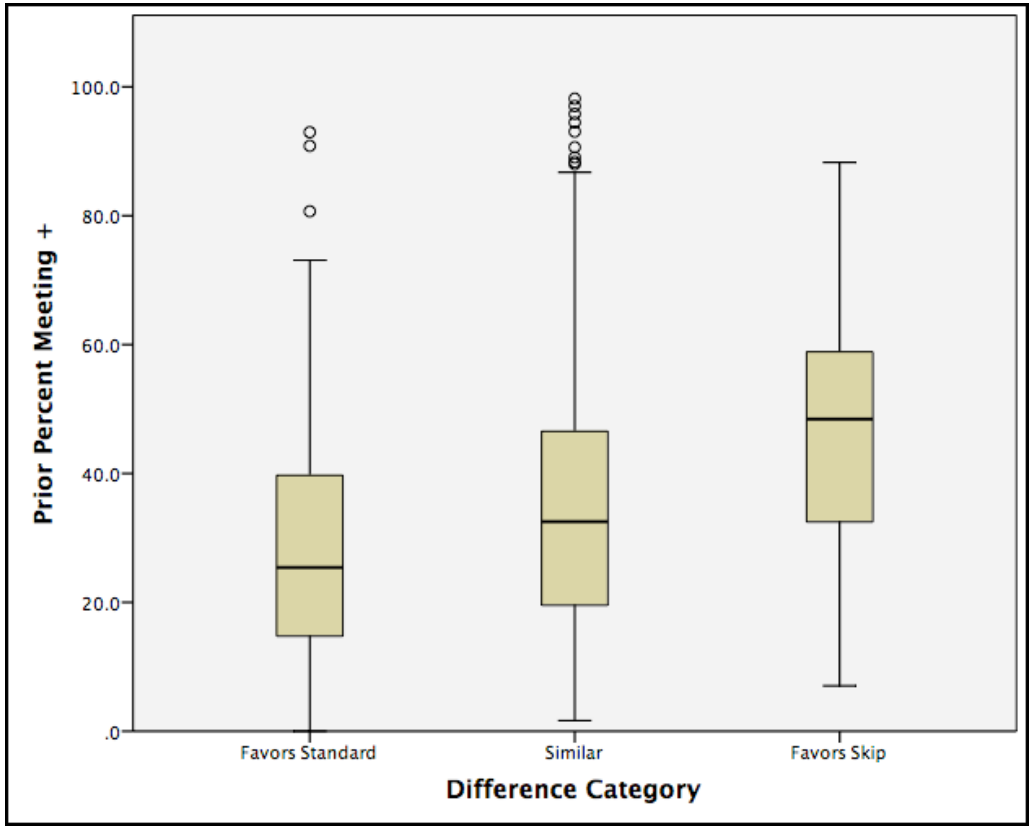
Positive values favor Skip MGP

For both content areas, the mean is near zero (slightly positive) and SD ~ 5.

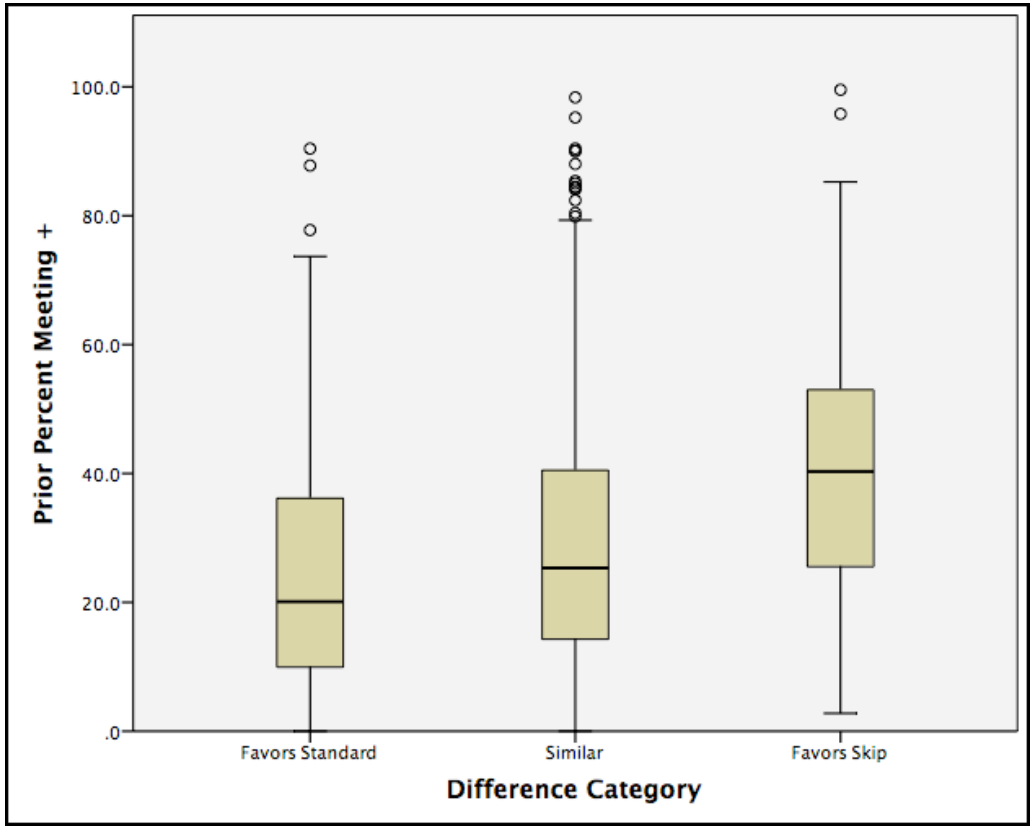
Mean Growth by Difference Category

	ELA			Math		
	Schools	Mean Standard	Mean Skip	Schools	Mean Standard	Mean Skip
Favors Standard	336	49.67	41.93	343	48.28	40.33
Similar	1926	49.78	49.7	1907	49.32	49.31
Favors Skip	391	53.45	61.13	403	52.94	61.09

Prior Year Percent Proficient by Difference Category

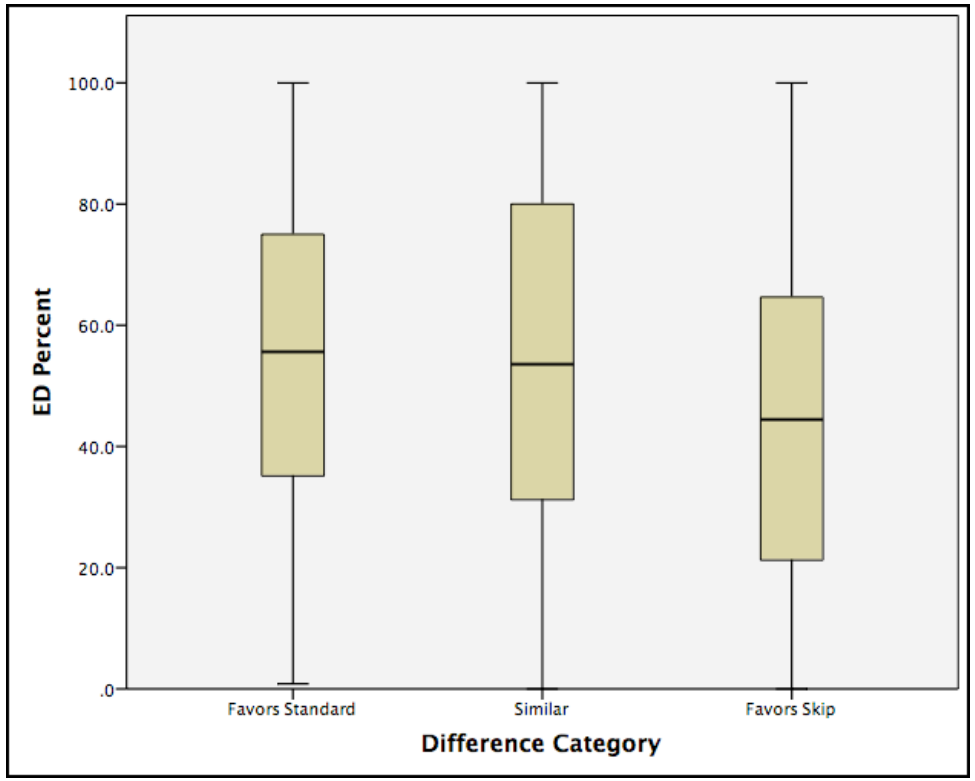


ELA

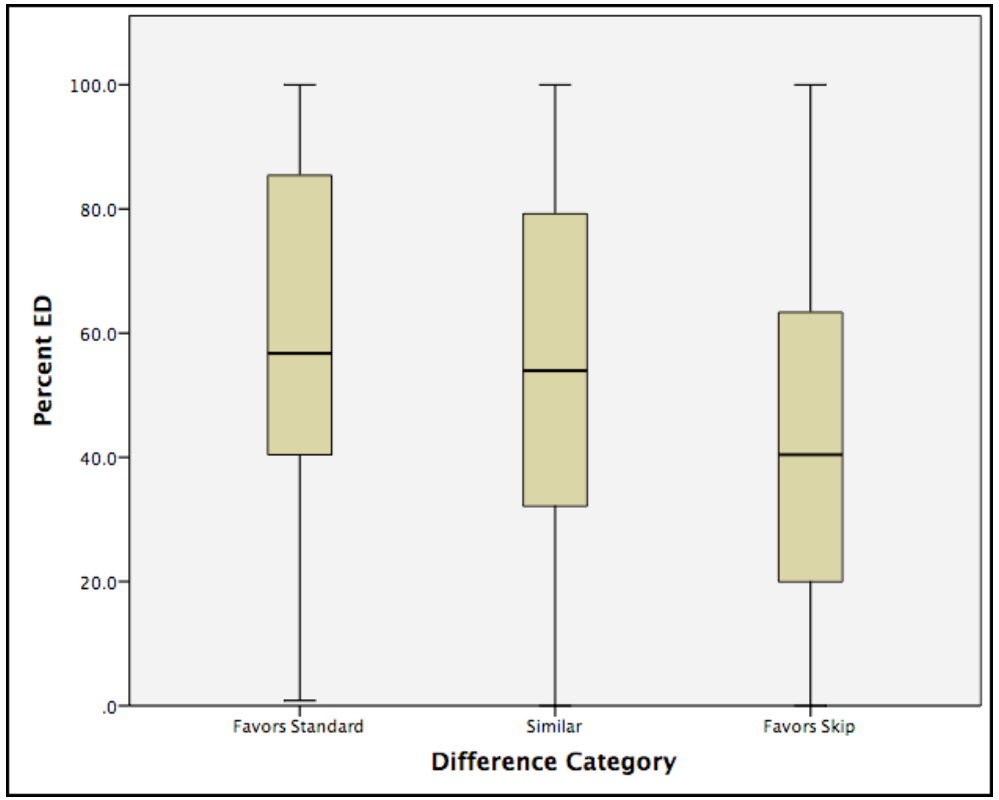


Math

Percent ED by Difference Category

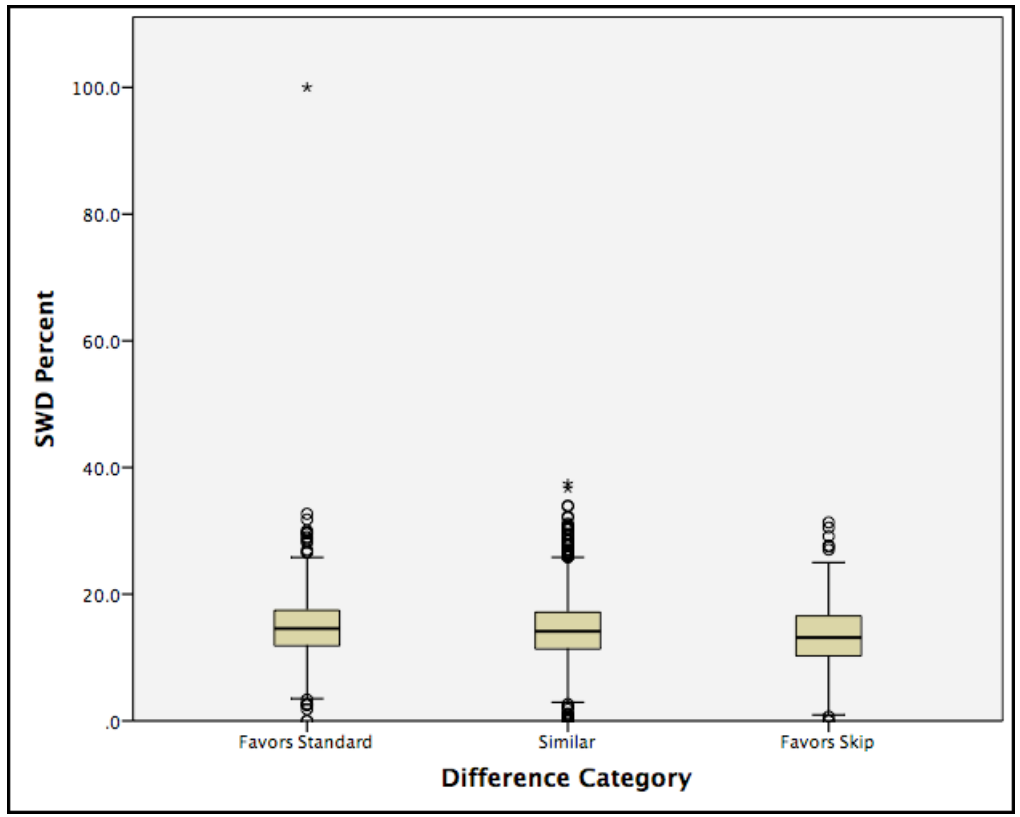


ELA

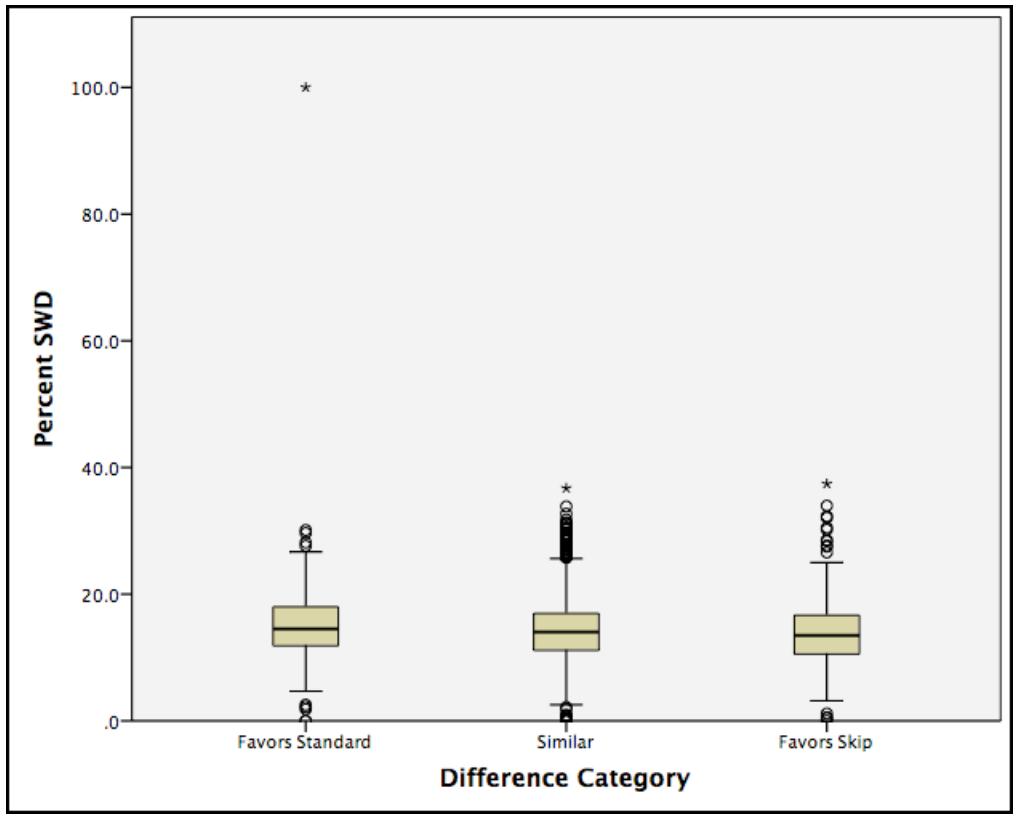


Math

Percent SWD by Difference Category

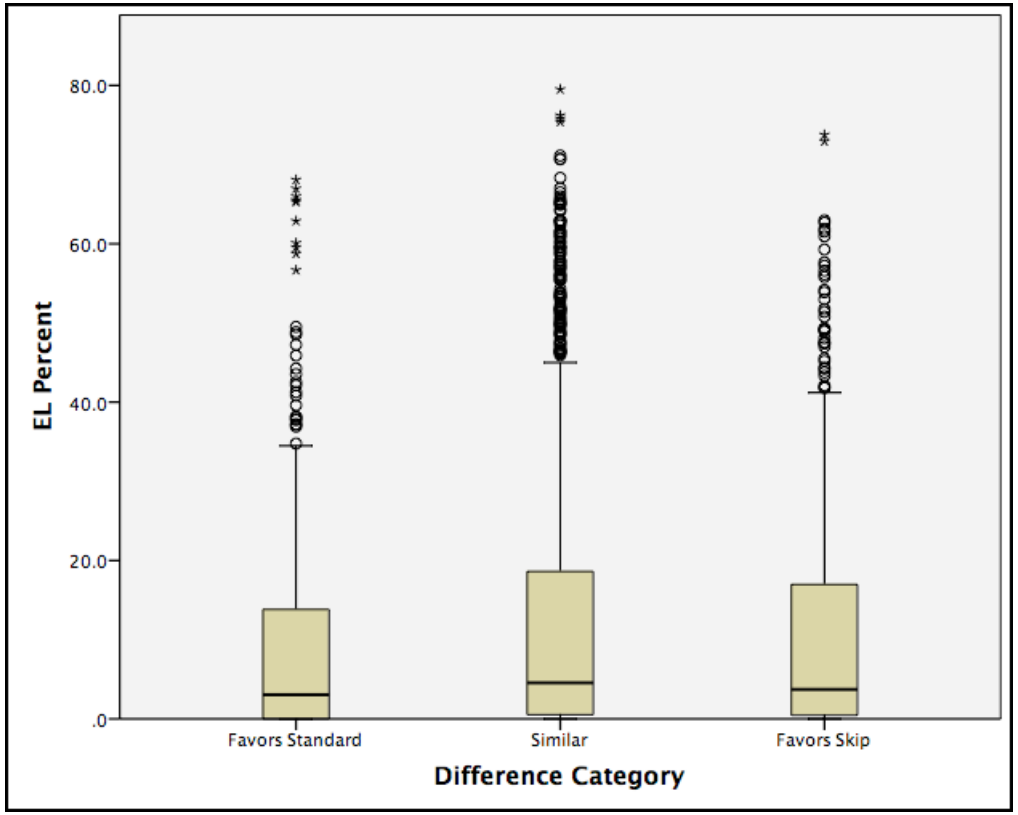


ELA

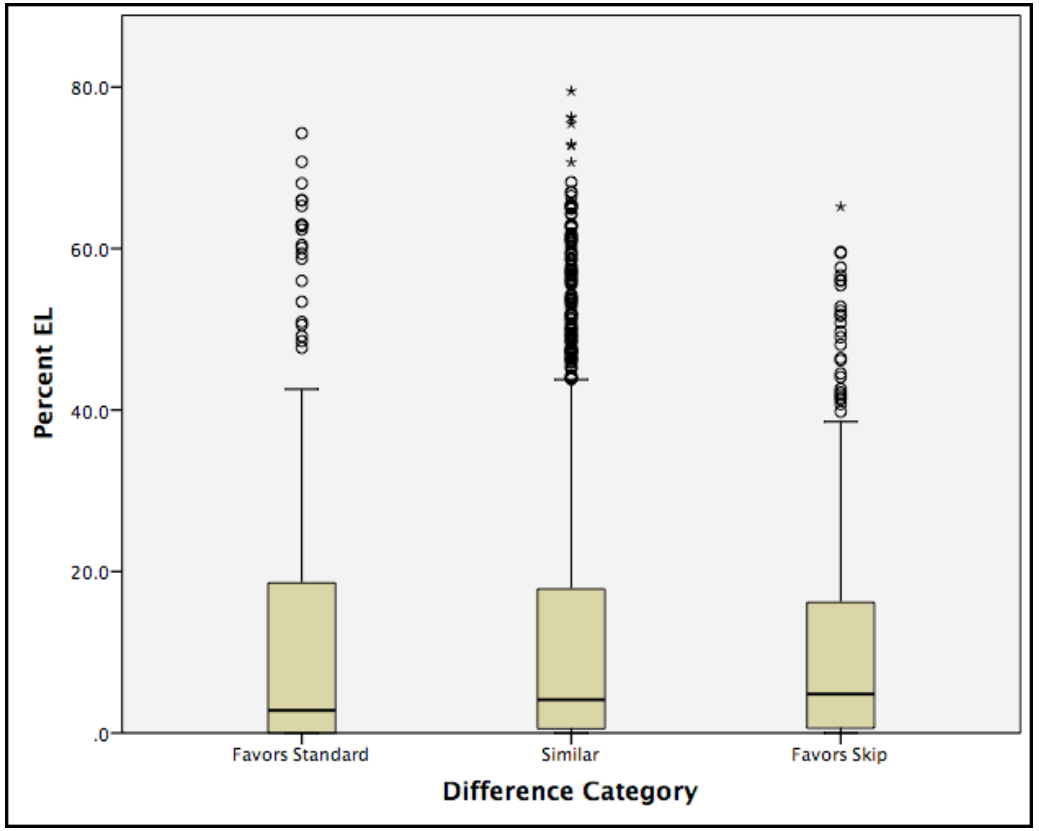


Math

Percent EL by Difference Category



ELA



Math

Observations

- Differences between standard and skip MGPs are normally distributed with a mean near zero. Differences slightly favor skip MGPs.
- Skip MGP was 5 or more points higher in approximately 15% of schools. Standard MGP was 5 or more points higher in approximately 13% of schools. The remaining schools, approximately 68%, had differences of less than 5 points between skip and standard MGP. This finding was consistent for ELA and math.
- Schools with higher skip MGPs, tended to have higher percentage of students meeting or exceeding standards on the IAR. This may be because the 2018 scores were not factored into skip calculations.
- Schools with higher skip MGPs, tended to have lower percentages of economically disadvantaged students. The percentage of ELs and SWD did not appear to vary substantially across the 'difference categories.'

Discussion

- What, if any, legacy analyses should ISBE conduct to explore growth alternatives for 2021?
- What analyses post 2021 analyses should ISBE conduct to inform growth alternatives?
- What uses of growth data are appropriate in 2021? How can ISBE promote appropriate interpretation and use?

Center for Assessment

Proposed Growth Analyses in 2021

Damian Betebenner

Illinois TAC Webinar
January 21st, 2021

SGP Growth Analyses 2021

With the 2021 assessment situation becoming (slightly) clearer here are current plans for 2021 growth:

- Skip year (2019 to 2021) growth will be calculated at both the state and consortium level.
- Approximately 80,000 students in IL testing in 2020, growth from 2020 to 2021 will be calculated
- Both cohort (2019 to 2021) and baseline (using 2017 to 2019 growth) referenced growth will be calculated for all students with suitable data.

Using Growth to Assess Learning Loss

- Previous analyses comparing skip-year to annual growth were intended to inform use for traditional accountability purposes.
- As mentioned in earlier presentations, there are other (better) uses of growth beyond traditional accountability in 2021.
- Understanding student learning loss is one of those uses.
- Baseline referenced growth will allow IL to investigate student learning loss.
  - Overall: Baseline referenced SGPs have a median of 50 for historical (i.e., 2019) results. Deviation (below) 50 in 2021 will allow IL to determine the extent of learning loss statewide, by district, school, and student group.
  - Differential impact: Differences between traditional demographic subgroups as well as COVID-19 subgroups (in person/hybrid/remote learning).
- Note that because both cohort and baseline SGPs will be produced both accountability (if it happens) and learning loss will be supported

Using Growth to Assess Learning Loss

Precautions associated with learning loss interpretation

- Use of baseline SGP imply that the 2021 results are on the same scale as the 2019 results. Pearson will work hard to ensure that.
- 2020 to 2021 growth results will help validate learning loss results for 2019 to 2021.
- Participation rates will likely be lower than in previous years leaving “holes” in the data for some districts and schools.
- These holes will have less an impact on growth results than on status results because growth is uncorrelated with prior achievement.
- At present, we think learning loss for those districts/schools with “holes” can be estimated using whatever 2021 student growth data is available together with some technique like propensity score matching at the district/school level.
- Again, this isn’t meant to be used for “big A” accountability

Using Growth to Assess Learning Loss

Current efforts

- Our goal (working with Pearson) is to have all preliminary work on learning loss (e.g., baseline matrix construction) done prior to the arrival of data (preliminary data usually arrives in June).
- Create learning loss reports for state in addition to traditional SGP reports.
- Turn around reports to states as fast as possible (hopefully 24 to 48 hours) so that data is actionable for Fall 2021.
- NOTE: IL being a WIDA-ACCESS state can also perform learning loss analyses with those data to support results derived from the IAR.