BESE Accountability Work Group
Serving as the Growth Technical Advisory Panel

Center for Assessment

October 12, 2023
1pm – 4pm

Agenda

1:00   Welcome and Introductions

1:10   Review Selected Technical Properties of Louisiana Growth Model

1:50   Review Selected Technical Properties of LEAP

2:30   Break

2:45   Review Additional Growth Models: Discuss Scope and Priorities for Next Steps

3:45   Public Comment

4:00   Adjourn

Introductions

- Louisiana State Board of Elementary and Secondary Education (BESE) Members

- Louisiana Department of Education (LDOE)

- Growth Technical Advisory Panel (G-TAP) Members

Louisiana's Value Added Growth Model

Model Overview

- Louisiana's VAM compares actual to predicted performance on state tests compared to peers with similar prior assessment scores and background

- Data used in the model

Data Included in Model	Definitions for Data included in Model
Prior Year Scores	Scale score from state assessments for all subjects from up to three prior years
Student Attendance	Total number of days student is absent
Student Suspension / Expulsion	Total number of times a student is suspended or expelled from school
Student Mobility	Yes or No (based on enrollment in more than one school in an academic year)
Gifted Classification	Yes or No
Section 504 Classification	Yes or No
Special Education Classification	Emotional Disturbance, Specific Learning Disability, Mild Intellectual Disability, Speech or Language Impairment, Autism, Other Health Impairment, Special Education - Other
Economically Disadvantaged	SNAP, TANF, Medicaid, Free Lunch, Reduced-price Lunch, and Economically Disadvantaged - Other
English Language Learner	Yes or No

School Performance Scores (1)

- Step 1: Are students on track to mastery?
  - Every student scoring below mastery receives a growth target for the following year that indicates the growth required to be on track to mastery by 8th or 10th grade
  - If the student achieves the target, the school receives 150 points (maximum points). If not, proceed to step 2.
- Step 2: Are students growing at a rate comparable to their peers?
  - Points are assigned as follows:
    - 80-99th percentile: 150
    - 60-79th percentile: 115
    - 40-59th percentile: 85
    - 20-39th percentile: 25
    - 1-19th percentile: 0

School Performance Scores (2)

- Students scoring advanced in the prior year
  - Students who maintain advanced earn 150 points (maximum)
  - Students who decline to mastery or below earn points consistent with step 2 (growth in comparison to academic peers)

- Students scoring mastery in the prior year
  - If students meet the target to reach <u>advanced</u> by 8th grade they receive 150 points.
  - If not, students earn points consistent with step 2.

Percent Earning Points in Each Categroy

	2019	2021	2022
Step 1: 150 points – met growth target	30	25	33
Step 2: 150 points – VAM	5	6	5
Step 2: 115 points – VAM	11	14	10
Step 2: 85 points – VAM	25	22	23
Step 2: 25 points – VAM	13	15	13
Step 2: 0 points - VAM	16	19	17

Student Progress Grade 3 to 8: ELA

- The following tables show the outcomes in grade 8 based on student performance in grade 3 (2017)

Average VAM Score

3rd	UNS	APP	BAS	MAS	ADV
UNS	31	58	70	76	88
APP	23	46	60	73	89
BAS	16	34	49	65	87
MAS	9	21	34	51	75
ADV	**	**	18	38	68

Number of Students

3rd	UNS	APP	BAS	MAS	ADV
UNS	1703	1577	884	280	12
APP	1325	2173	2039	1034	33
BAS	847	2168	3263	3468	242
MAS	364	1057	3021	9570	3022
ADV	<10	<10	54	851	1389

Student Progress Grade 3 to 8: Math

- The following tables show the outcomes in grade 8 based on student performance in grade 3 (2017)

Average VAM Score

3rd	UNS	APP	BAS	MAS	ADV
UNS	26	66	82	85	**
APP	20	56	76	87	**
BAS	14	43	65	80	95
MAS	9	29	48	66	89
ADV	4	22	29	54	82

Number of Students

3rd	UNS	APP	BAS	MAS	ADV
UNS	2072	1055	229	34	<10
APP	2656	2642	1205	251	<10
BAS	2196	3893	3498	1483	23
MAS	886	2254	4699	7389	840
ADV	21	74	258	1840	1092

Meeting/ Exceeding Growth Target by Student Group

Tables show the percent of students in selected student groups with residual >0 for 2022 and 2023

2022-2023 Exceed Growth by Subgroup

Subgroup	ELA			Math			Algebra			Geometry			English I			English II		
	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent
Total Population	92617	184369	50.23%	89473	177405	50.43%	19290	36163	53.34%	14257	28372	50.25%	19742	37750	52.30%	20145	38319	52.57%
Mastery and Above	40026	82406	48.57%	28689	59909	47.89%	7741	13064	59.25%	7093	13626	52.05%	10322	19774	52.20%	10095	18521	54.51%
Below Mastery	52591	101963	51.58%	60784	117496	51.73%	11549	23099	50.00%	7164	14746	48.58%	9420	17976	52.40%	10050	19798	50.76%
Poverty (excluding English Learners)	64869	128040	50.66%	63386	124119	51.07%	12412	23645	52.49%	8353	16894	49.44%	13098	25017	52.36%	12748	24439	52.16%
English Learners	3674	7058	52.05%	3505	6797	51.57%	536	1036	51.74%	277	633	43.76%	588	1119	52.55%	583	1121	52.01%
Section 504	10175	19891	51.15%	10059	19448	51.72%	1872	3463	54.06%	1127	2259	49.89%	1995	3649	54.67%	1847	3560	51.88%
Gifted	2065	4359	47.37%	1634	3824	42.73%	591	958	61.69%	533	975	54.67%	514	992	51.81%	603	1058	56.99%
Students with Disabilities	9387	18205	51.56%	9399	18066	52.03%	1464	2737	53.49%	664	1460	45.48%	1604	3088	51.94%	1397	2972	47.01%

2021-2022 Exceed Growth by Subgroup

| Subgroup	ELA			Math			Algebra			Geometry			English I			English II		
	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total	Percent
Total Population	85328	167142	51.05%	86873	168801	51.46%	18016	33602	53.62%	12563	23454	53.56%	18364	36836	49.85%	17143	33019	51.92%
Mastery and Above	35830	72483	49.43%	25568	52109	49.07%	7244	11636	62.26%	6164	10595	58.18%	9105	18389	49.51%	8681	16175	53.67%
Below Mastery	49498	94659	52.29%	61305	116692	52.54%	10772	21966	49.04%	6399	12859	49.76%	9259	18447	50.19%	8462	16844	50.24%
Poverty (excluding English Learners)	57531	111507	51.59%	59077	113591	52.01%	10994	20980	52.40%	6879	13212	52.07%	11776	23516	50.08%	10316	19924	51.78%
English Learners	3013	5644	53.38%	3045	5814	52.37%	411	856	48.01%	211	408	51.72%	457	929	49.19%	331	683	48.46%
Section 504	8953	17307	51.73%	9460	17757	53.27%	1598	3050	52.39%	1002	1863	53.78%	1753	3402	51.53%	1513	2894	52.28%
Gifted	2104	4385	47.98%	1805	4057	44.49%	702	1103	63.64%	494	872	56.65%	530	1115	47.53%	465	865	53.76%
Students with Disabilities	8210	16187	50.72%	8905	16955	52.52%	1320	2545	51.87%	522	1105	47.24%	1451	2973	48.81%	1065	2343	45.45%

Year to Year VAM Score Reliability

Represents current to prior year VAM score correlations for 2022 and 2023

Content	Correlation	Site count
ELA	0.42	959
Math	0.456	956
Algebra I	0.679	407
Geometry	0.633	248
English I	0.465	335
English II	0.468	291

Relationship Between SPS and Growth Scores 2022-2023

Center for Assessment

The school's SPS is correlated with the school's average VAM student growth, which is the average student residual across all content areas.

2022-2023 Average Site Level Student Growth vs 2021-2022 Site SPS

r = 0.12
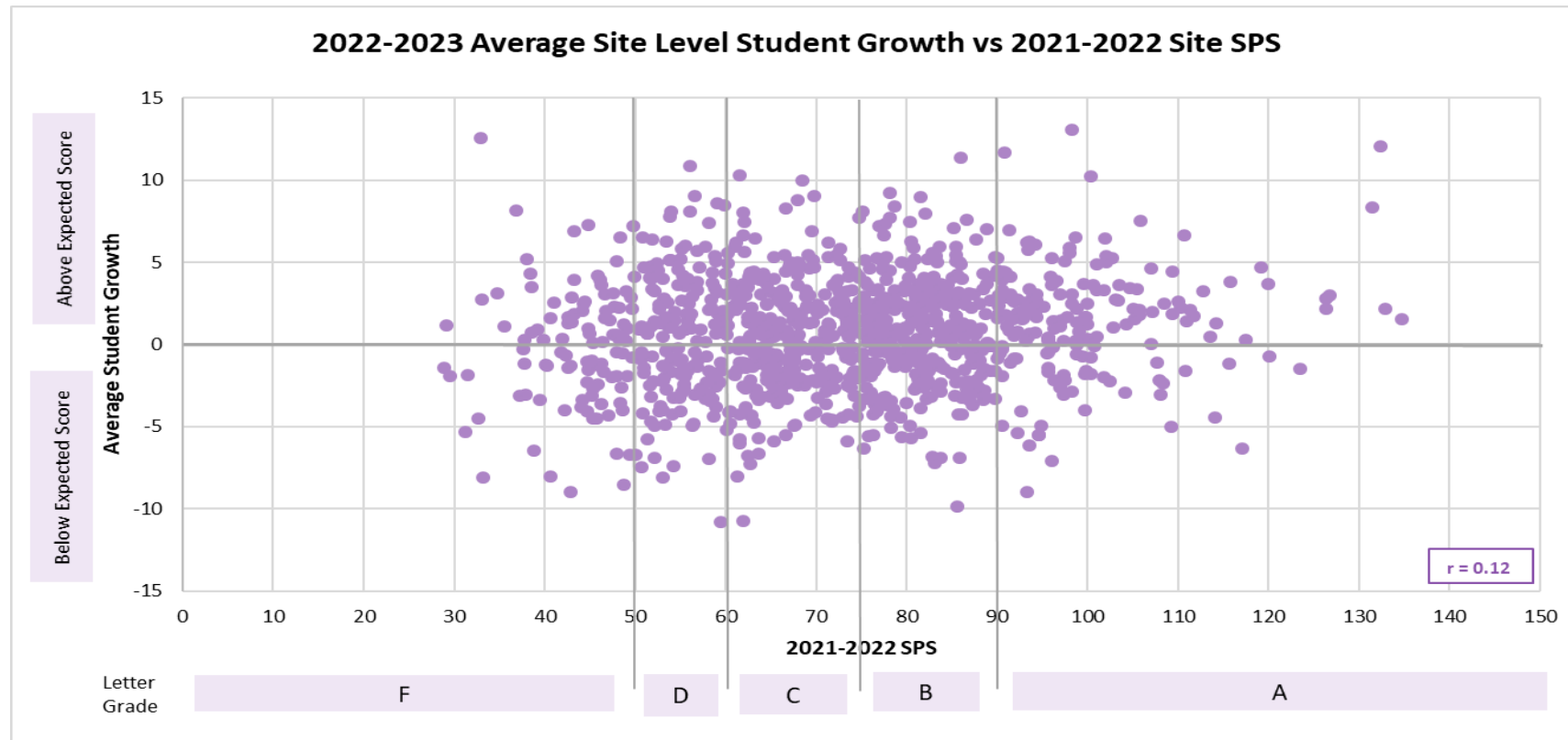
Relationship Between SPS and Growth Scores 2021-2022

The school's SPS is correlated with the school's average VAM student growth, which is the average student residual across all content areas.

2021-2022 Average Site Level Student Growth vs. 2018-2019 Site SPS

r = 0.13
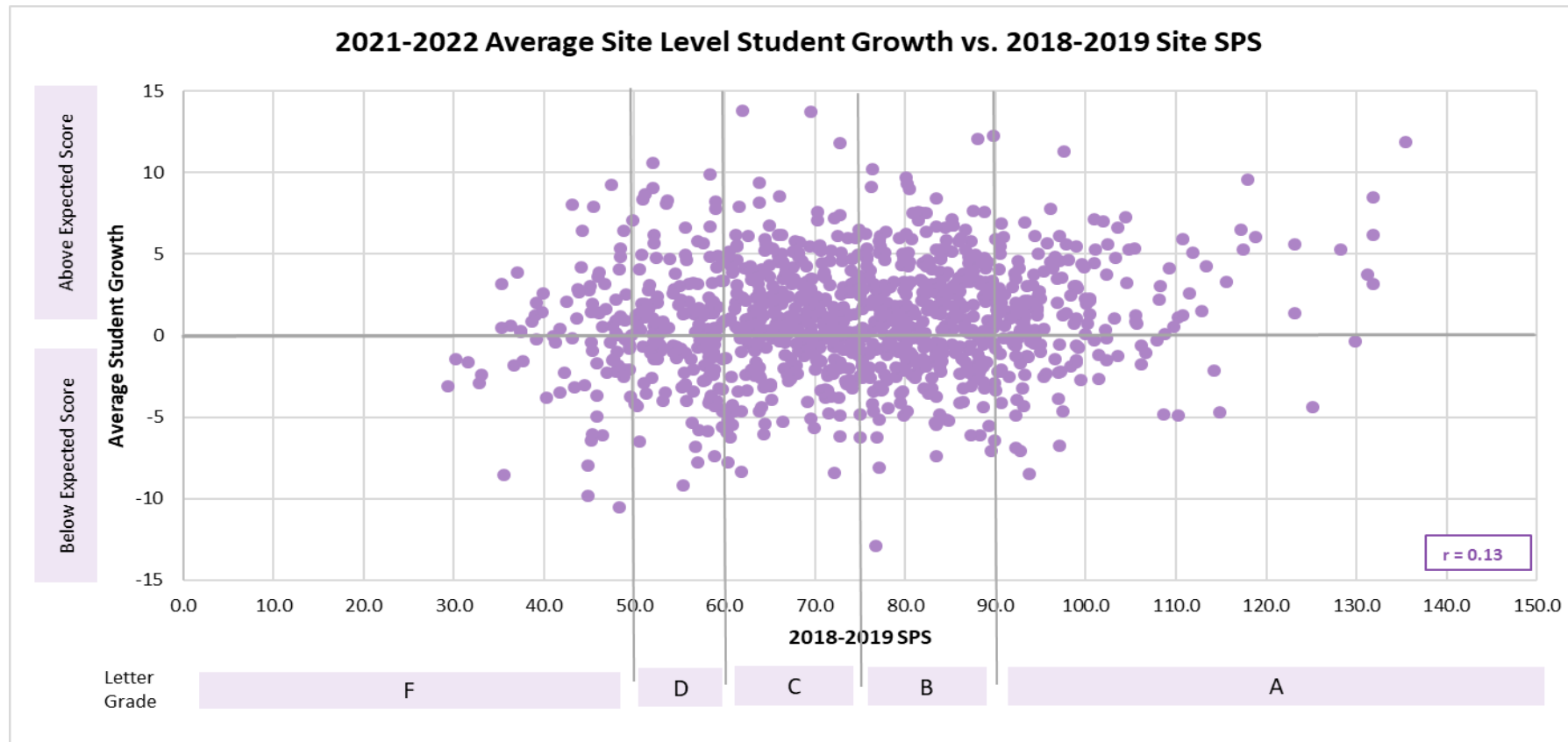
Discussion

- To what extent does the information presented support the intended interpretation and use of academic growth scores in Louisiana?

- What results stand-out or merit additional scrutiny?

- What additional analyses would inform our ongoing review?

Review of Selected Technical Properties of LEAP

Background

- At our August meeting, the technical advisory panel asked to review information about the distribution and precision of LEAP scores

- Following, we present histograms for selected grade/ content area assessments and plots of conditional standard error of measurement (CSEM)

ELA Grades 5 and 8

Frequency distribution by scale score for ELA Grade=05
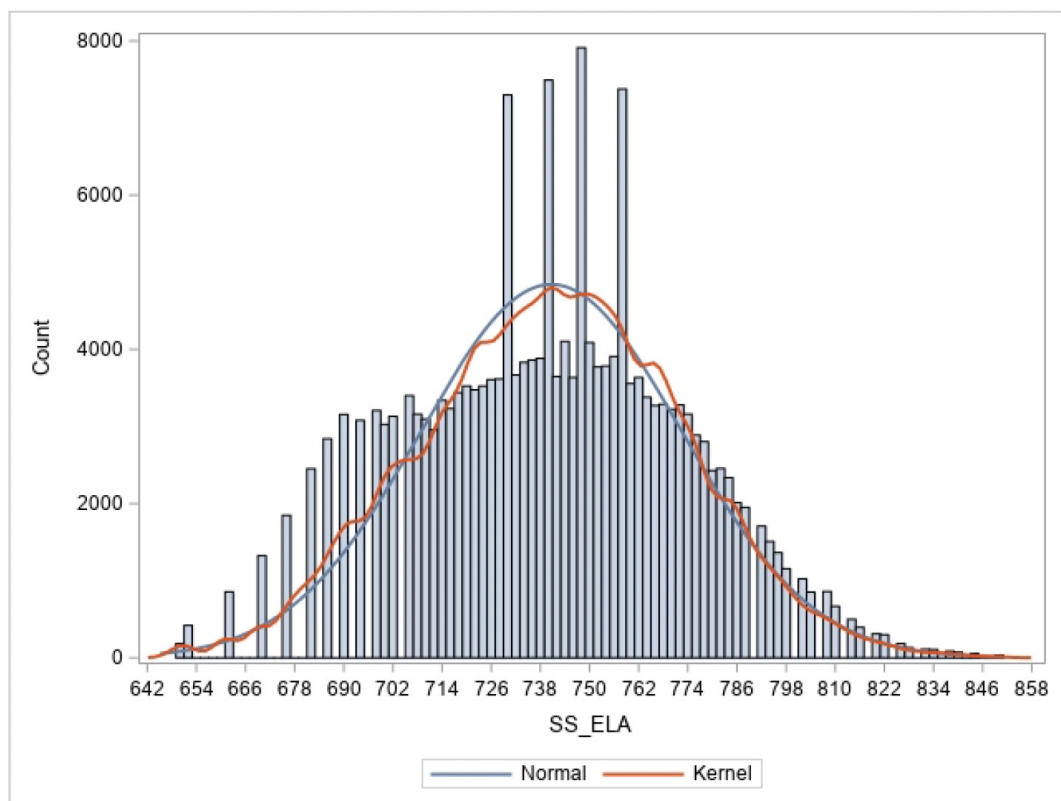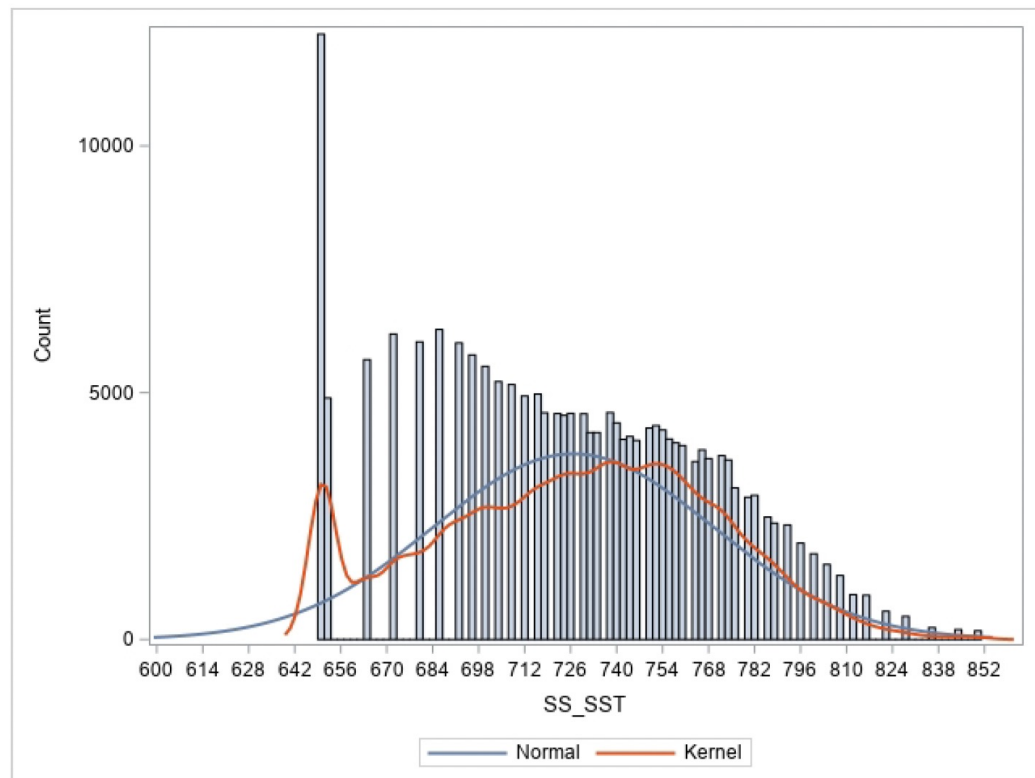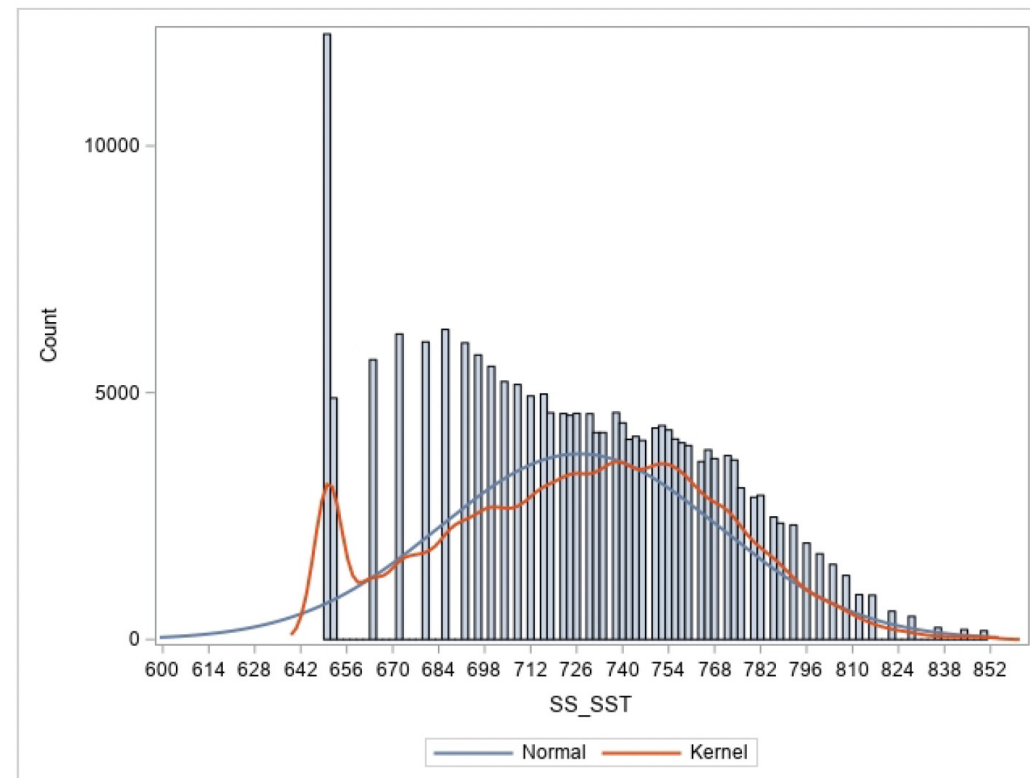

Frequency distribution by scale score for ELA Grade=08
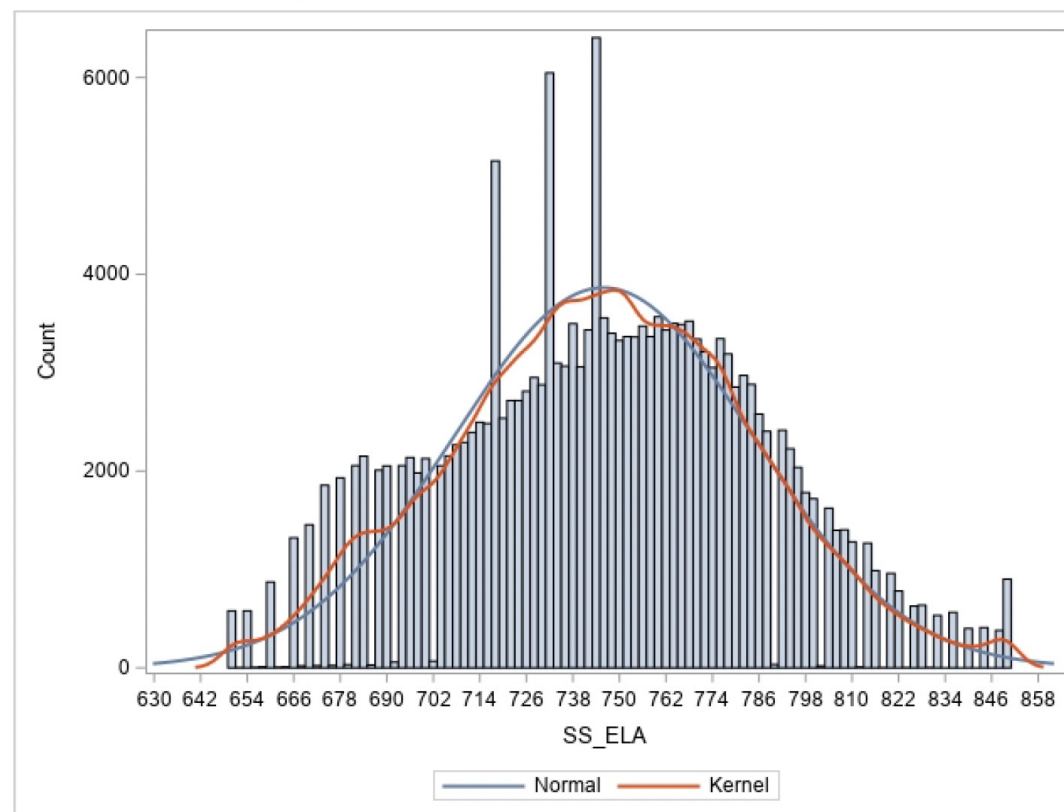
English I and English II

Frequency distribution by scale score for LEAP HS E1 Grade=All
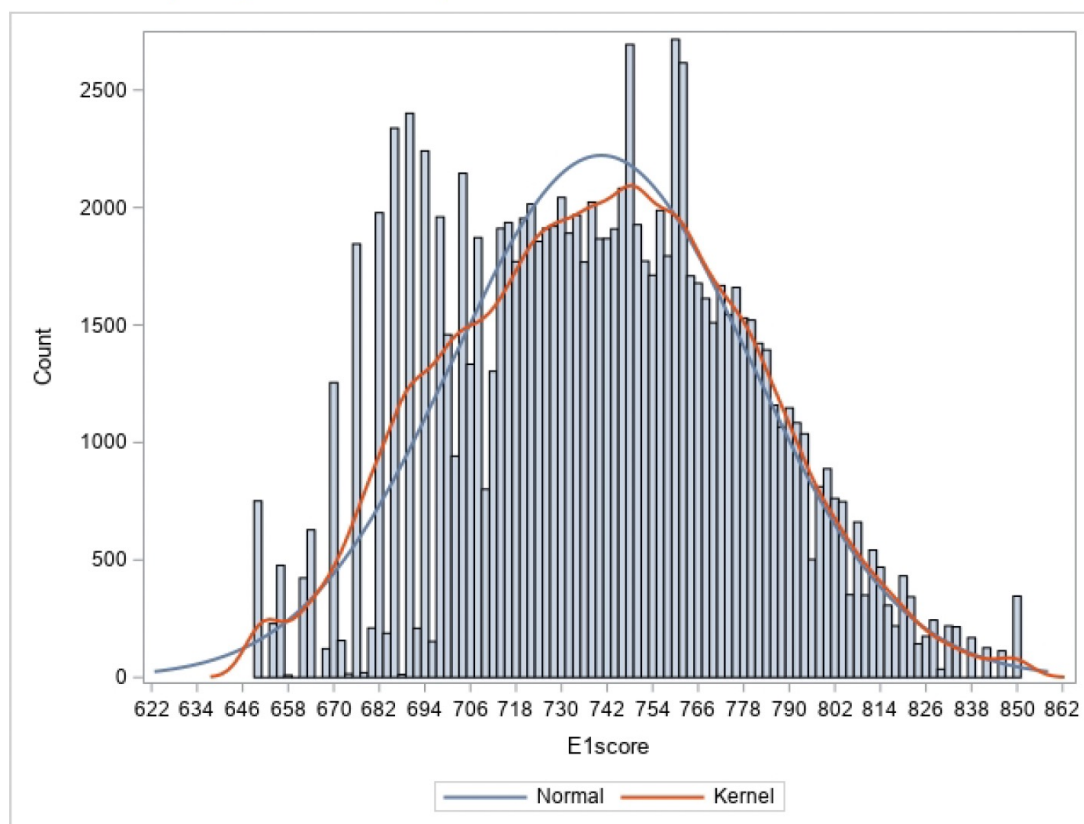
Frequency distribution by scale score for LEAP HS E2 Grade=All
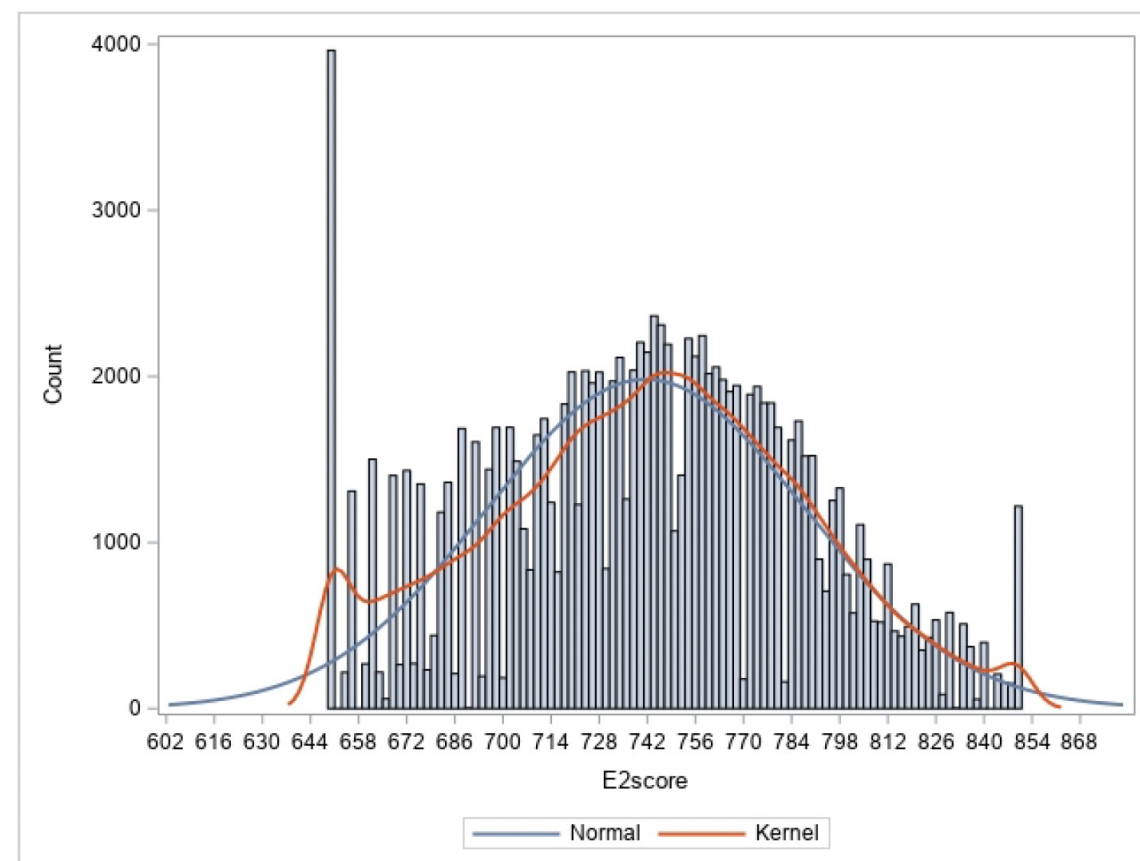
Math Grades 5 and 8

Frequency distribution by scale score for MTH Grade=05
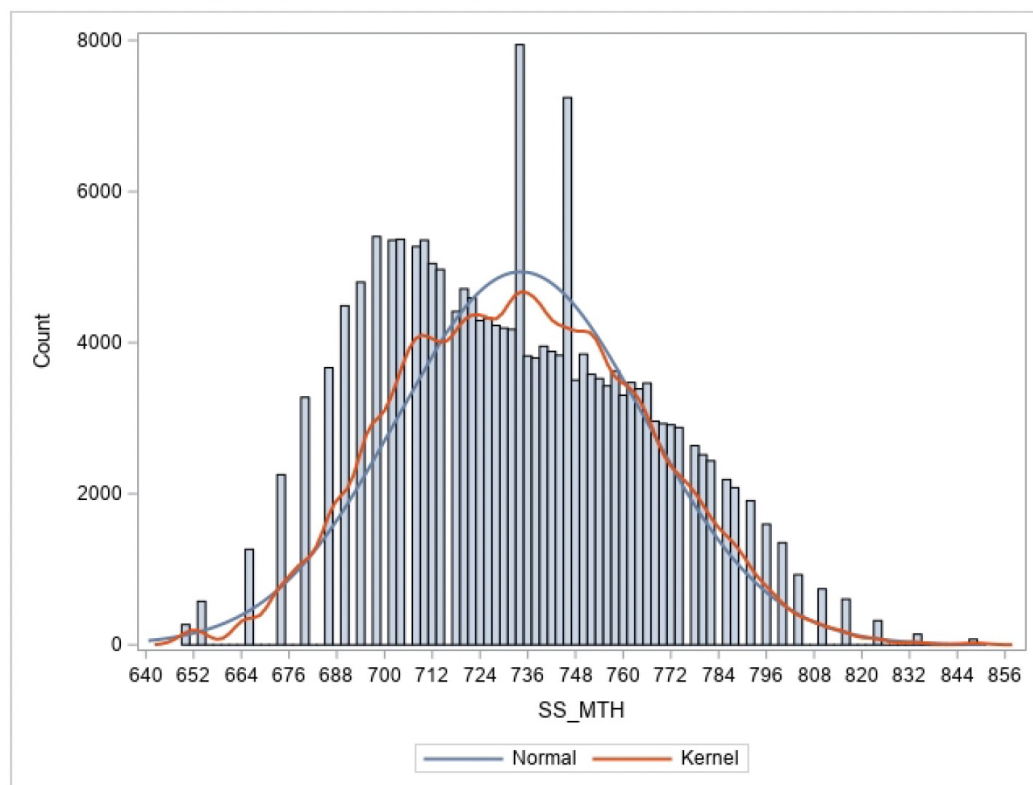
Frequency distribution by scale score for MTH Grade=08
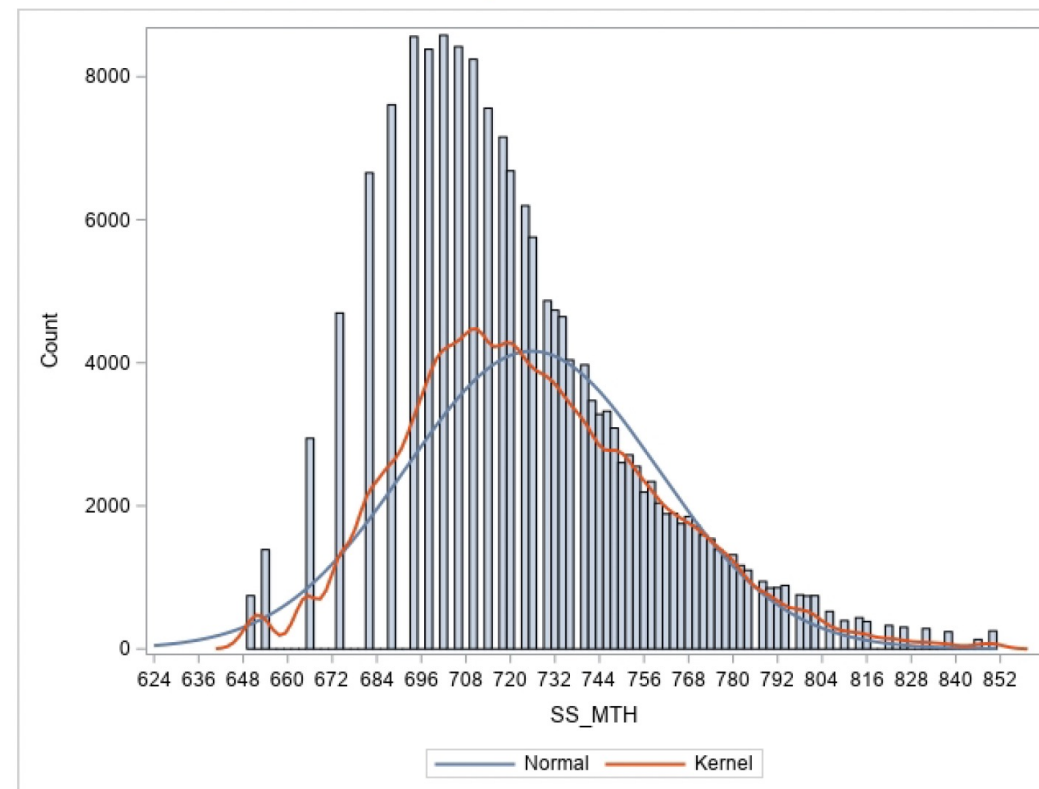
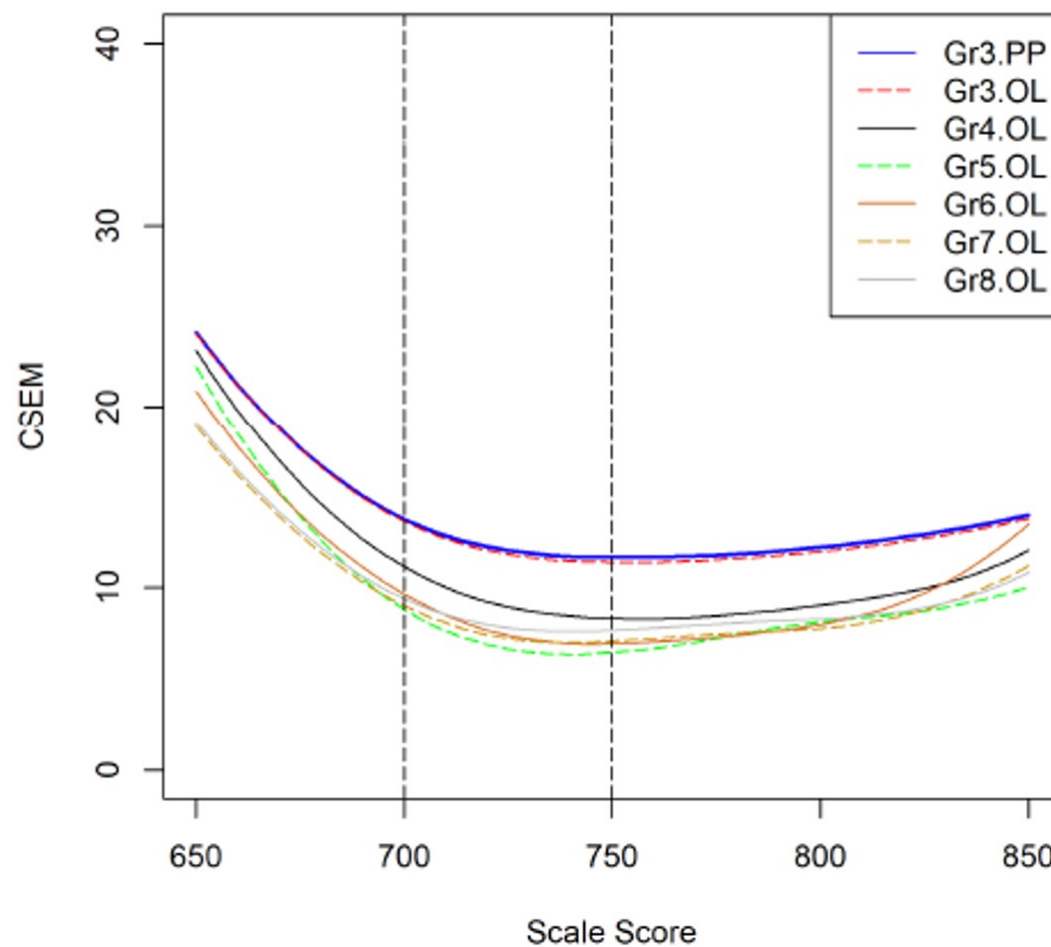# Algebra and Geometry

Frequency distribution by scale score for LEAP HS AL Grade=All
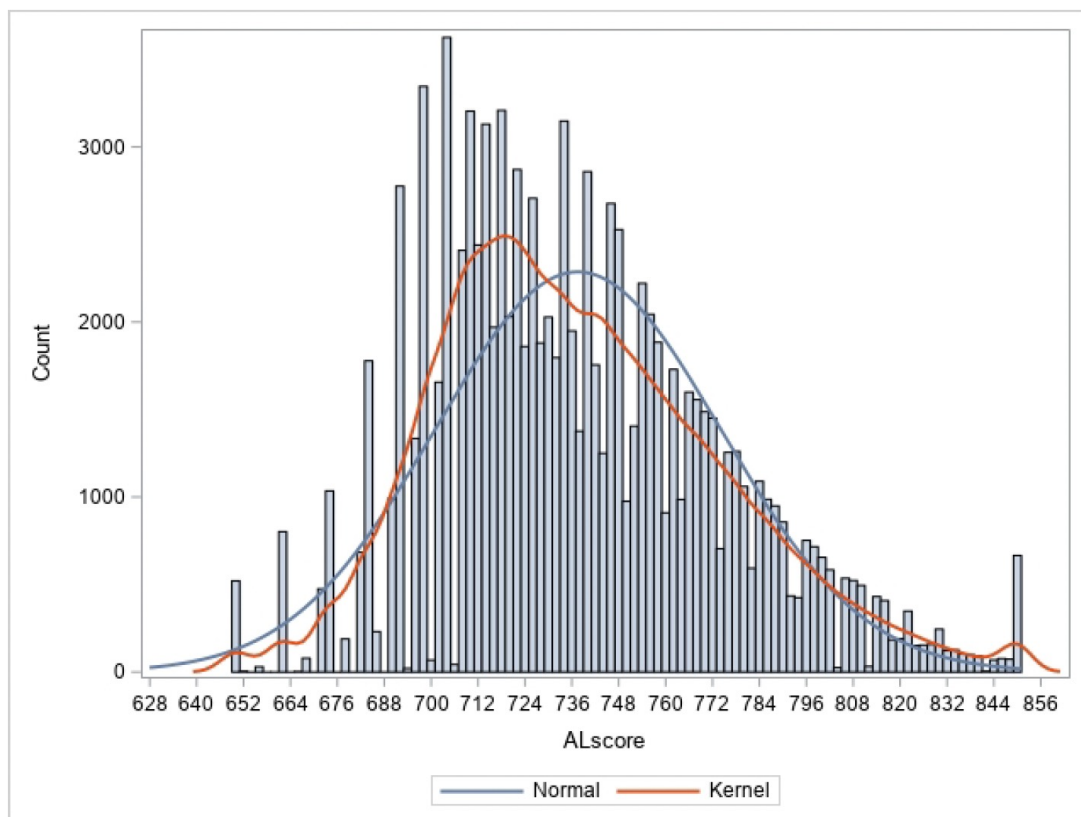
Frequency distribution by scale score for LEAP HS GM Grade=All
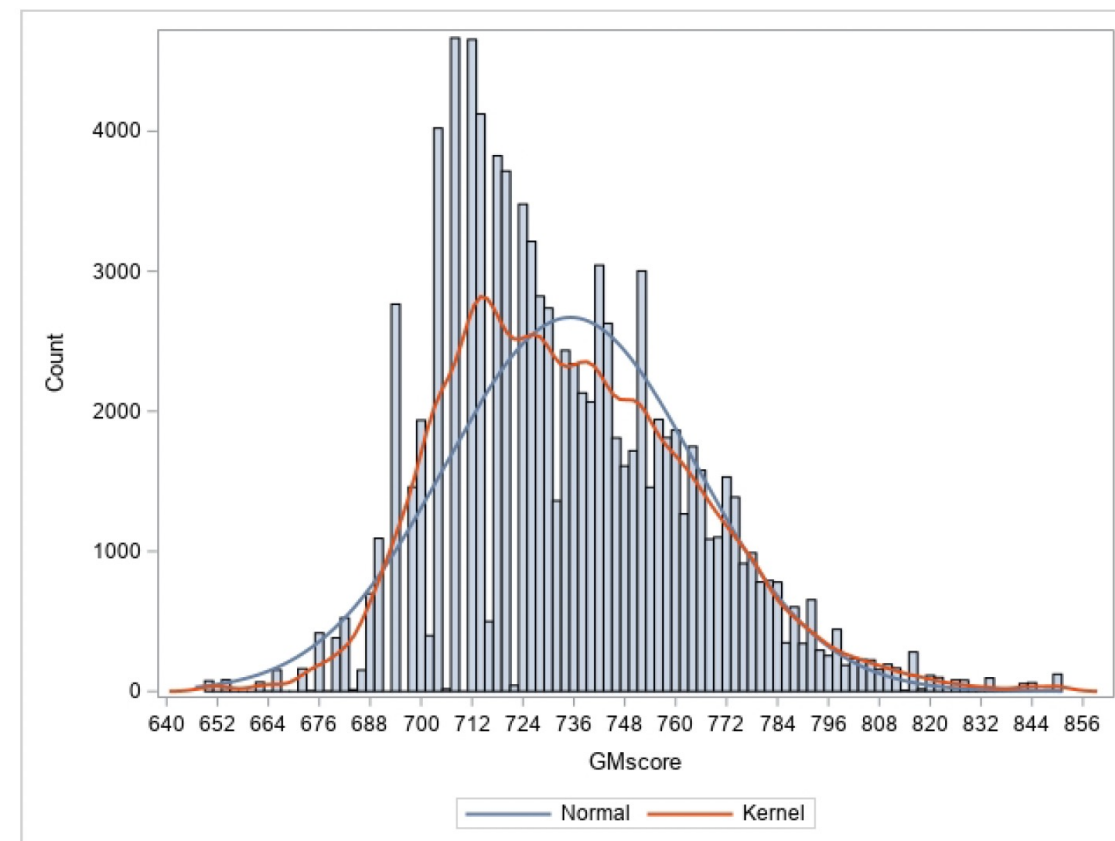
Science Grades 5 and 8

Frequency distribution by scale score for SCI Grade=05
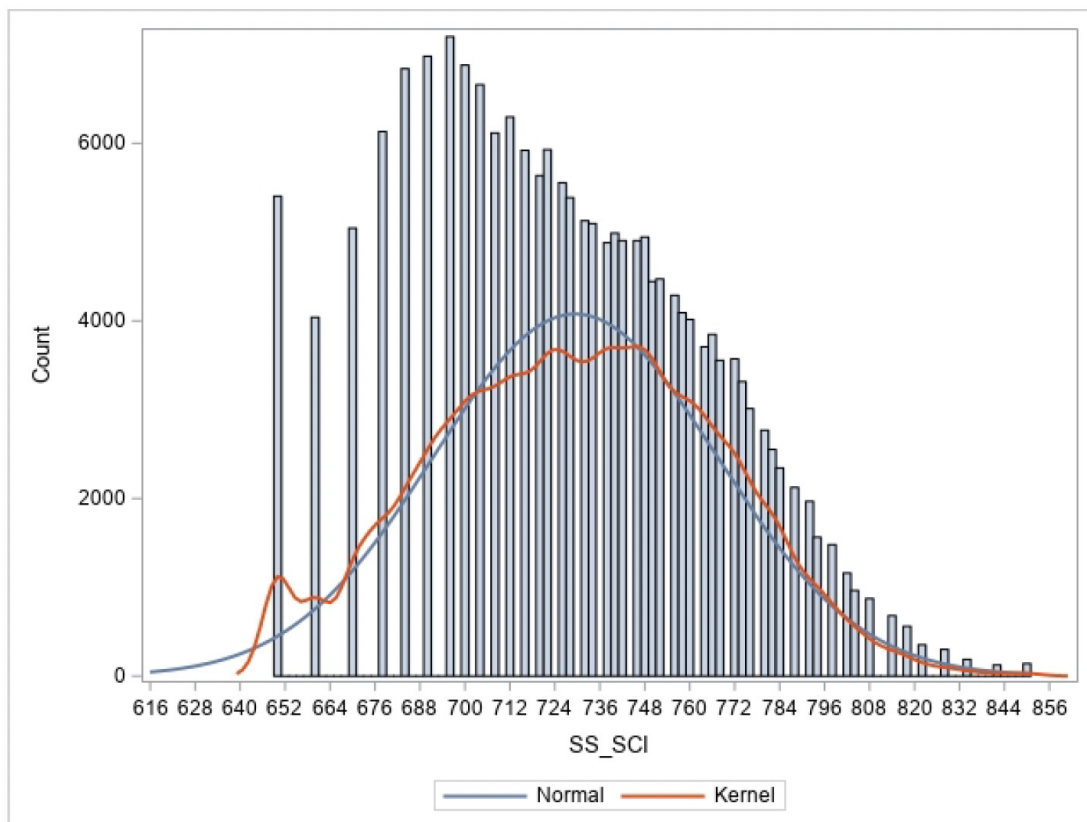
Frequency distribution by scale score for SCI Grade=08
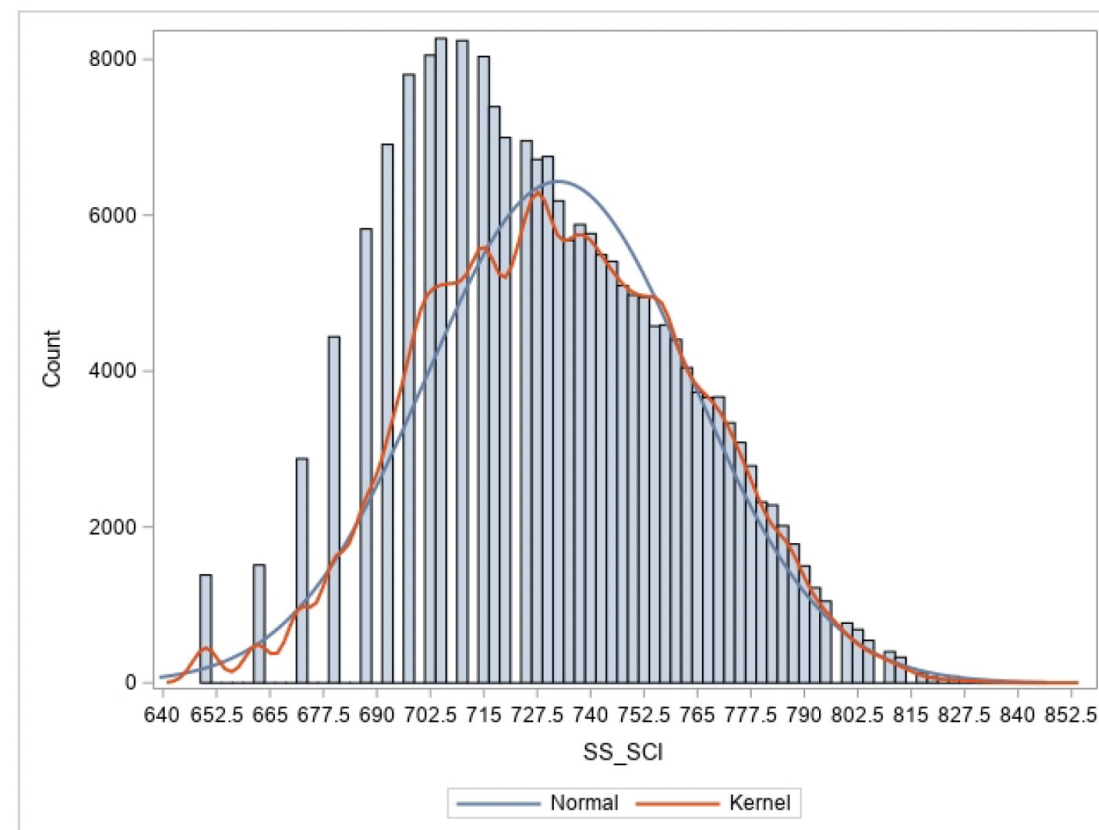
Biology

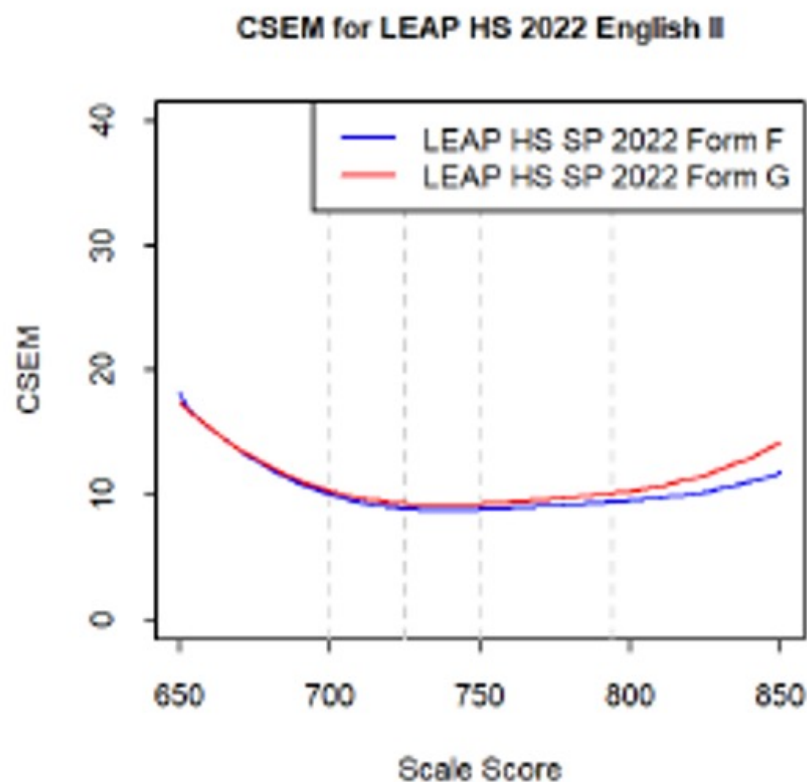Frequency distribution by scale score for LEAP HS BLL Grade=All
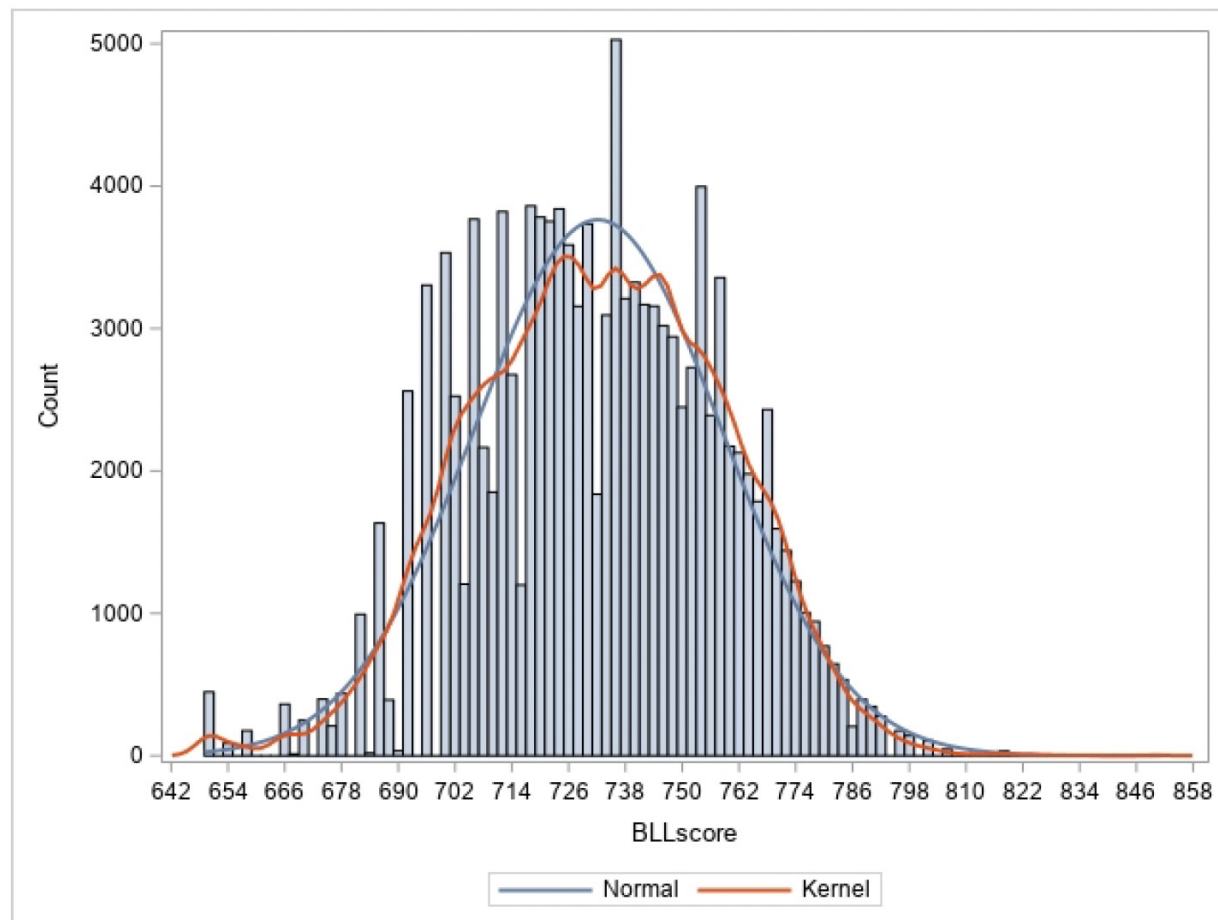
Social Studies Grades 5 and 8

Frequency distribution by scale score for SST Grade=08

Frequency distribution by scale score for SST Grade=08

U.S. History

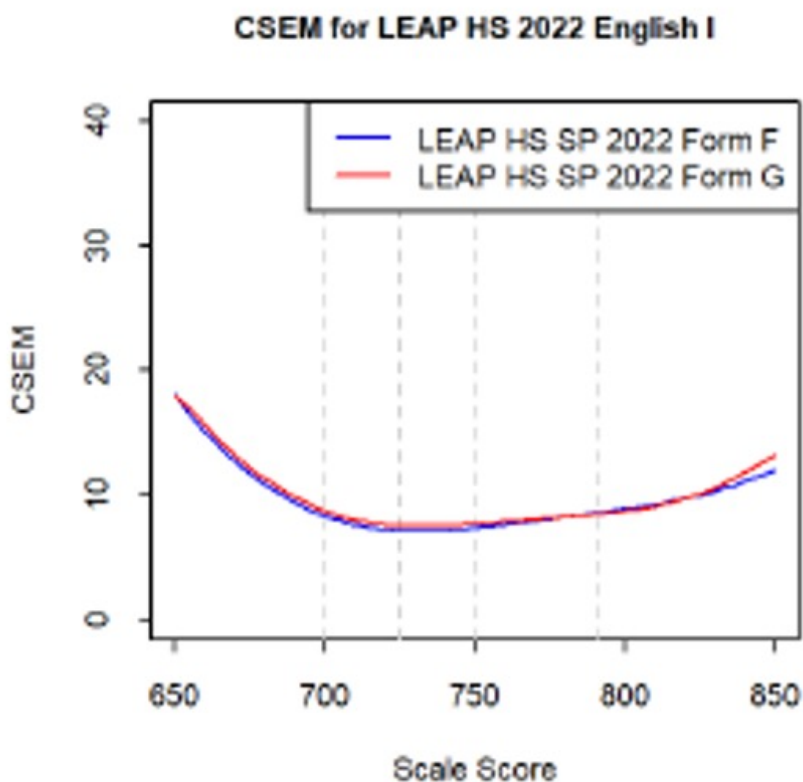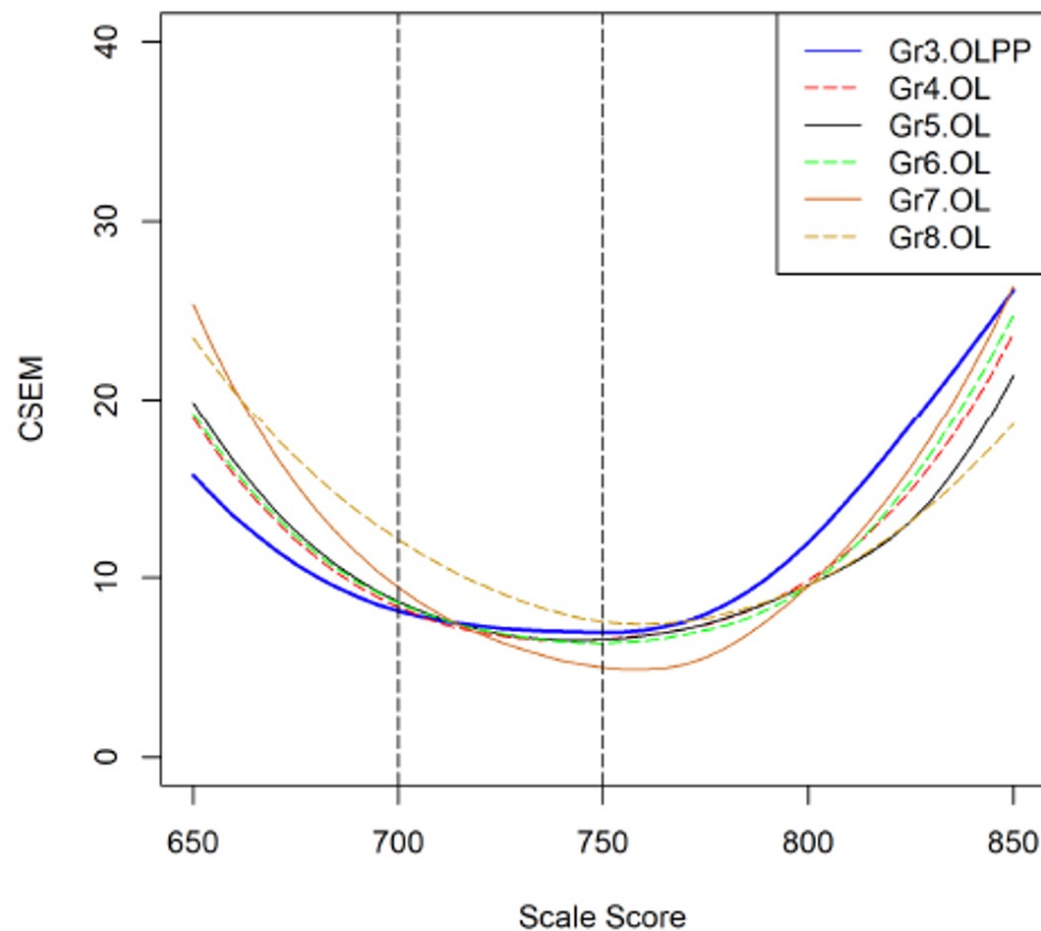Frequency distribution by scale score for LEAP HS USL Grade=All
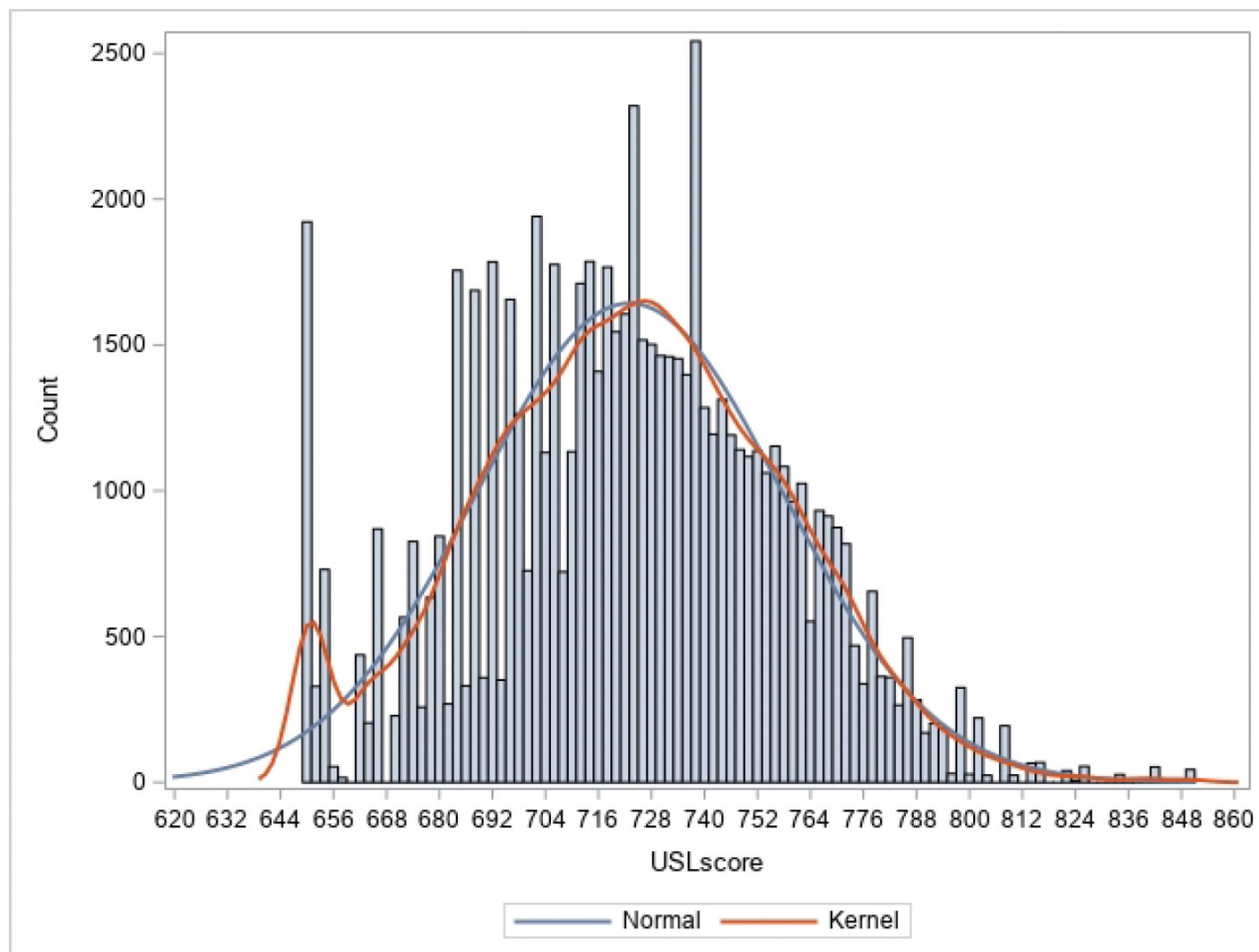
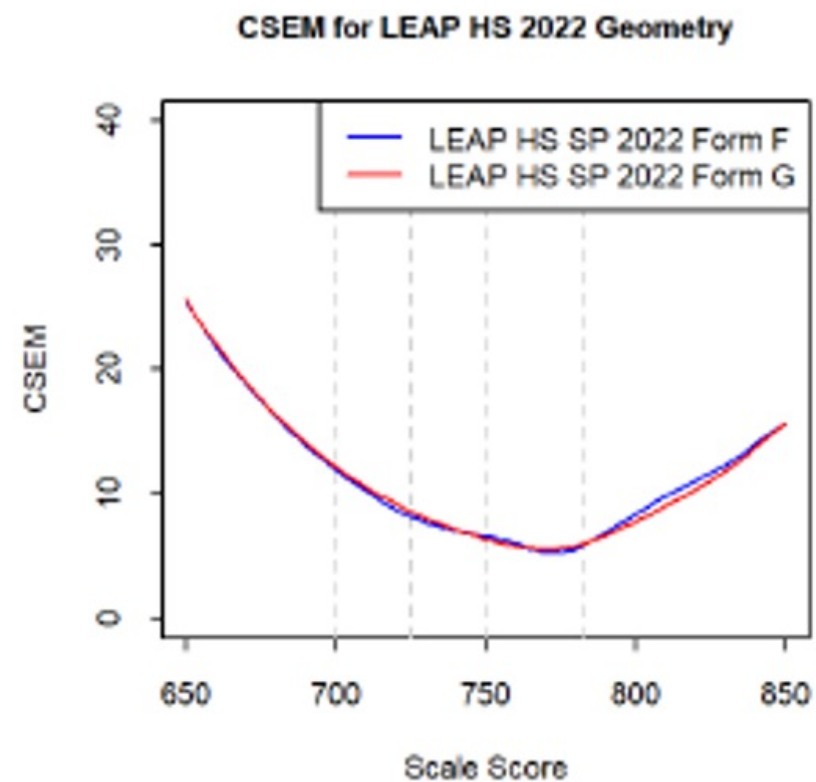# CSEM ELA 3-8

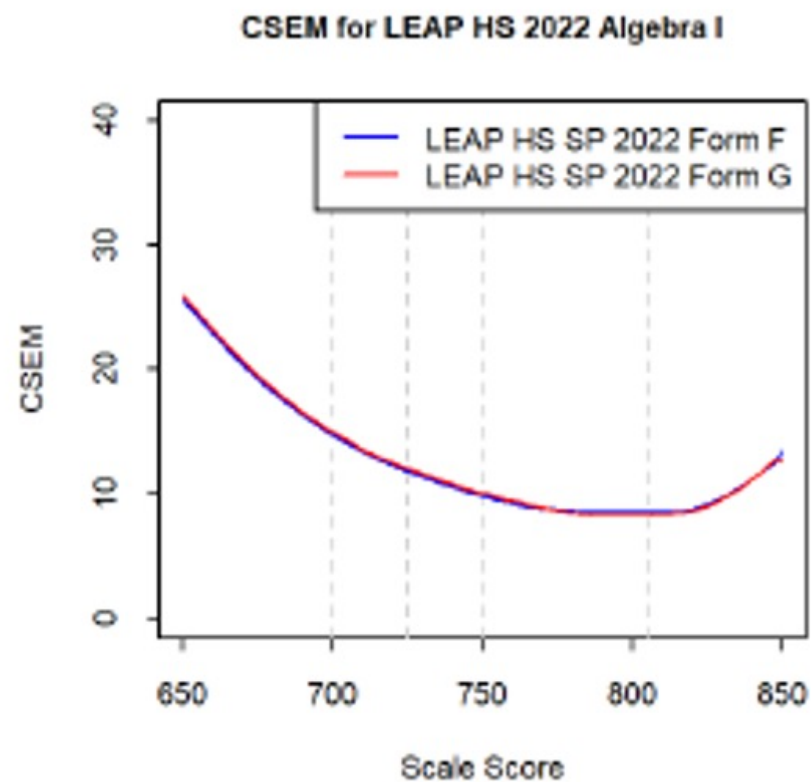CSEM for LEAP 2022 ELA
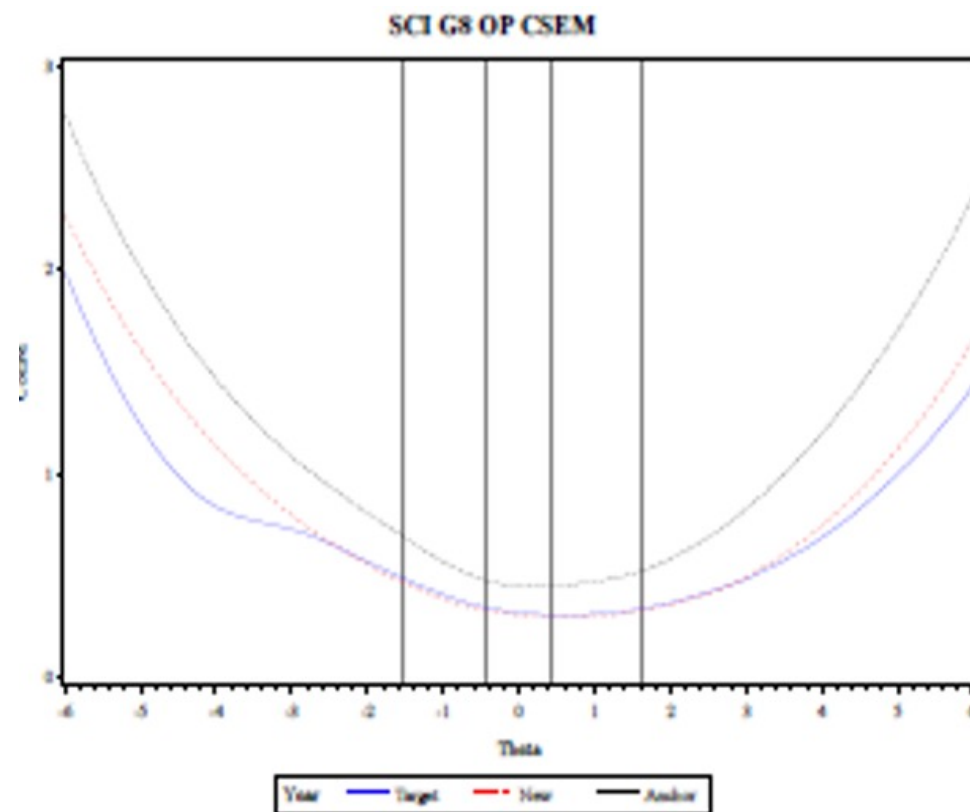
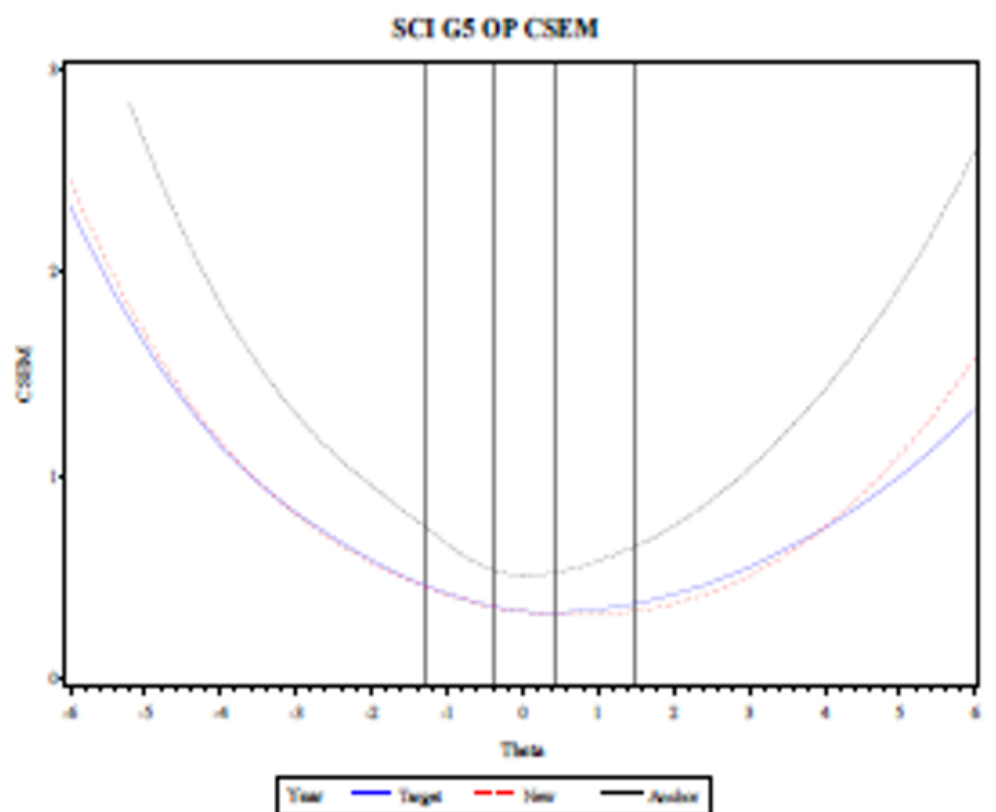# CSEM English I and English II

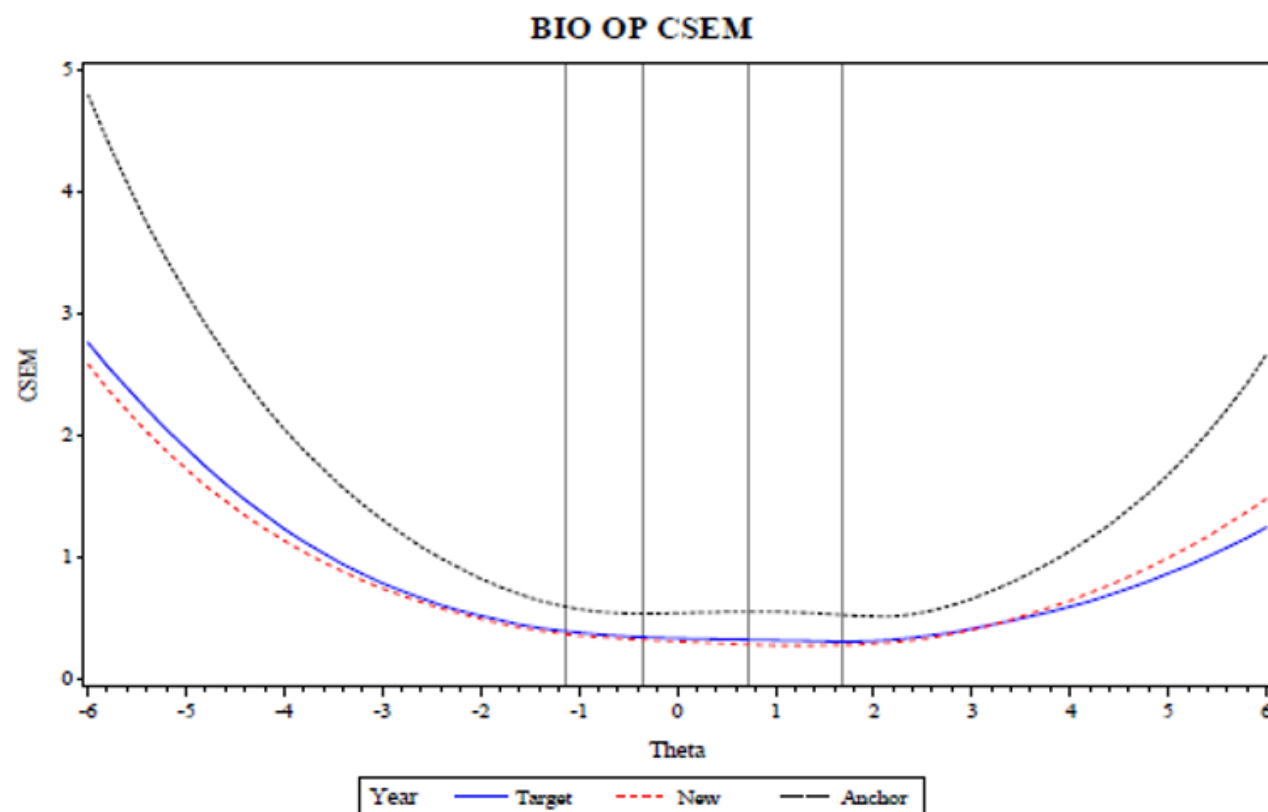# CSEM Math 3-8

CSEM for LEAP 2022 MA
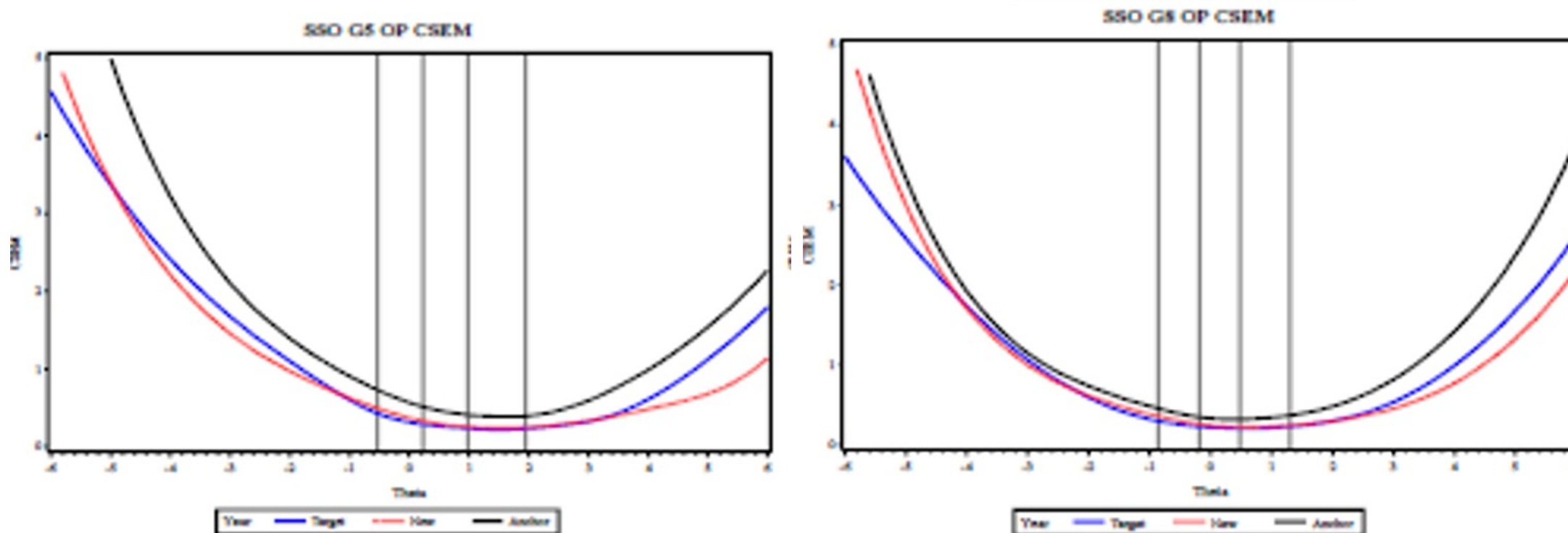
CSEM Algebra and Geometry
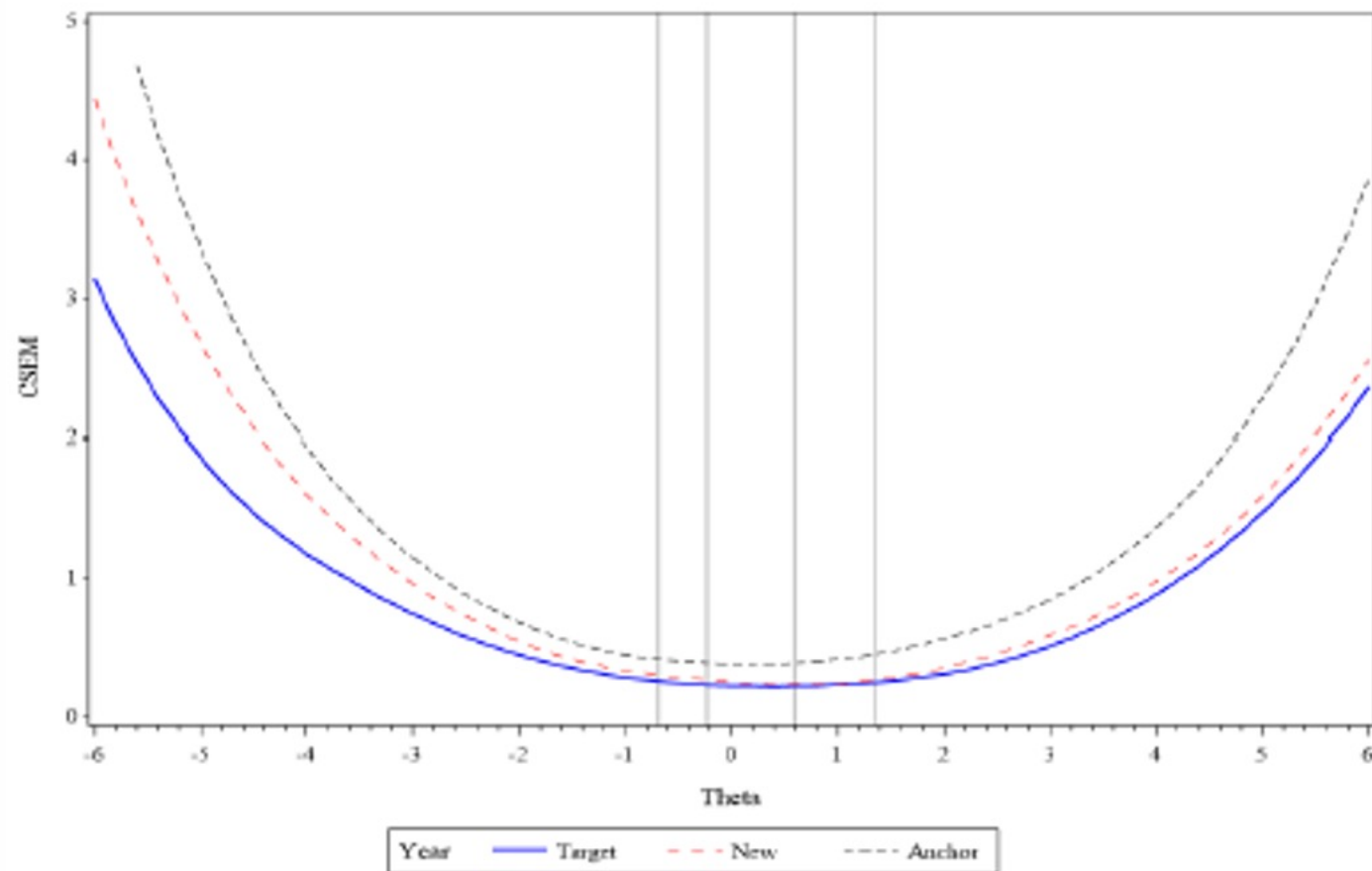
CSEM Science Grade 5 and 8

CSEM Biology

BIO OP CSEM

CSEM Social Studies Grades 5 and 8

CSEM U.S. History

Discussion

- What are the implications for growth calculations?

- What results stand-out or merit additional scrutiny?

- What additional analyses would inform our ongoing review?

Approaches to Growth: Determining Scope and Priorities

Four Views of School Performance

Achievement (in relation to standards)	*Status* What performance is required on the selected assessment(s)? For example: percent proficient or mean scale score.	*Improvement* Is the performance of successive group increasing from year to year? For example: change in percent proficient, also termed "trend."
Effectiveness (in relation to past performance)	*Growth* Are students making expected progress as they move from one point in time to another. For example, gain score or growth percentile.	*Acceleration* Is the school or group becoming more effective or improving more rapidly? For example: comparison of growth rates for schools or groups?

Adapted from: Gong, B. (2002). *Designing School Accountability Systems: Toward a Framework and Process.*

Four Views of School Performance - Examples

Achievement	*Status* The percent of 3rd grade students who are proficient in math on the state test in 2022.	*Improvement* The difference between the percent of students proficient on the state test in math in 2022 compared to 2021.
Effectiveness	*Growth* How much progress in math did a cohort of 4th grade students in 2022 make compared to their performance as 3rd graders in 2021?	*Acceleration* What is the growth rate for school A compared to school B? What is the growth rate for students with disabilities (SWD) compared to all other students?

Common Approaches to Growth

Model	Key Question
Gain Score	What is the magnitude of progress on a vertical scale?
Growth to Standard	Is the student's progress 'on-track'?
Categorical (Value Table)	Has the student transitioned from one performance category to another?
Growth percentile	How does the student's growth compare to his or her 'academic peers'?
Regression or Value-added*	Controlling for selected factors, has the student grown more or less than expected?

* Value-added is more a verb than a noun, it describes a use-case intended to isolate effects, which can be applied to multiple models.

What models are states using for accountability?

Growth Model	Count	States
Student Growth Percentiles	23	AZ, CO, DC, GA, HI, IA, IN, MA, MD, MI, NV, NH, NJ, NM, NY, OR, RI, SD, UT, VT, WA, WI, WY
Value-Table	12	AK, FL, IN, KY, ME, MN, MS, NE, OK, TN, VA, WV
Growth to Standard	10	AZ, CT, ID, IN, KY, LA, MI, NV, SD, UT
Value Added	9	AR, LA, MO, NM, NC, OH, PA, SC, TN
Gain Score	3	AL, ND, TX
Other	3	DE, IL, MT

Data Quality Campaign (January, 2019) *Growth Data, It Matters and It's Complicated*

Guiding Principles

- There is no single 'gold standard' for producing measures of academic growth

- Decisions are influenced by factors such as:
  - How will results be used?
  - What questions do we want to answer?
  - How will the model support the values and policy priorities?
  - What are the conditions and constraints that influence implementation?

Accountability Considerations

Beyond selecting the model, there are important considerations for incorporating it in accountability.

- What tests are included?
- What is the growth standard (i.e. 'good enough' growth)?
- How will it be aggregated for groups and schools?
- What is the influence or weight in the overall system?
- What are the business rules?

Resources

[Growth Data: It Matters and It's Complicated](). (Data Quality Campaign, 2019).

[Considerations for Including Growth in ESSA State Accountability System]() (D'Brot, 2017).

[A Practitioners Guide to Growth Models]() (Castellano, K. & Ho, A., 2013).

Discussion

- Which models would the advisory panel suggest exploring further?

- What information will help the panel consider the benefits and limitations of these models?

Public Comment