ALY6070

FSA Score Dataset

Group 5

Anvita Vyas, Anthea Liu, Olga Tiatina

Agenda

01 About the dataset

02 Shiny

03 Tableau

04 Power BI

About The Dataset

Dataset Source:
Obtained from the BC Data Catalogue - Province of British Columbia

.

Period:
Covers 2007/2008 to 2020/2021 (13 years)

Structure: Includes 15 columns, 26,310 rows

Key Attributes:

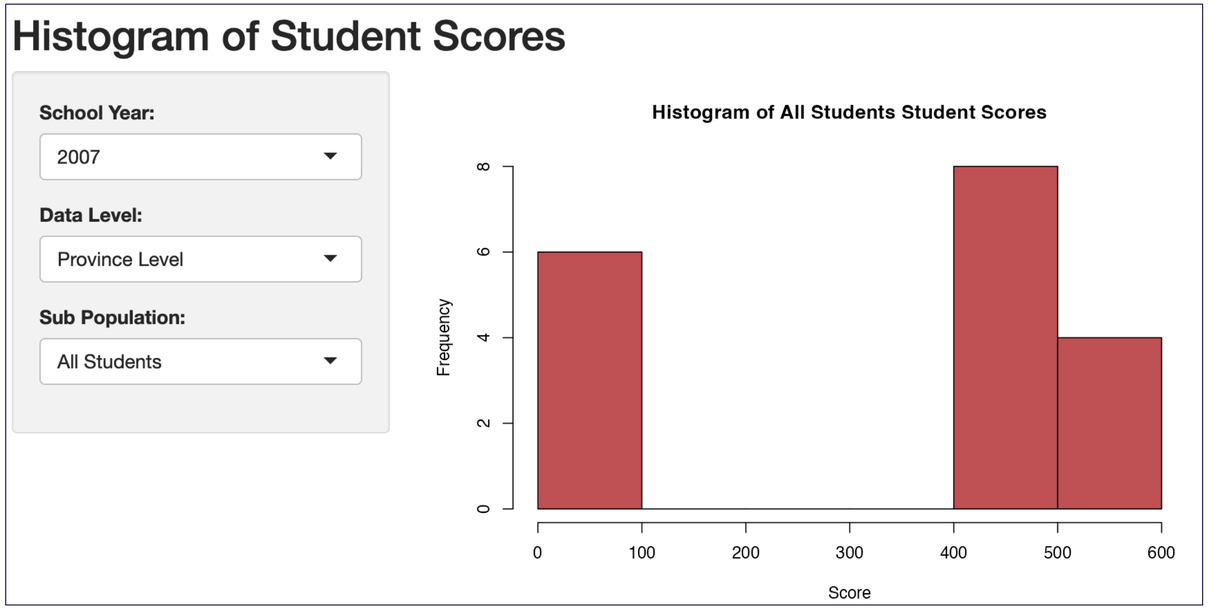
- **School** - > School_year, Data_level, Public_or_independent
- **Geographic**-> District_number, District_name, Sub_population
- **Test** -> Grade, FSA_skill_code, Score (200-800 For Numeracy/Reading, 0-10 For Writing)
- **Writer Number**-> Number_expected_writers, Number_writers, Number_unknown
- **Student Performance** -> Number_emerging, Number_ontrack, Number_extending

Special Columns:

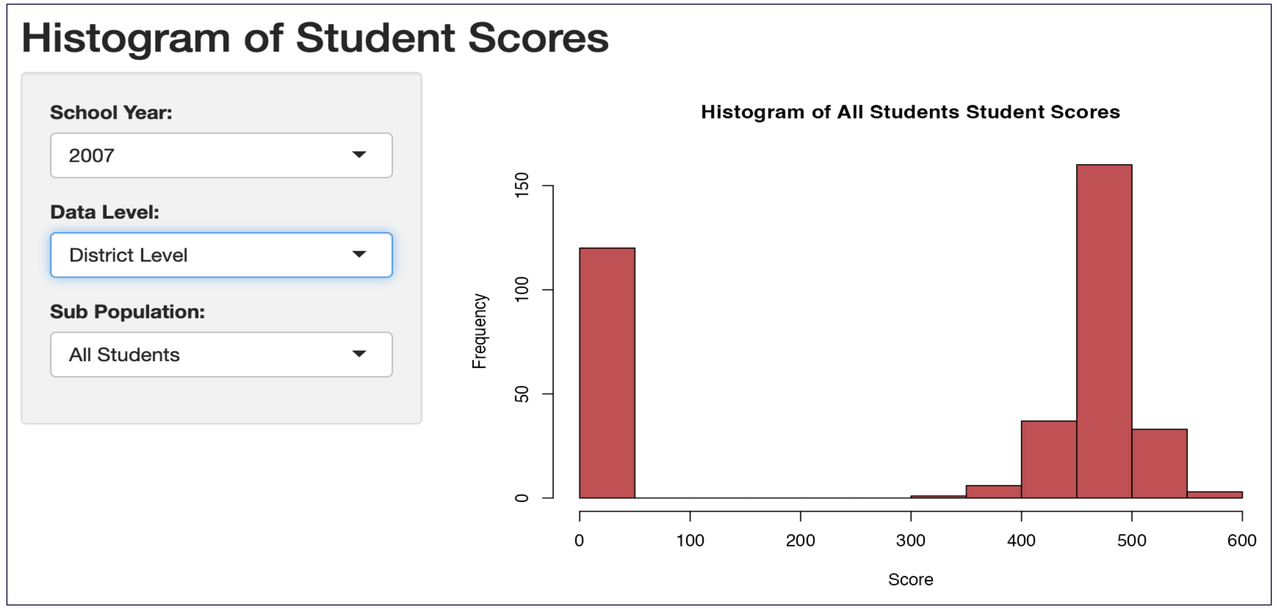
- **DATA_LEVEL**: Province Level Or District Level.
- **Sub_population**: Categories Including All Students, Indigenous, Non-indigenous, Etc
- **NUMBER_UNKNOWN**: Students Expected But Did Not Write
- **SCORE**: Mean Score For District/Province

Shiny R

Histogram of Student Score



Student Score at Province Level for All Students



Student Score at District Level for All Students

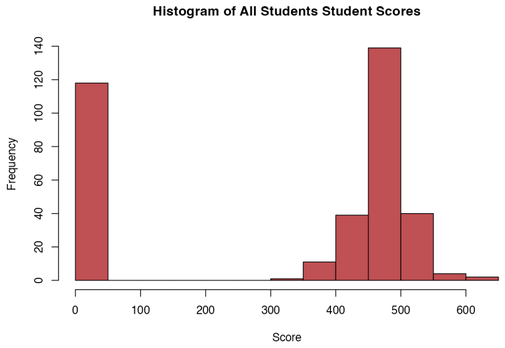
Histogram of Student Score

Histogram of Student Scores

School Year: 2020

Data Level: District Level

Sub Population: All Students

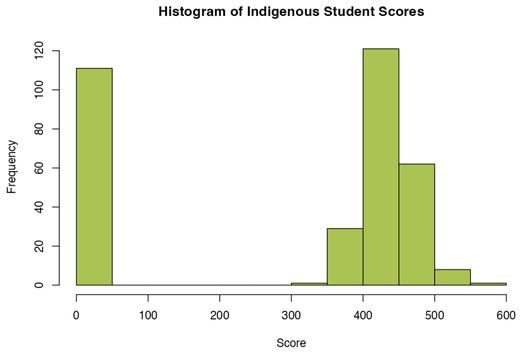


Histogram of Student Scores

School Year: 2020

Data Level: District Level

Sub Population: Indigenous

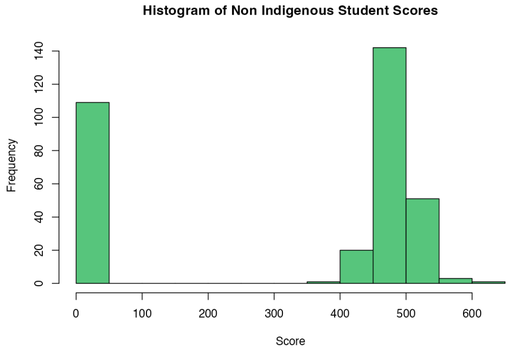


Histogram of Student Scores

School Year: 2020

Data Level: District Level

Sub Population: Non Indigenous

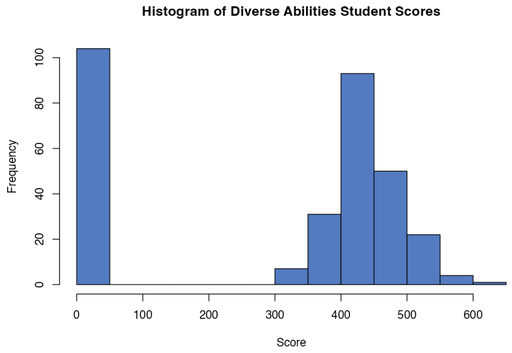


Histogram of Student Scores

School Year: 2020

Data Level: District Level

Sub Population: Diverse Abilities

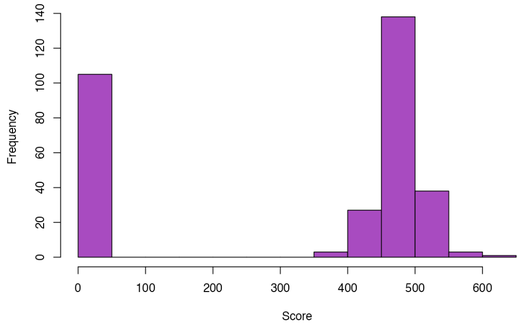


Histogram of Student Scores

School Year: 2020

Data Level: District Level

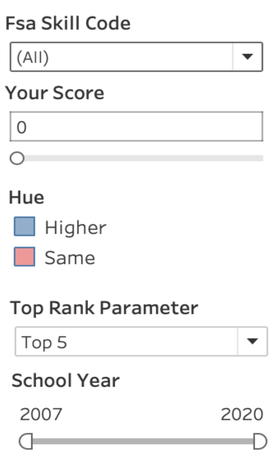
Sub Population: Non Diverse Abilities

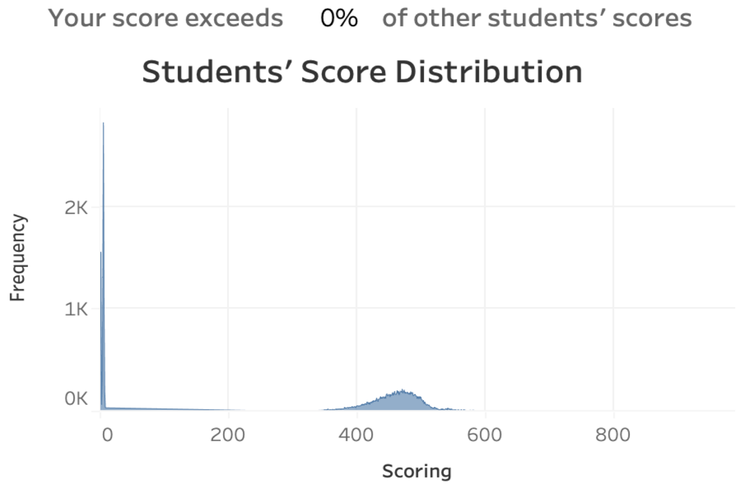


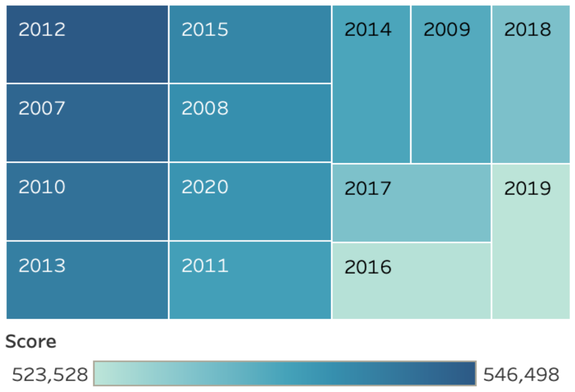
Student Score at District Level in 2020

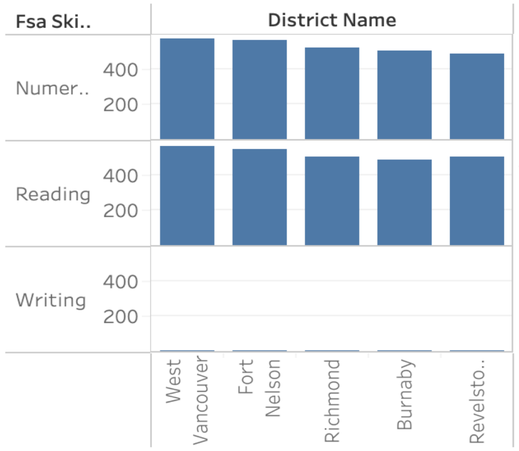
Tableau

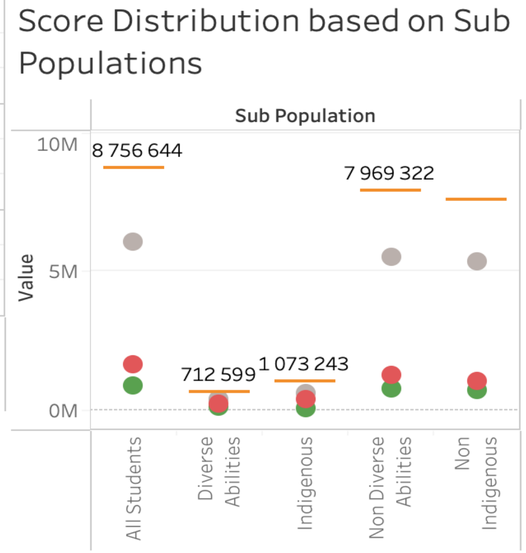
Tableau Dashboard

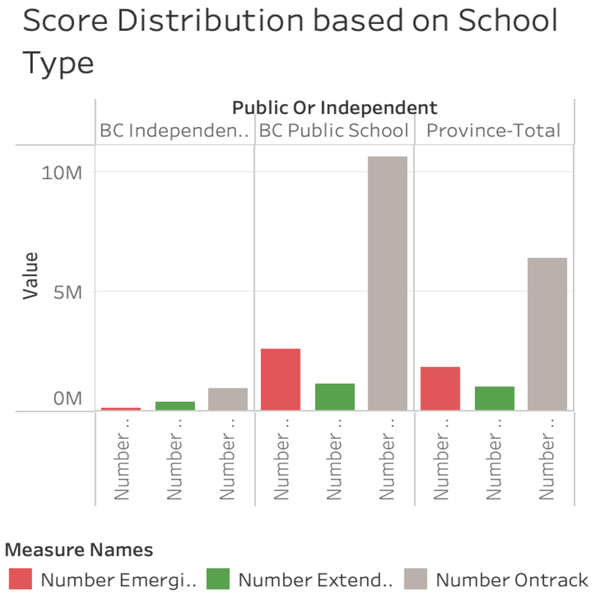












Incorporated Charts

Density Plot:
Comparison of Individual Score Performance Relative to Peers

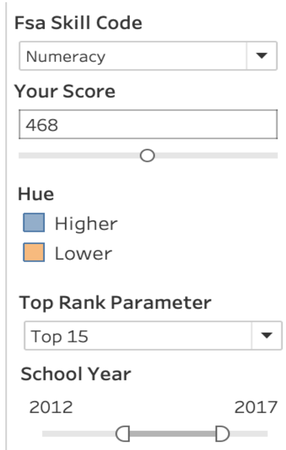
Tree Map:
School Year With Highest/Lowest Score

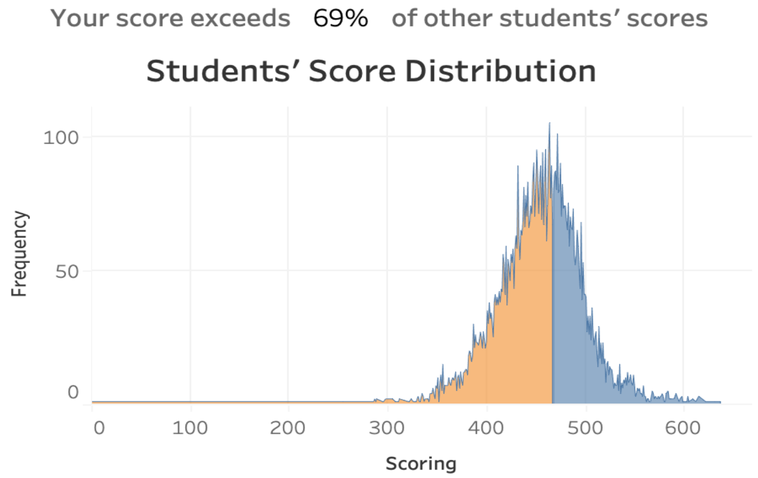
Bar Charts :
Score Distributions Among Test Subjects, Districts, School Types And Student Performances.

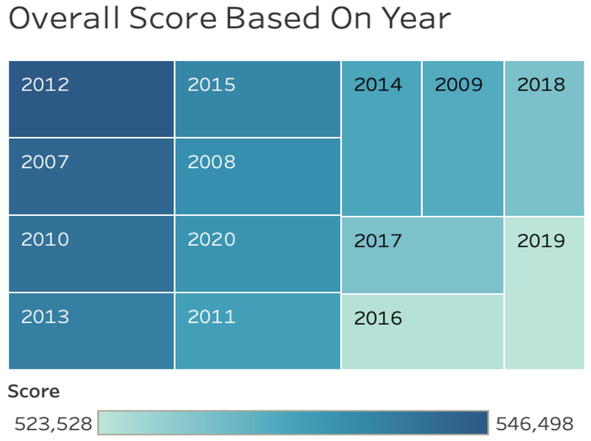
Distribution Chart:
Visualize Students Performance Among Different Sub-demographics

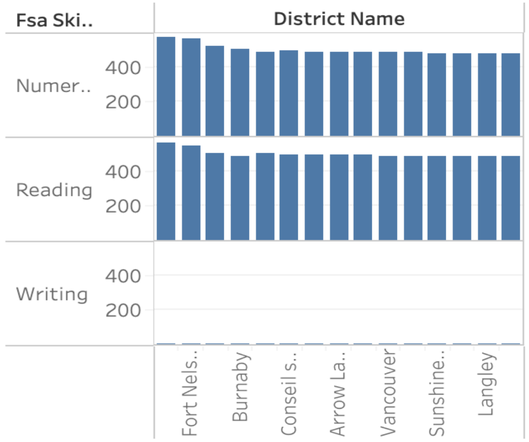
Unfiltered

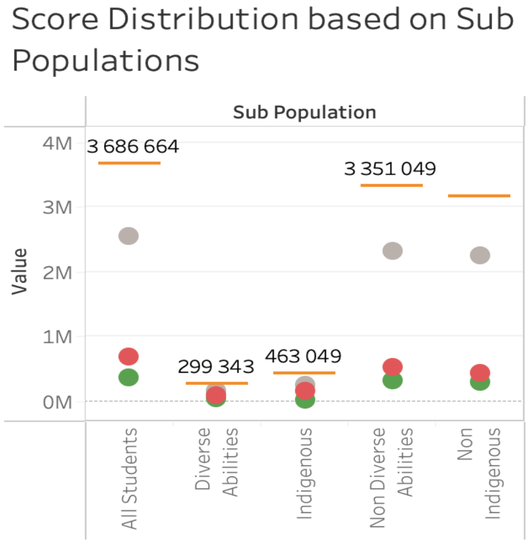
Tableau Dashboard

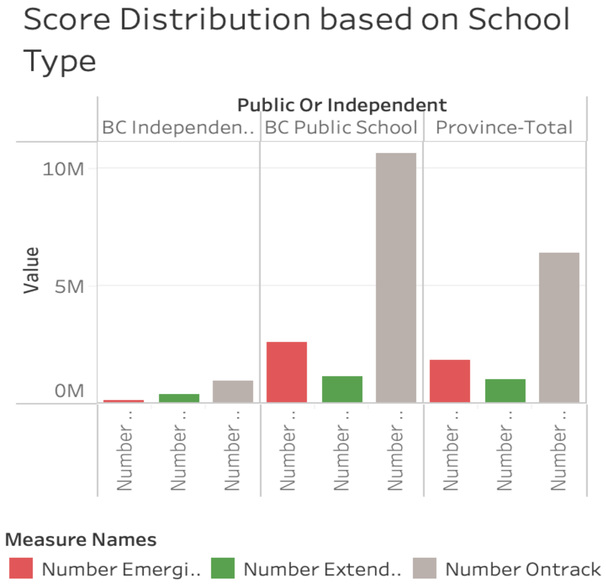












Filtered

Incorporated Parameters

Dropdown menus :
Select the test subject and Performance ranking

Sliders:
Score range and School year

Students' Score Distribution

Fsa Skill Code

(All)

Your Score

0

Hue

Higher

Same

Top Rank Parameter

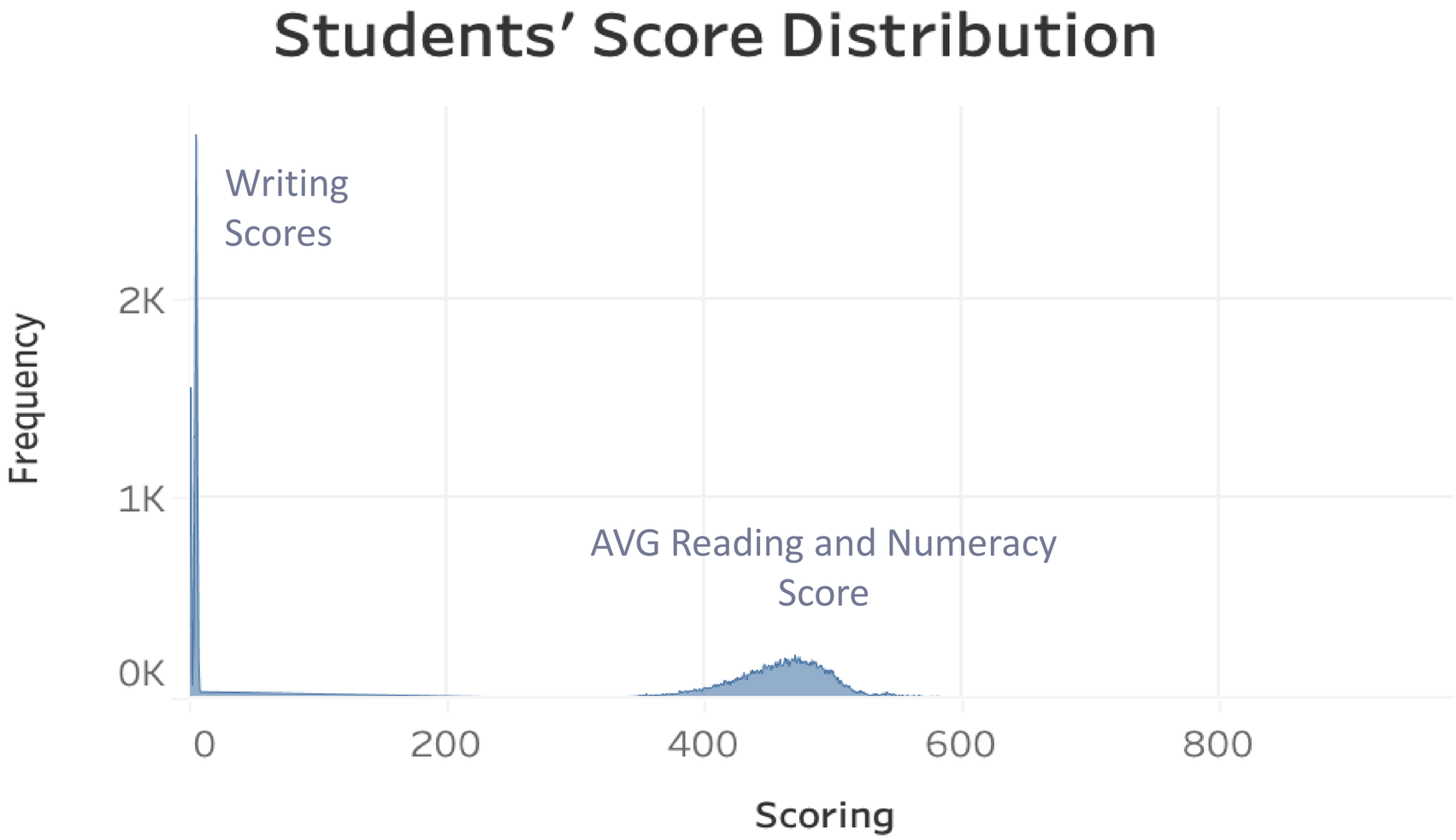
Top 5

School Year

2007 2020

Unfiltered

Your score exceeds 0% of other students' scores



Students' Score Distribution

Fsa Skill Code

Numeracy

Your Score

468

Hue

Higher

Lower

Top Rank Parameter

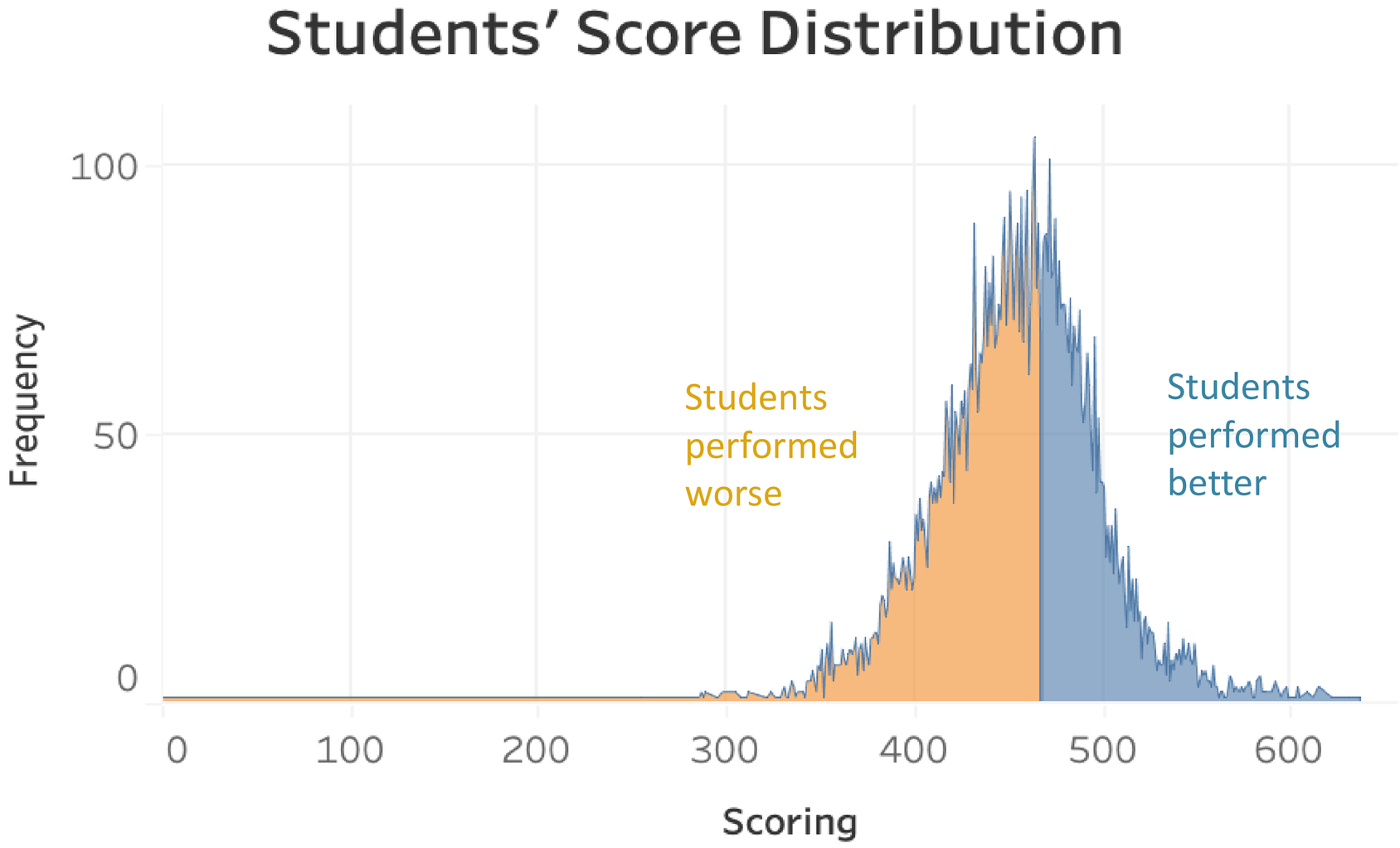
Top 5

School Year

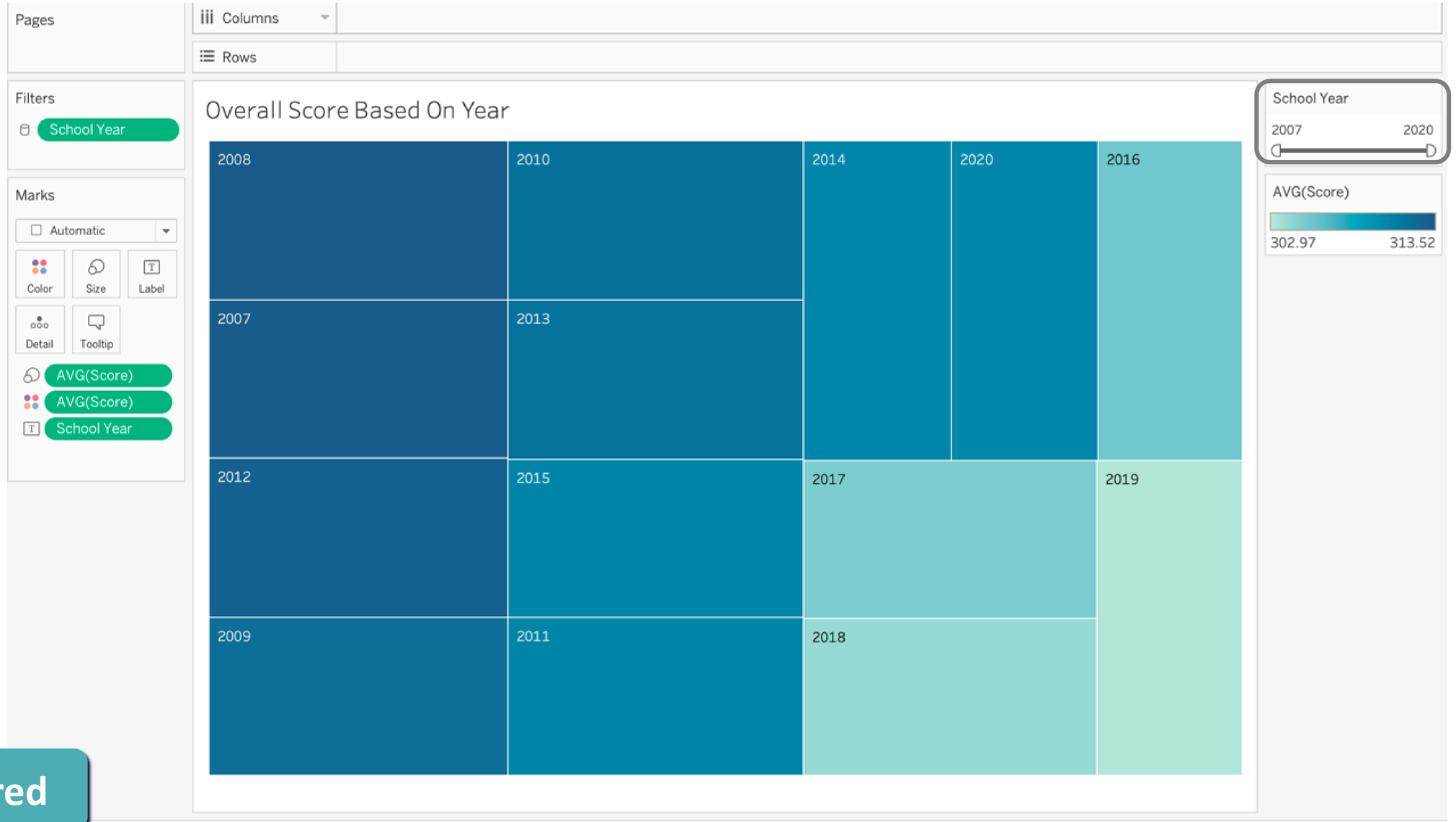
2007 2020

Filtered

Your score exceeds 69% of other students' scores



Overall Score Based On Year

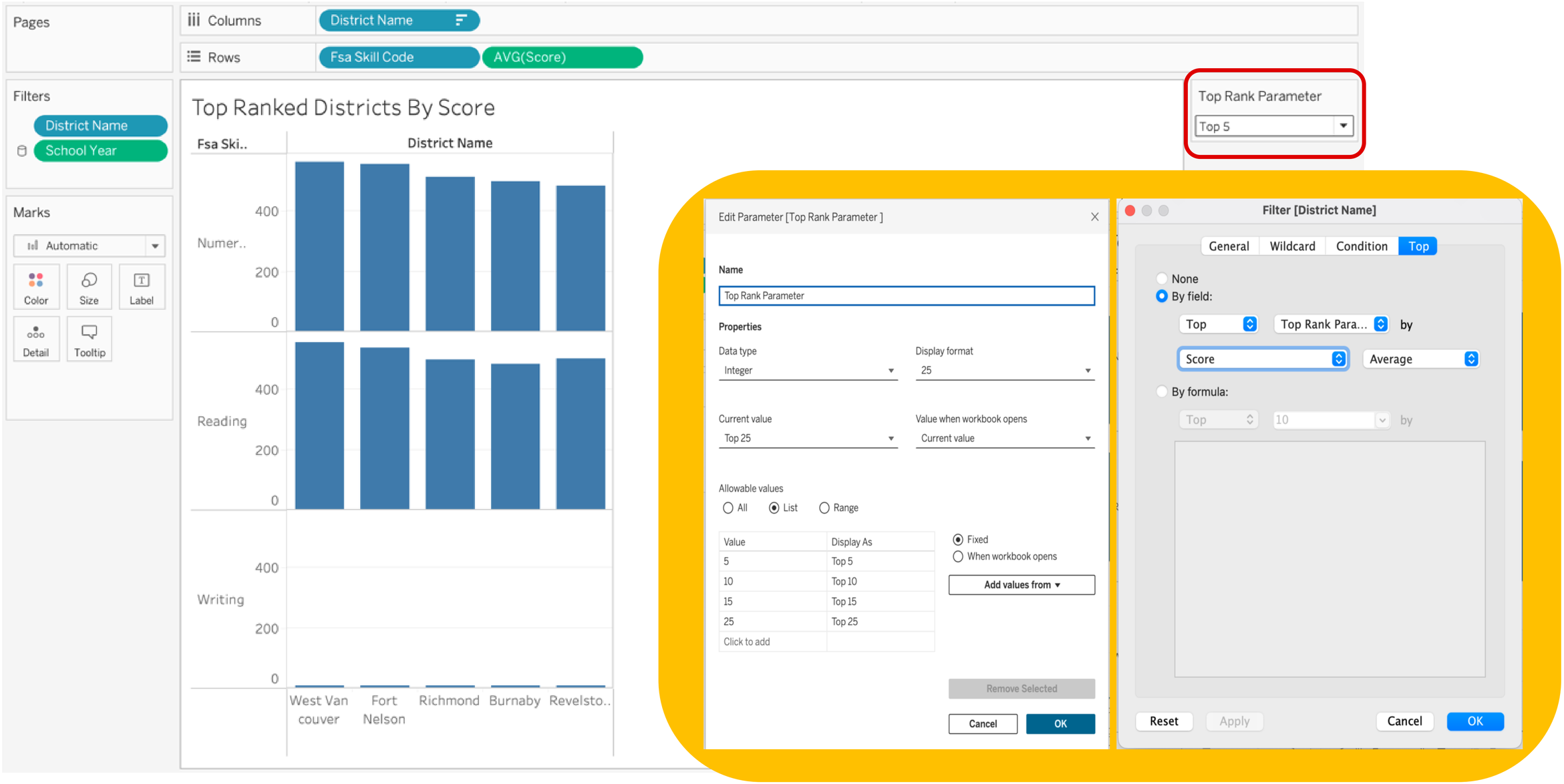


Unfiltered

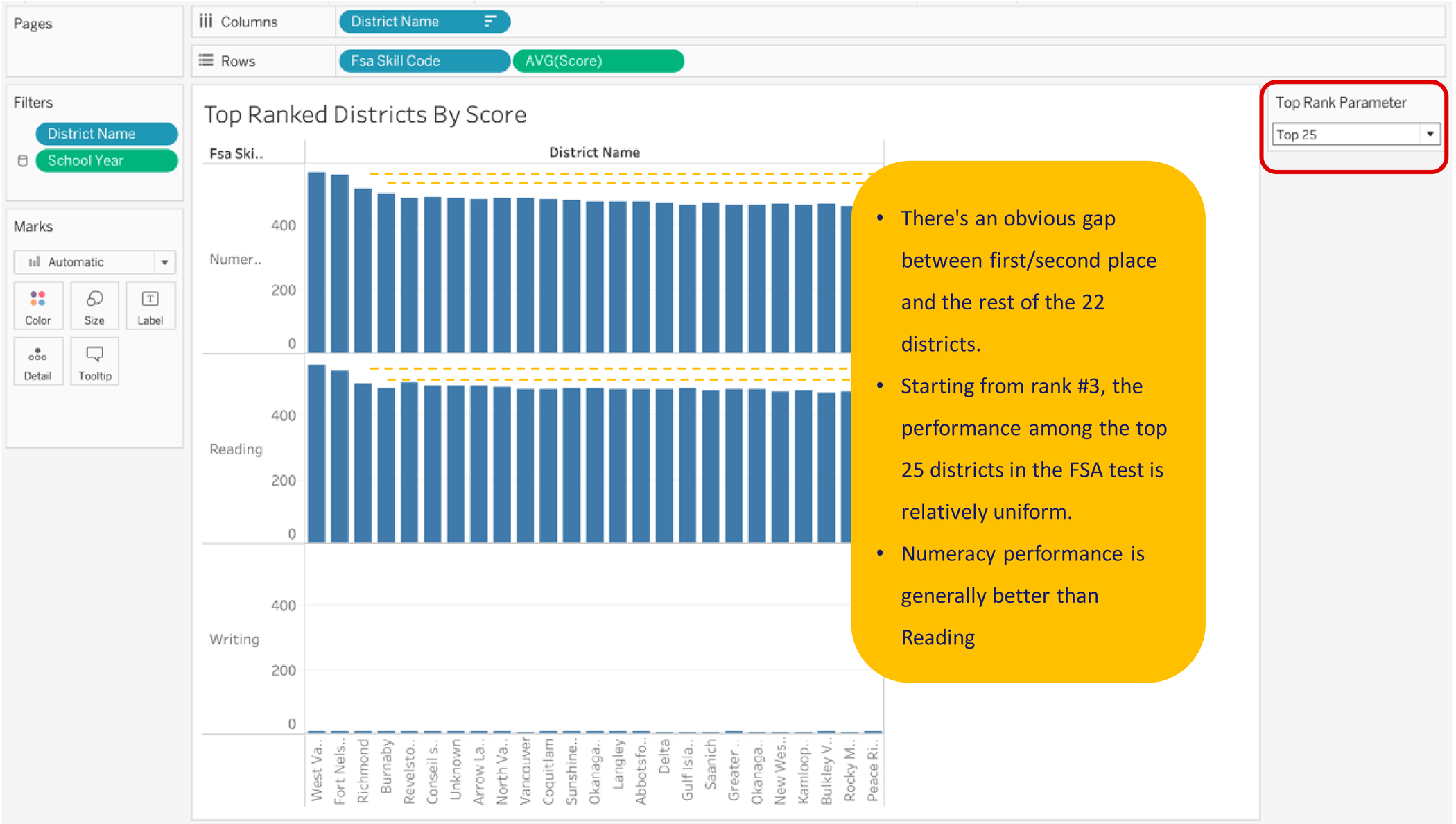
Overall Score Based On Year

Filtered

Top Ranked Districts By Score

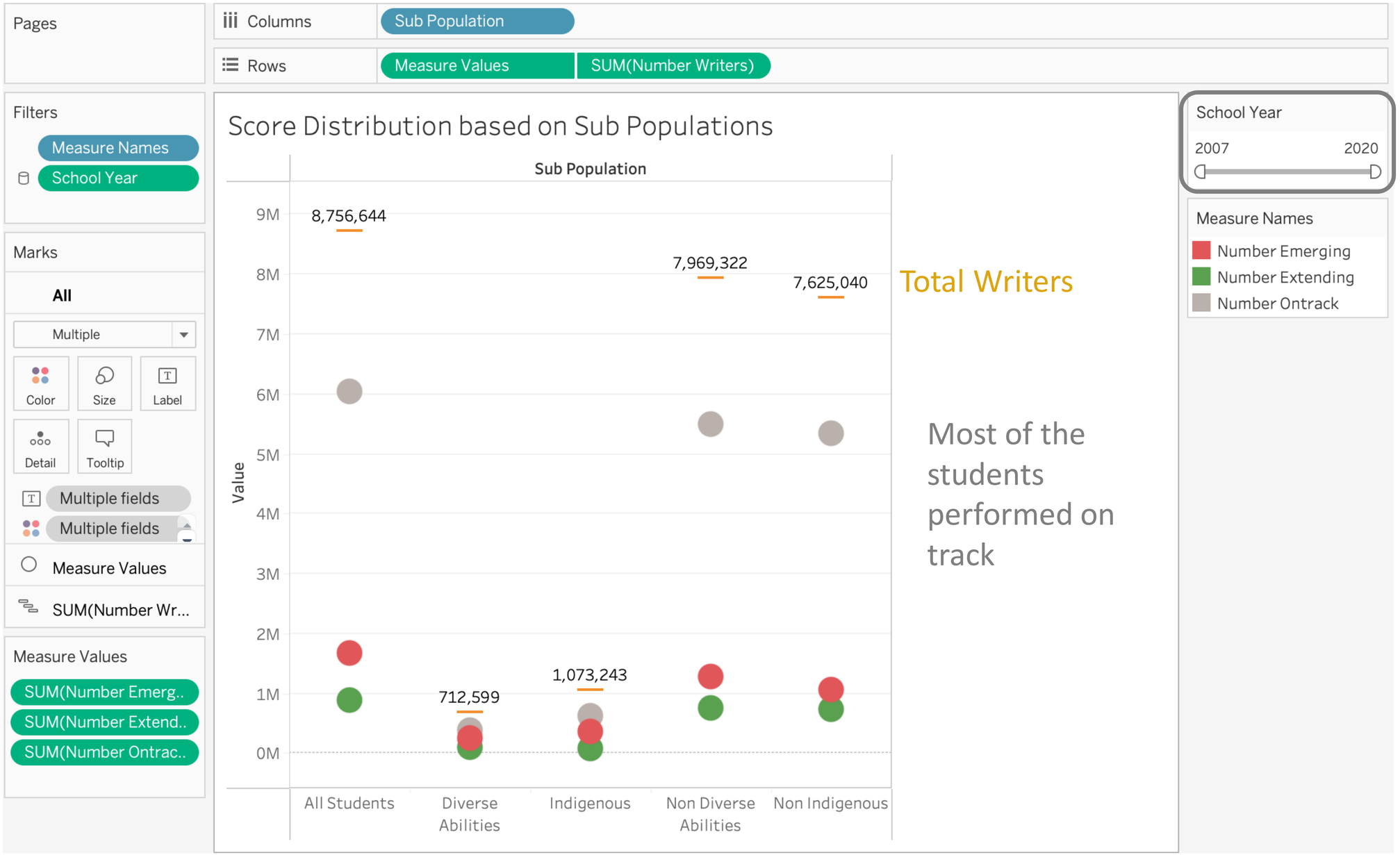


Top Ranked Districts By Score

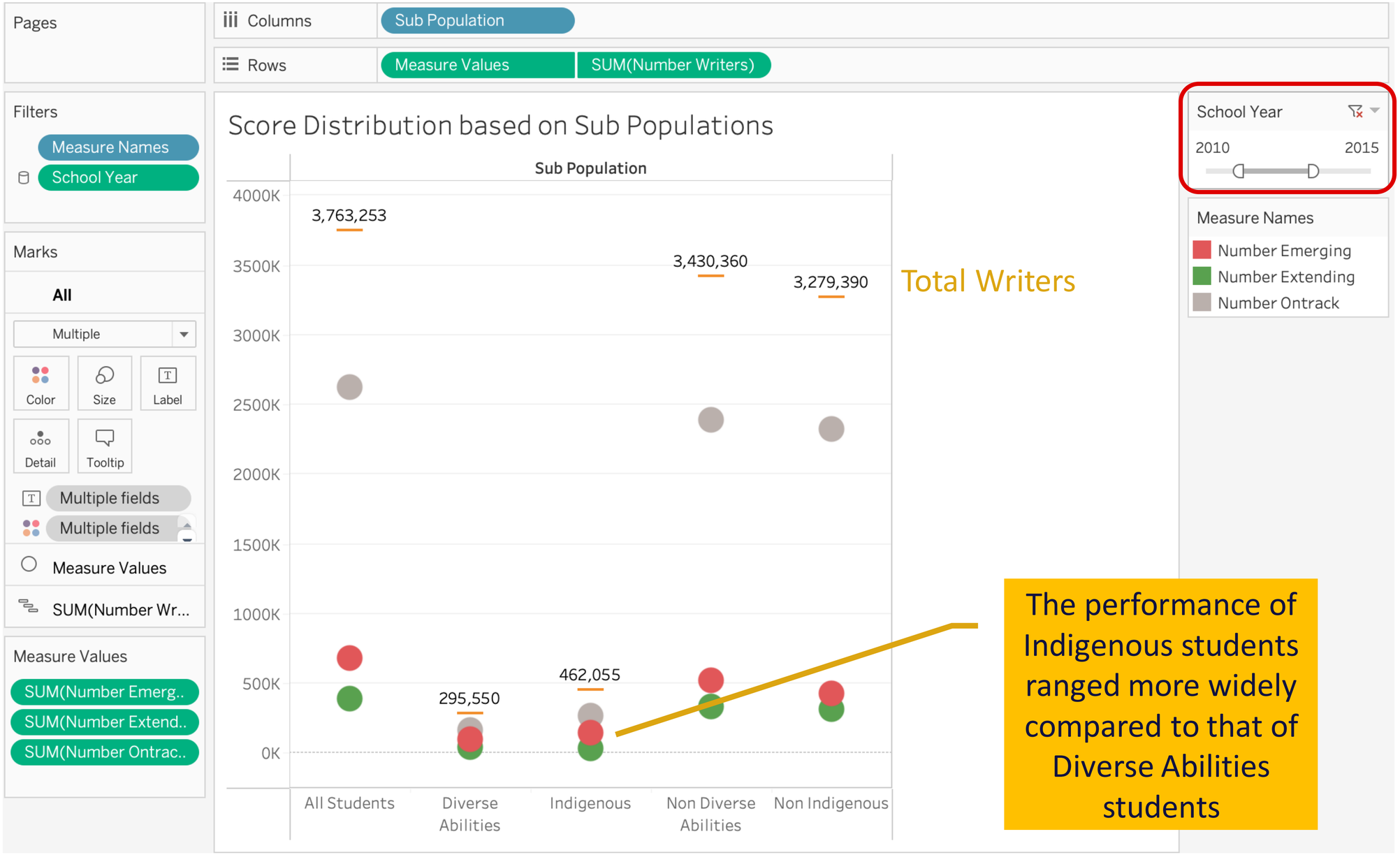


- There's an obvious gap between first/second place and the rest of the 22 districts.
- Starting from rank #3, the performance among the top 25 districts in the FSA test is relatively uniform.
- Numeracy performance is generally better than Reading

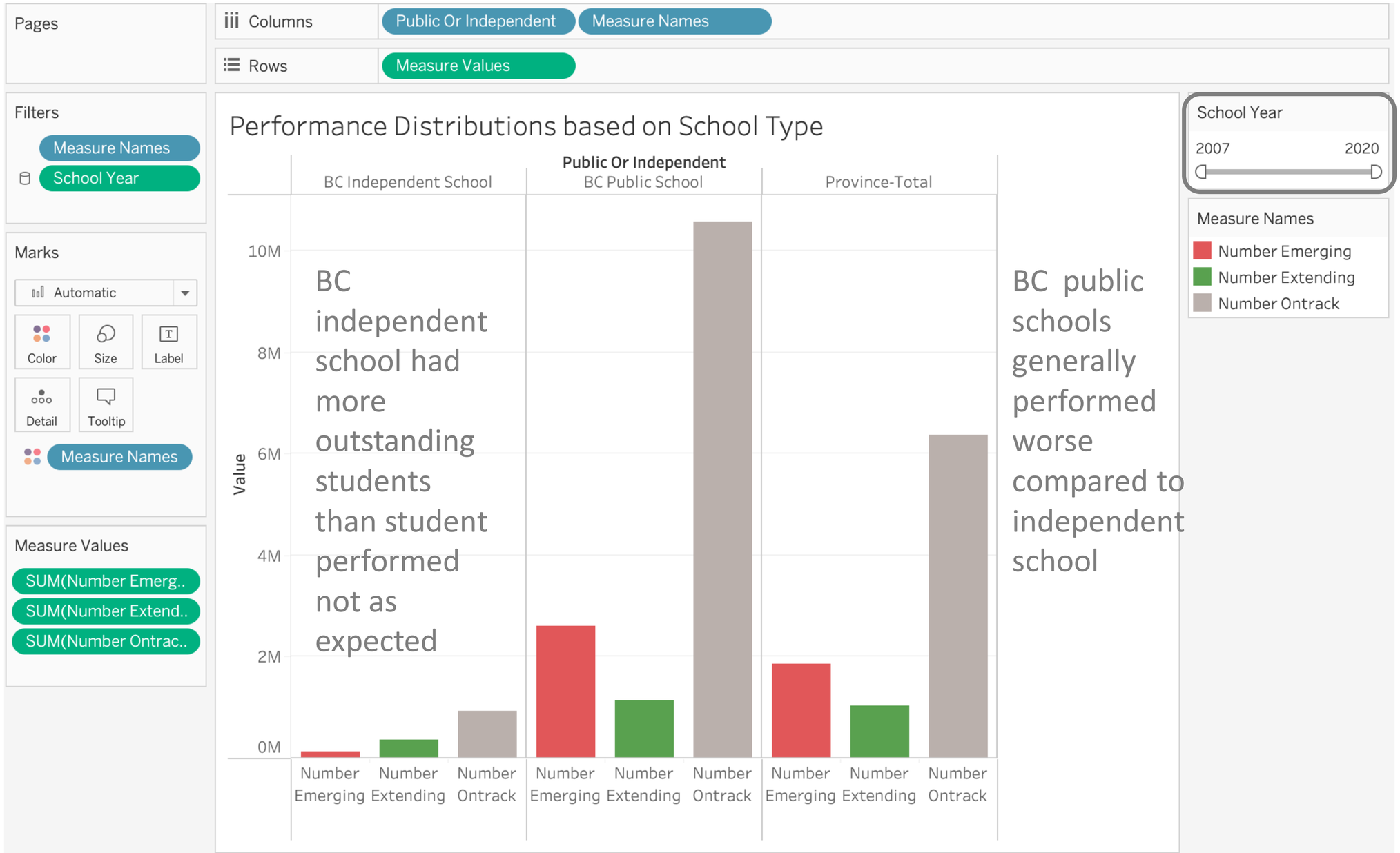
Score Distribution based on Sub Populations



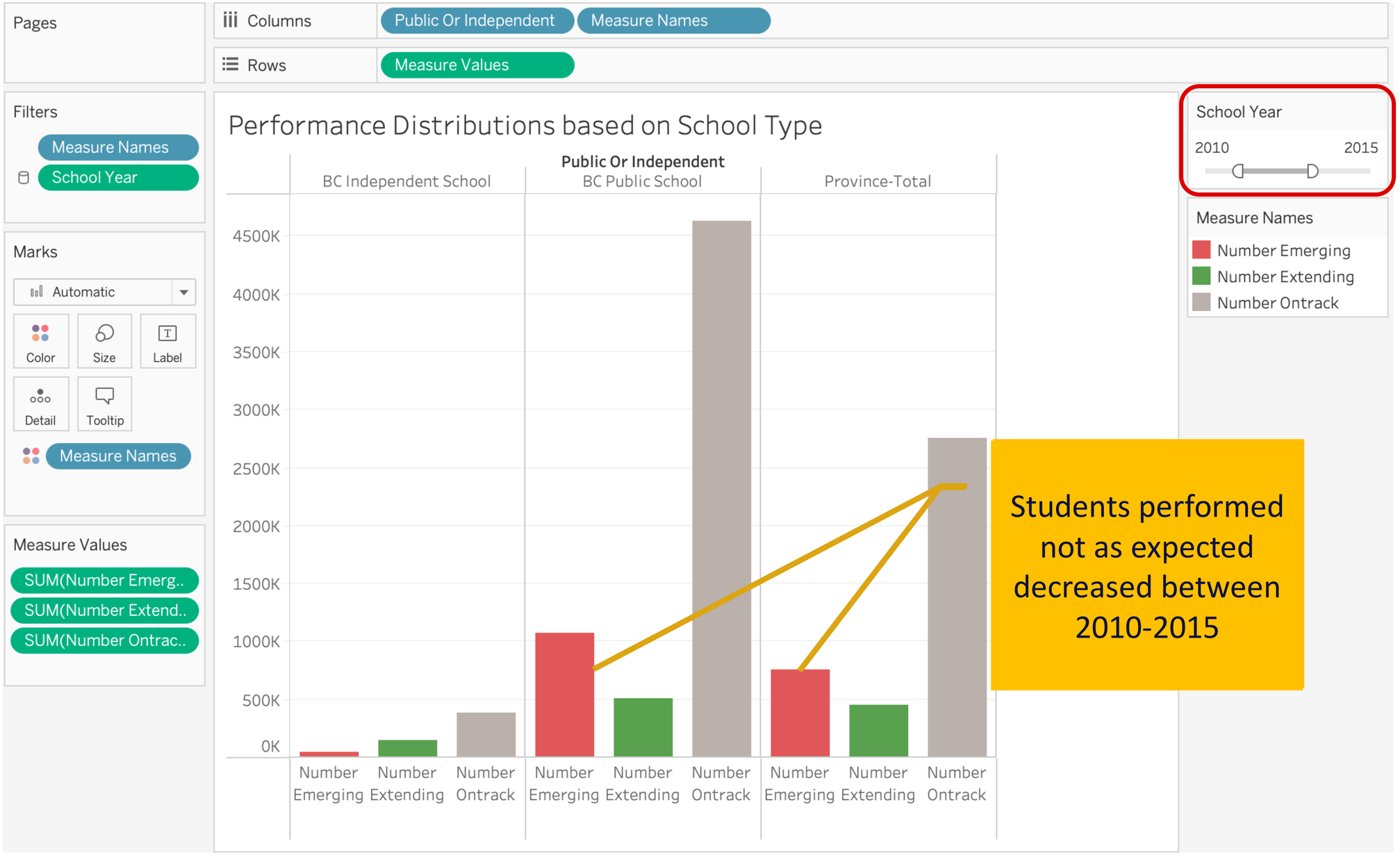
Score Distribution based on Sub Populations



Performance Distributions based on School Type

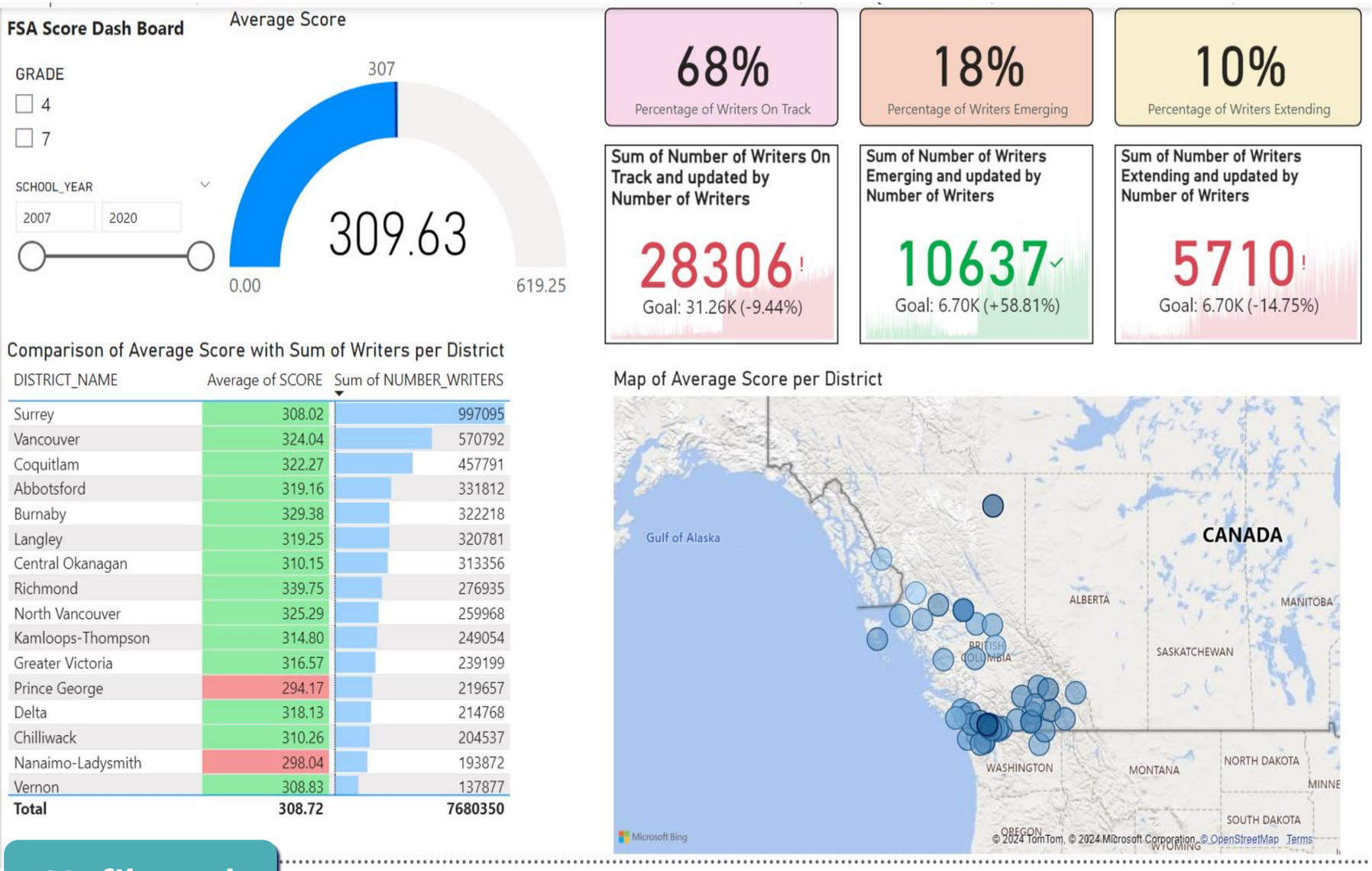


Performance Distributions based on School Type



Power BI

Power BI Dashboard



DISTRICT_NAME	Average of SCORE	Sum of NUMBER_WRITERS
Surrey	308.02	997095
Vancouver	324.04	570792
Coquitlam	322.27	457791
Abbotsford	319.16	331812
Burnaby	329.38	322218
Langley	319.25	320781
Central Okanagan	310.15	313356
Richmond	339.75	276935
North Vancouver	325.29	259968
Kamloops-Thompson	314.80	249054
Greater Victoria	316.57	239199
Prince George	294.17	219657
Delta	318.13	214768
Chilliwack	310.26	204537
Nanaimo-Ladysmith	298.04	193872
Vernon	308.83	137877
Total	**308.72**	**7680350**

Unfiltered

Incorporated Charts

Gauge:
Average Score Benchmark Assessment Tool

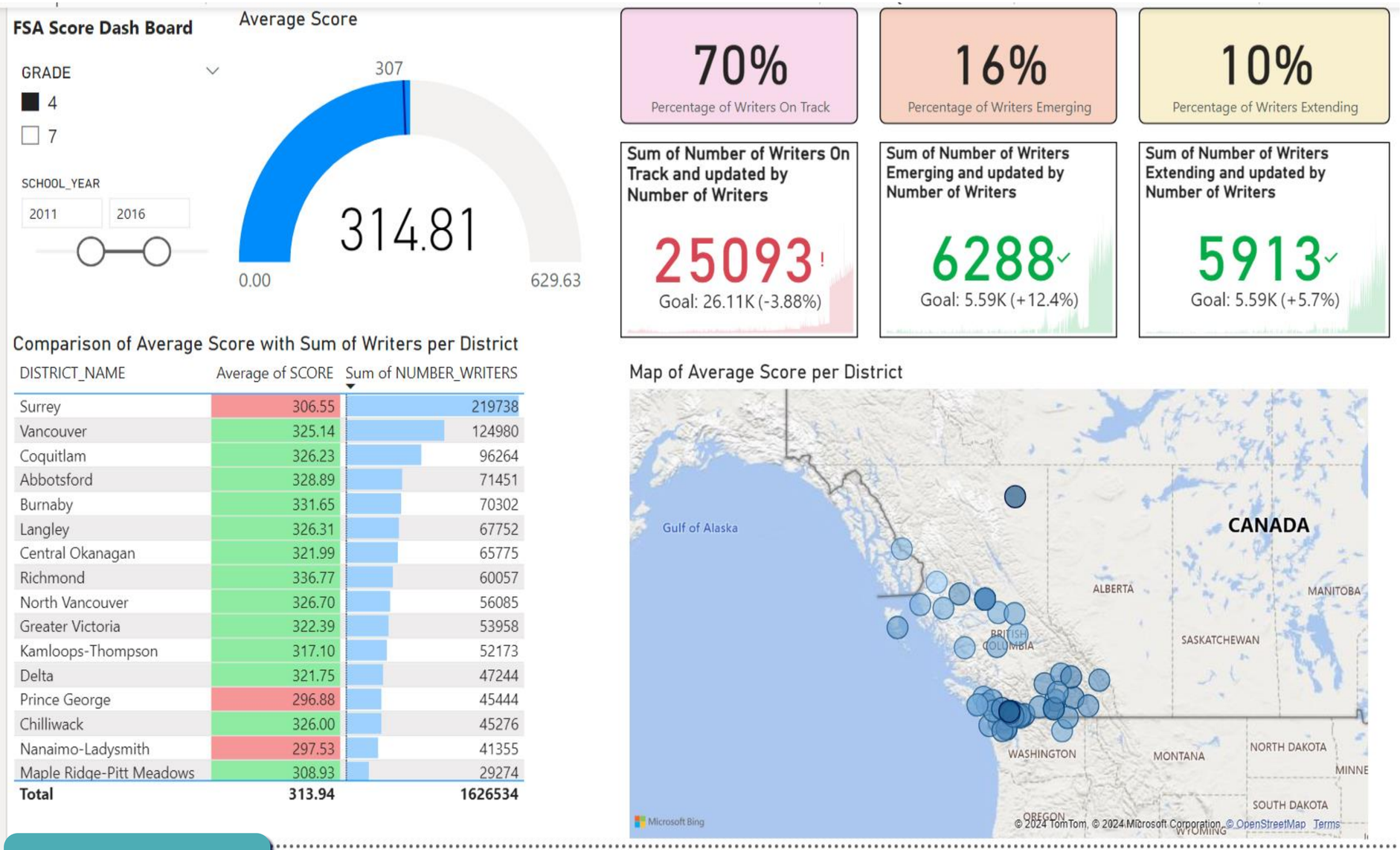
Cards:
Writers' Performance Metrics

KPIs :
Tracking Writers' Performance Metrics

Bar Chart:
Assessing Average Scores and Writers' Attendance Among Districts

Map:
Visualize Average Scores Across Districts

Power BI Dashboard



DISTRICT_NAME	Average of SCORE	Sum of NUMBER_WRITERS
Surrey	306.55	219738
Vancouver	325.14	124980
Coquitlam	326.23	96264
Abbotsford	328.89	71451
Burnaby	331.65	70302
Langley	326.31	67752
Central Okanagan	321.99	65775
Richmond	336.77	60057
North Vancouver	326.70	56085
Greater Victoria	322.39	53958
Kamloops-Thompson	317.10	52173
Delta	321.75	47244
Prince George	296.88	45444
Chilliwack	326.00	45276
Nanaimo-Ladysmith	297.53	41355
Maple Ridge-Pitt Meadows	308.93	29274
Total	**313.94**	**1626534**

Filtered

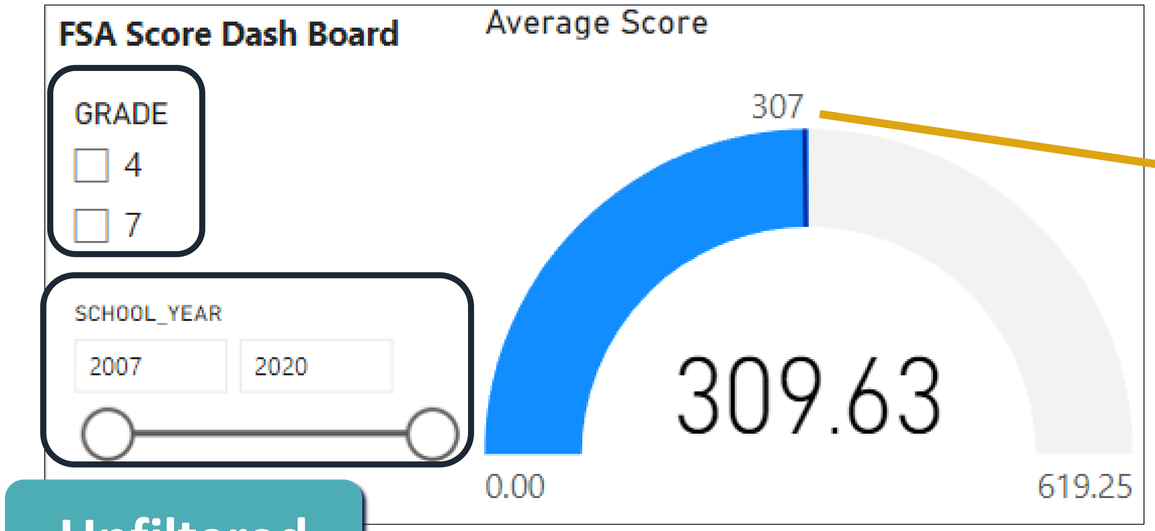
Incorporated Parameters

Select Slicer :
Select Test Grade

Slider:
Select School Years

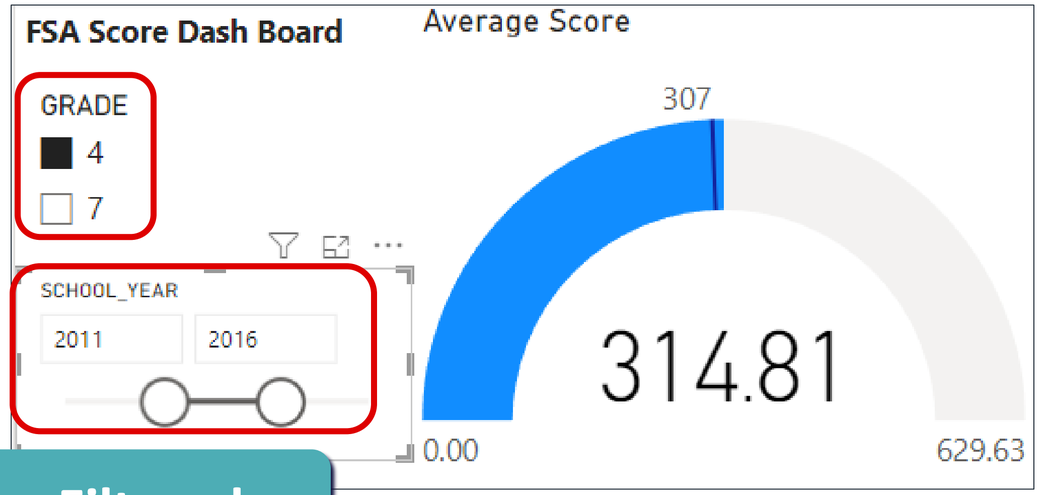
Filter:
Select District Name

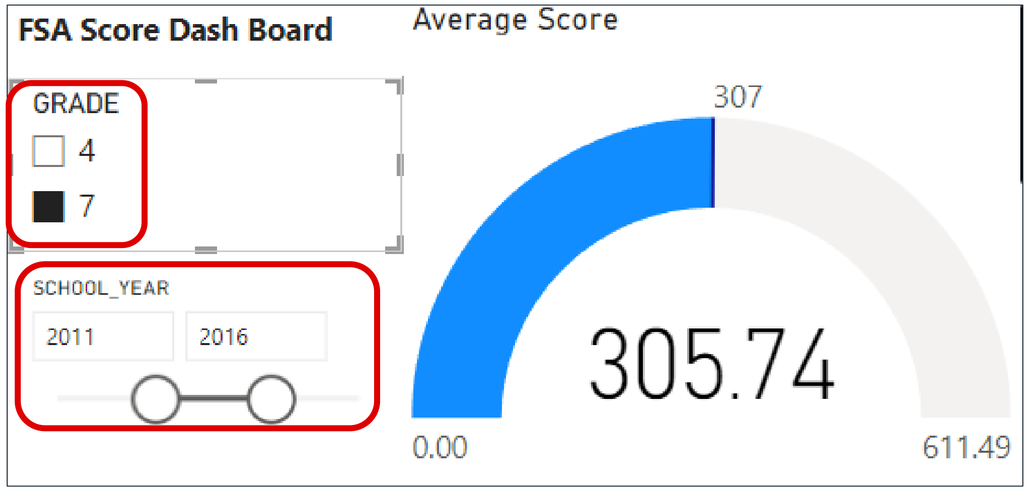
Average Score Gauge



Target set 307 – corresponding to Level 3 indicator of satisfactory performance

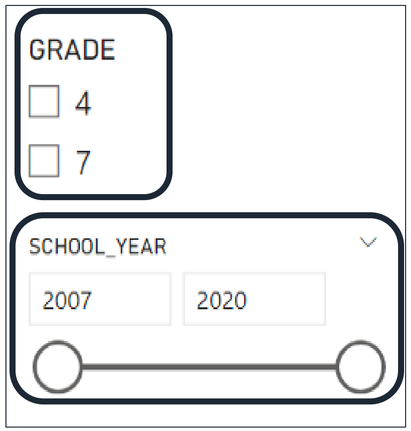
Unfiltered





Filtered

Test Writers' Performance Cards

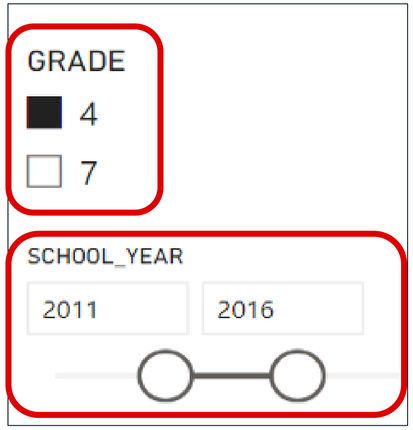


68%
Percentage of Writers On Track

18%
Percentage of Writers Emerging

10%
Percentage of Writers Extending

Unfiltered



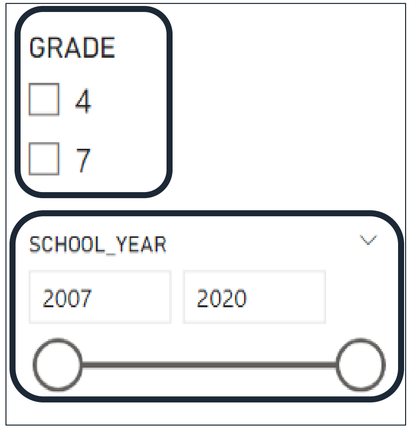
70%
Percentage of Writers On Track

16%
Percentage of Writers Emerging

10%
Percentage of Writers Extending

Filtered

Writers' Composite KPIs



Sum of Number of Writers On Track and updated by Number of Writers

28306 !

Goal: 31.26K (-9.44%)

Sum of Number of Writers Emerging and updated by Number of Writers

10637 ✓

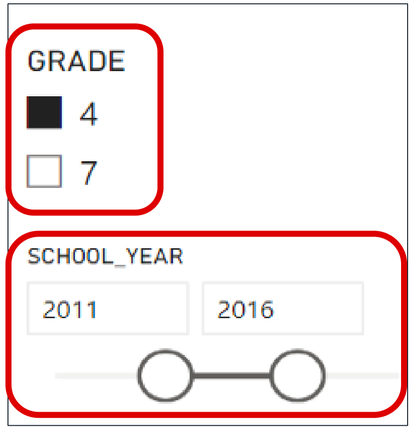
Goal: 6.70K (+58.81%)

Sum of Number of Writers Extending and updated by Number of Writers

5710 !

Goal: 6.70K (-14.75%)

Unfiltered



Sum of Number of Writers On Track and updated by Number of Writers

25093 !

Goal: 26.11K (-3.88%)

Sum of Number of Writers Emerging and updated by Number of Writers

6288 ✓

Goal: 5.59K (+12.4%)

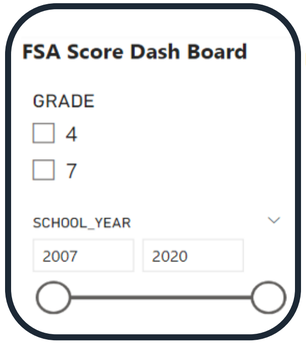
Sum of Number of Writers Extending and updated by Number of Writers

5913 ✓

Goal: 5.59K (+5.7%)

Filtered

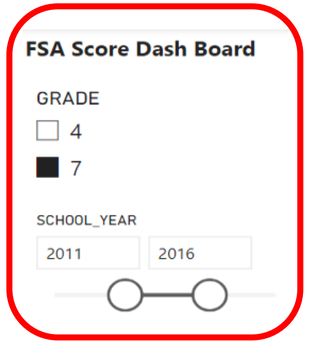
Comparison of Average Score with Sum of Writers per District



Comparison of Average Score with Sum of Writers per District

DISTRICT_NAME	Average of SCORE	Sum of NUMBER_WRITERS
Surrey	308.02	997095
Vancouver	324.04	570792
Coquitlam	322.27	457791
Abbotsford	319.16	331812
Burnaby	329.38	322218
Langley	319.25	320781
Central Okanagan	310.15	313356
Richmond	339.75	276935
North Vancouver	325.29	259968
Kamloops-Thompson	314.80	249054
Greater Victoria	316.57	239199
Prince George	294.17	219657
Delta	318.13	214768
Chilliwack	310.26	204537
Nanaimo-Ladysmith	298.04	193872
Vernon	308.83	137877
Total	**308.72**	**7680350**

Unfiltered

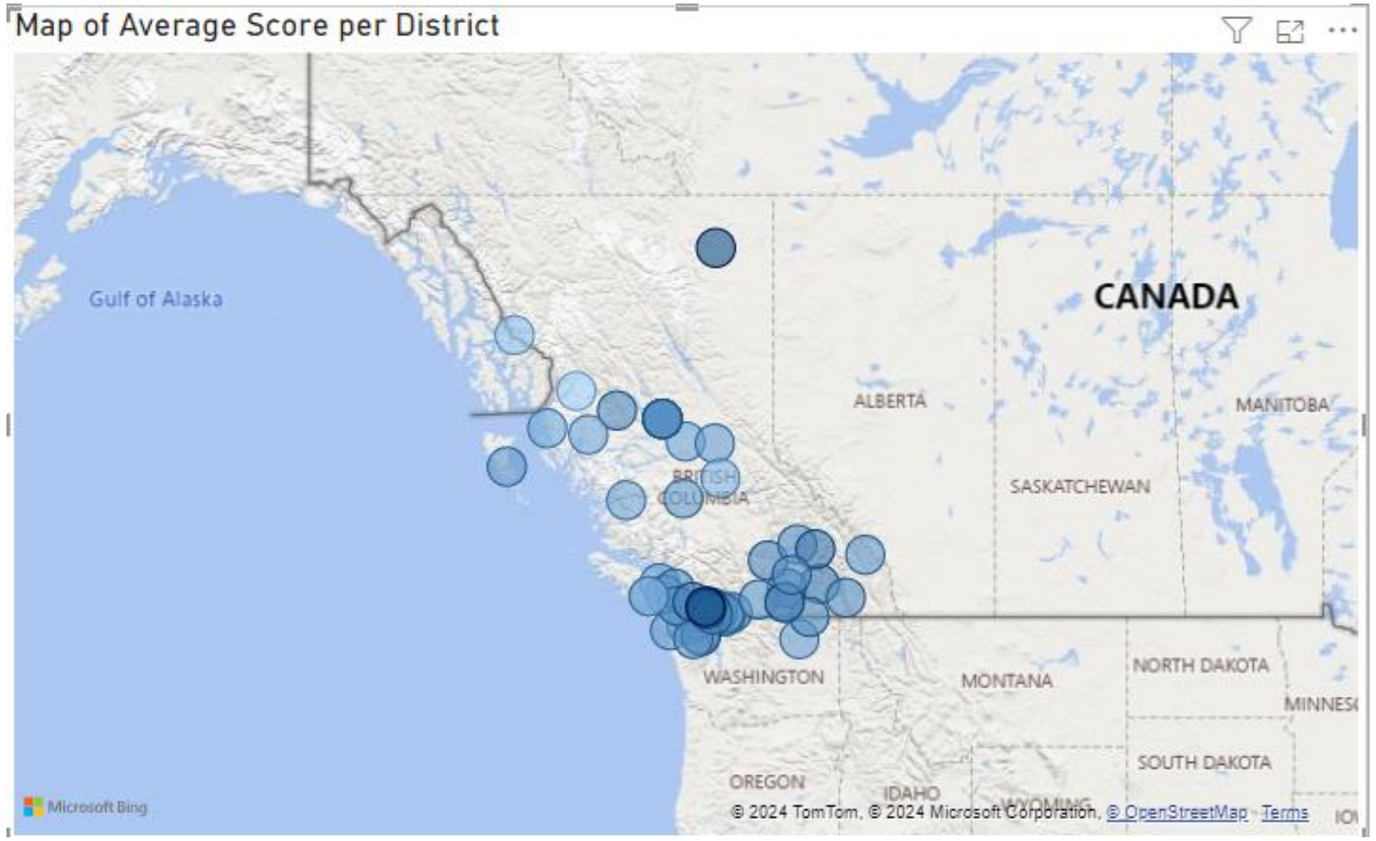


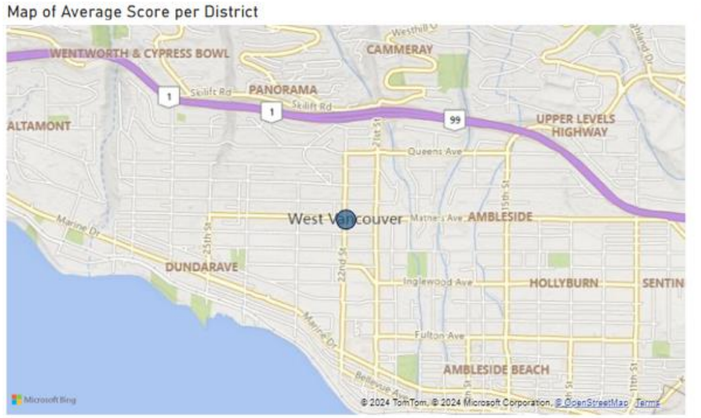
Comparison of Average Score with Sum of Writers per District

DISTRICT_NAME	Average of SCORE	Sum of NUMBER_WRITERS
Surrey	312.32	231891
Vancouver	326.40	122652
Coquitlam	315.70	102141
Burnaby	331.31	72297
Abbotsford	312.96	69606
Langley	317.85	67281
Richmond	345.46	64662
Central Okanagan	297.06	58557
North Vancouver	321.52	56922
Kamloops-Thompson	317.01	51342
Delta	315.28	48306
Greater Victoria	314.06	46455
Prince George	294.45	45267
Chilliwack	300.18	41979
Nanaimo-Ladysmith	298.39	40629
Vernon	308.38	29130
Total	**304.74**	**1634444**

Filtered

Map of Average Score by District





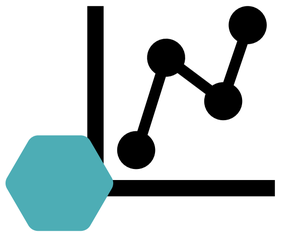
Comparison of Average Score with Sum c

DISTRICT_NAME	Average of SCORE
Cariboo-Chilcotin	299.43
West Vancouver	374.22
Sea to Sky	308.80
Conseil scolaire francophone	328.04
Sooke	293.89
Qualicum	302.58
Kootenay Lake	291.24
Campbell River	283.94
Pacific Rim	290.22
Coast Mountains	279.25
Peace River South	293.79
Rocky Mountain	309.54
Nechako Lakes	284.89
Sunshine Coast	322.40
Okanagan Similkameen	319.53
Kootenay-Columbia	310.40
Nicola-Similkameen	299.60
Total	**304.14**

Average Score is represented by the color of the bubble. Light Blue is the lower score dark blue is higher score.

Conclusion

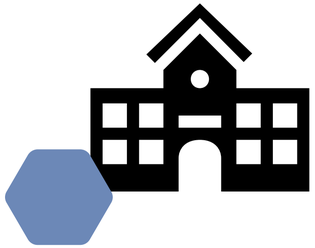
Overall Grade 4 outperforms Grade 7 over the years.



Temporal Trend

Geographical Disparities

Performance and Skill Disparities in Sub-population



Variation in Schools

References

- Burnaby Schools. (n.d.). Foundation Skills Assessment Results. https://burnabyschools.ca/foundation-skills-assessment-results/
- Farr, T. (2022, January 3). *Interpreting the FSA test scorecard & levels: FSA grading scale*. Lumos Learning. https://www.lumoslearning.com/llwp/teachers-speak/fsa-scores.html
- Knaflic, C. N. (2015). *Storytelling with data: A Data Visualization Guide for Business Professionals*. John Wiley & Sons, Inc.
- Knaflic, C. N. (n.d.). *Storytelling with data: Let's practice!* Wiley.
- Province of British Columbia. (n.d.). BC Schools Foundation Skills Assessment (FSA) [Data set]. BC Data Catalogue. https://catalogue.data.gov.bc.ca/dataset/bc-schools-foundation-skills-assessment-fsa-
- YouTube. (2022, August 30). *How to use conditional formatting in power bi | microsoft power bi for Beginners*. YouTube. https://www.youtube.com/watch?si=cSUXSB3DkPusK3Rq&v=m0h3Ghl6mgY&feature=youtu.be
- YouTube. (2020, May 22). *Tableau (Project) making dashboard of students exam score comparation*. YouTube. https://www.youtube.com/watch?app=desktop&v=u-oLVlADsdA

Thank You