Data Fest 2024

How Best Can We Support Underperforming Students?

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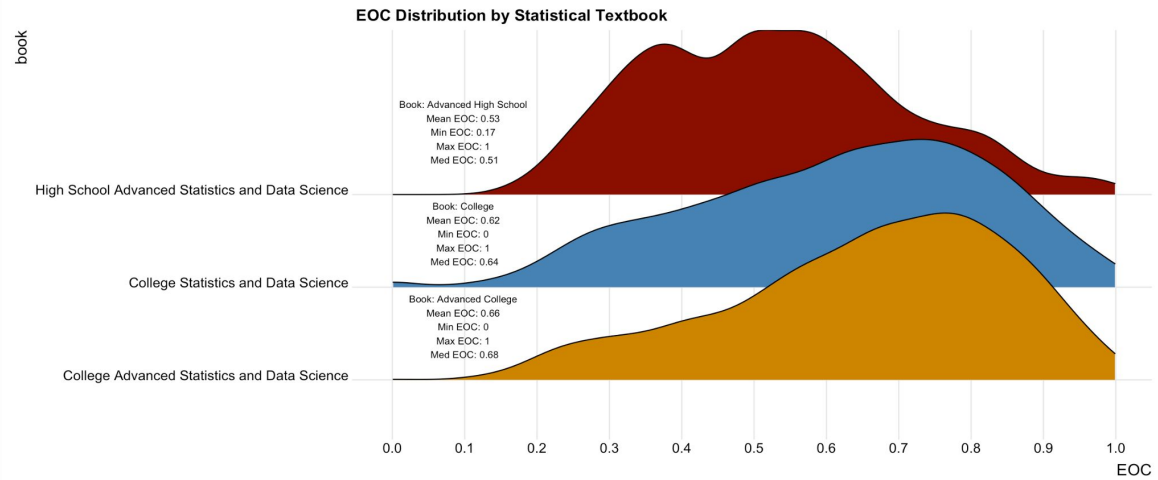
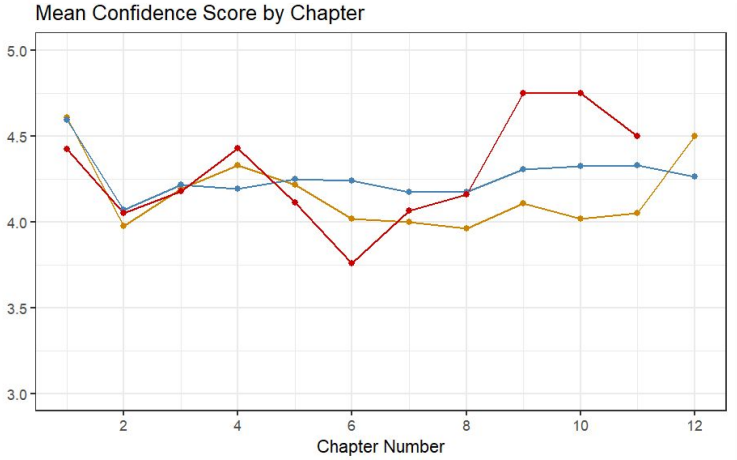
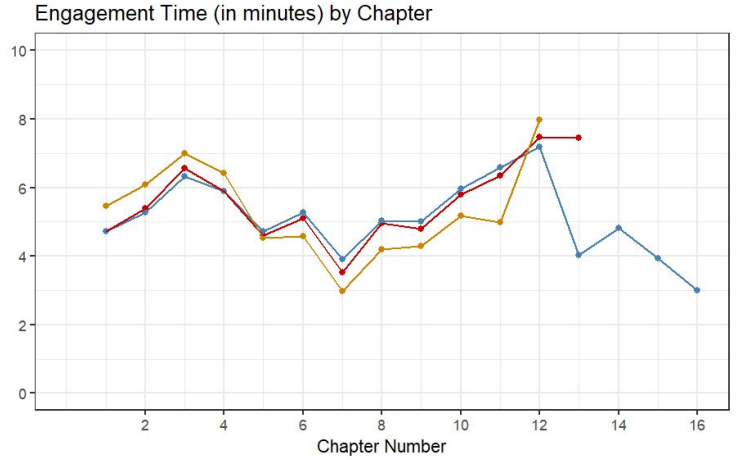
Exploratory Data Analysis



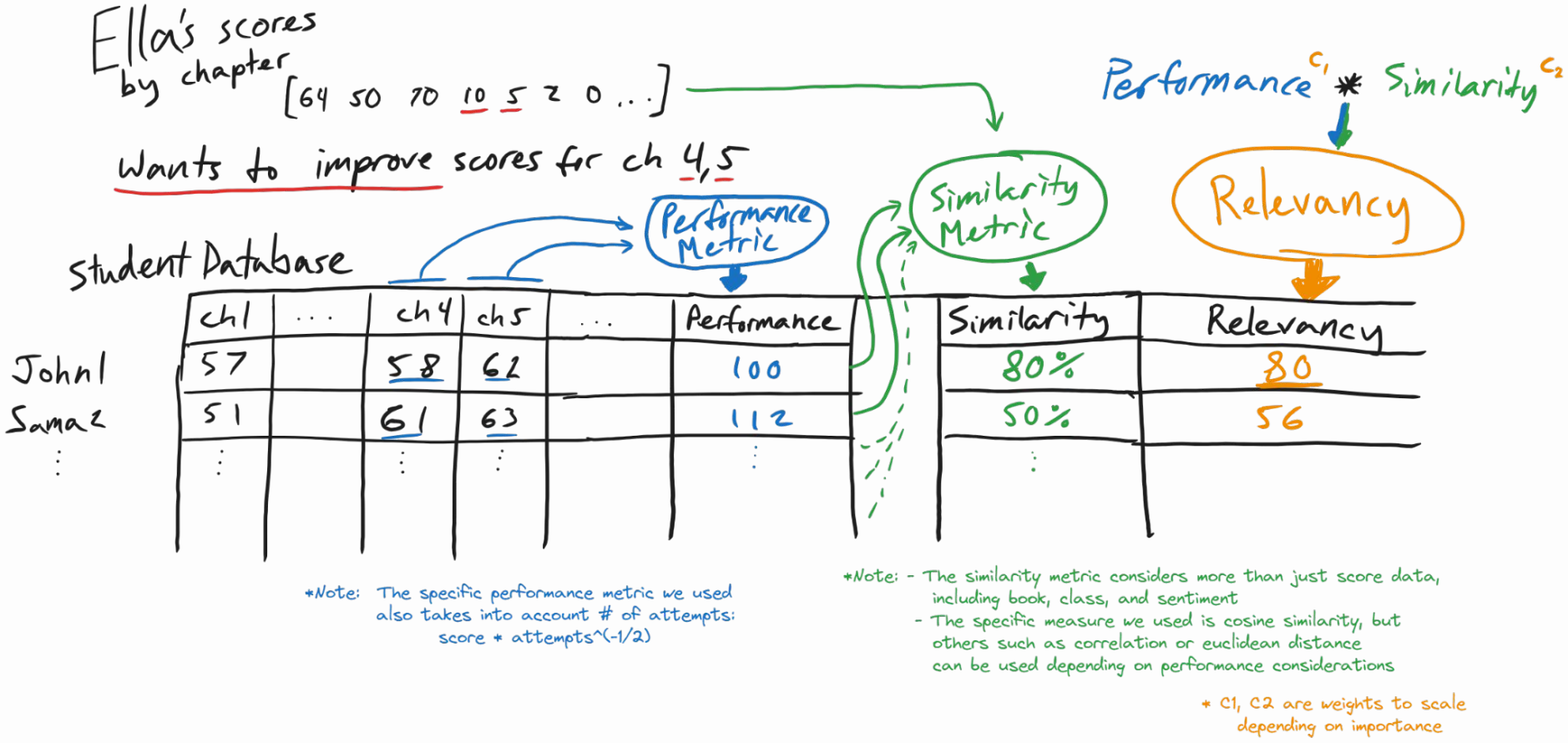
Statistical analysis: Significant
Tukey: confirmed that chapters were different in EOC; when visualizing, EOC was lower in later chapters.

P value: Confirmed had significant evidence of EOC
Insignificant evidence that amount of videos impacts engagement..





Filtering Signal from Noise



Finding Recommendations

Top n Relevant Students:

	ch4_attempts	ch5_attempts	ch4_correct	ch5_correct	performance2	cosine_sim	weighted_performance2
1	182	84	91	49	5.272705	0.7670921	3.102619
2	189	86	99	55	4.696956	0.7841144	2.887855
3	185	96	101	52	4.500000	0.8062652	2.925286
4	194	86	86	51	4.769728	0.7118950	2.417272
5	167	84	95	45	5.167494	0.6599228	2.250434

Example Insight:

```
diff_in_attempts    Named num [1:5] -50.35 23.61 33.63 84.9 -8.44
```

By finding average **differences** in **attempts** by chapter, we might recommend that Ella study less for chapter 1, more for 2 and 3, and **much more** for 4.

Other Insights to look for:

- Differences in **sentiment**: Ella's low perception of a chapter's usefulness could prompt an instructor to highlight answering “why should you care?”
- Differences in **engagement time**