

OPEN UNIVERSITY DATASET: TABLEAU ANALYSIS



The Open
University





DATASET

- Open University Learning Analytics Dataset contains data about courses, students and their demographics, grades etc for seven courses of about 30,000 enrolled students
- Dataset schema, description and download:
https://analyse.kmi.open.ac.uk/open_dataset

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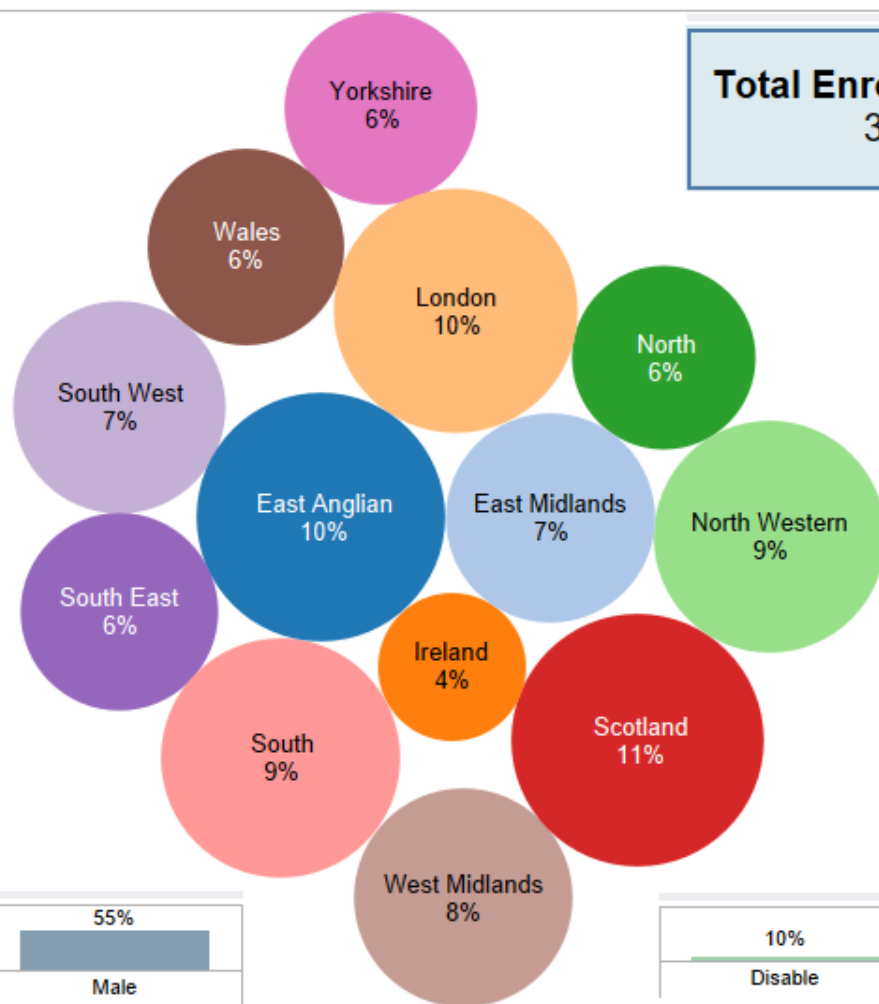
Open University Learning Analytics



Driving Innovation in Targeted Recruitment, Module Transformation and Student Empowerment through the establishment of Regional Centres to complement Open University distance learning methodology

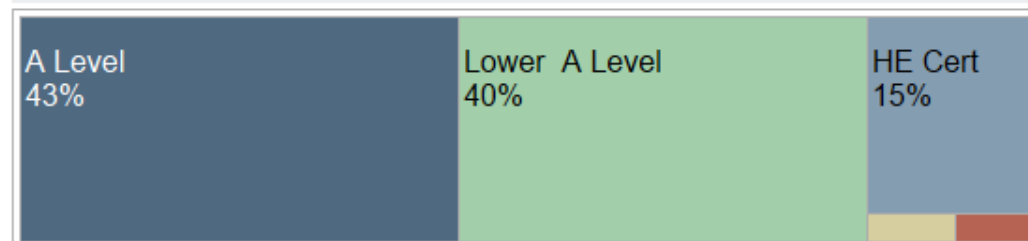


Total Enrolled Students
32,593

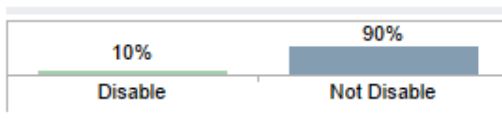
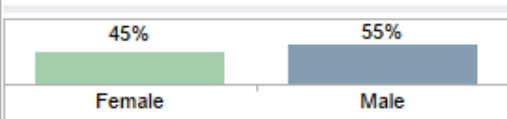


Region	No.	% share
Scotland	3,446	11%
East Anglian	3,340	10%
London	3,216	10%
South	3,092	9%
North Western	2,906	9%
West Midlands	2,582	8%
South West	2,436	7%
East Midlands	2,365	7%
South East	2,111	6%
Wales	2,086	6%
Yorkshire	2,006	6%
North	1,823	6%
Ireland	1,184	4%
Grand Total	32,593	100%

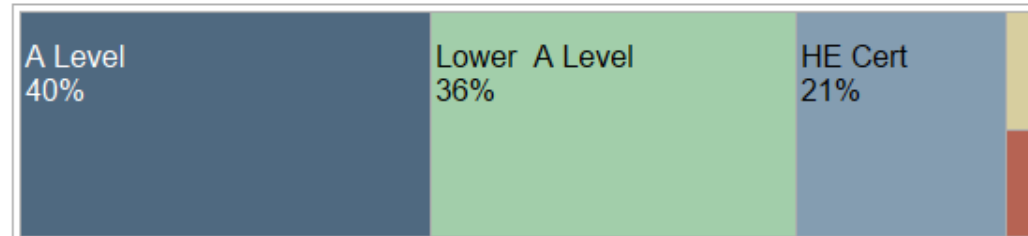
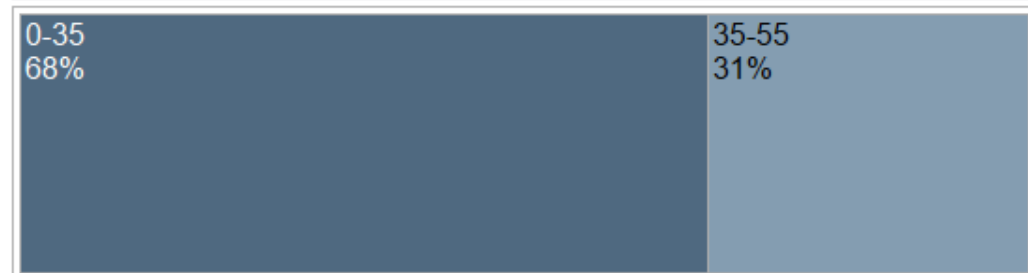
Age Group	Percentage
0-35	70%
35-55	29%



Total Enrolled Students
10,002



Age Band & Education Background

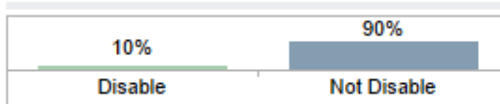
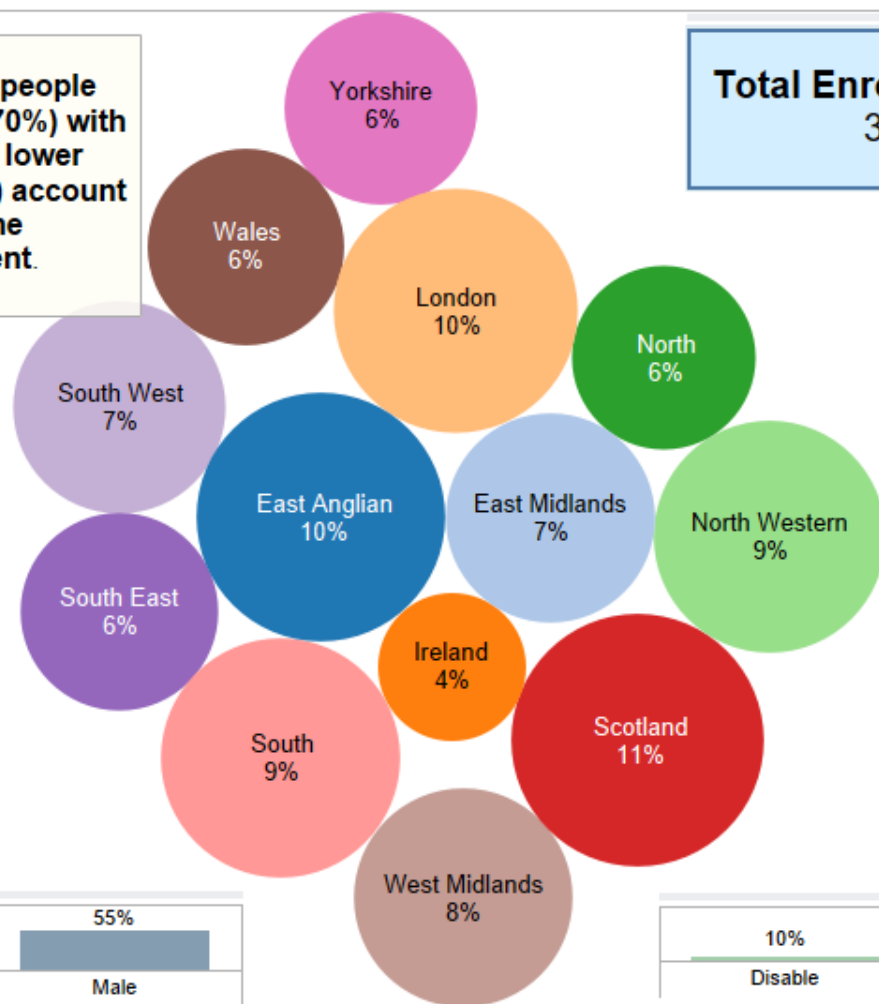


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Demographics

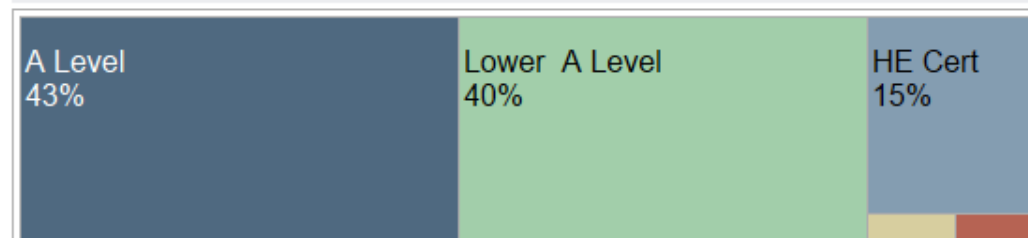
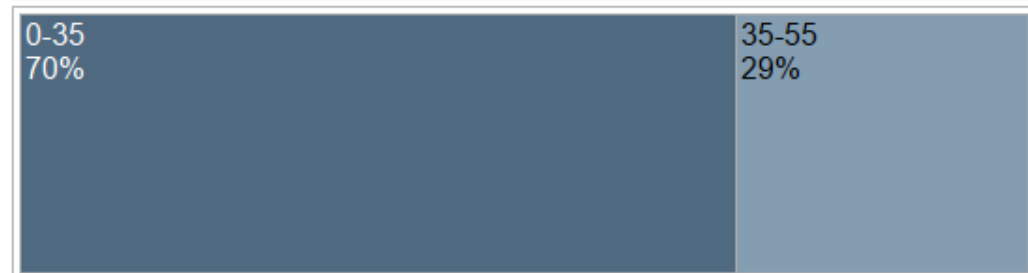
Mostly younger people (lower than 35, 70%) with either A-level or lower (more than 80%) account for the bulk of the student enrolment.

Total Enrolled Students
32,593



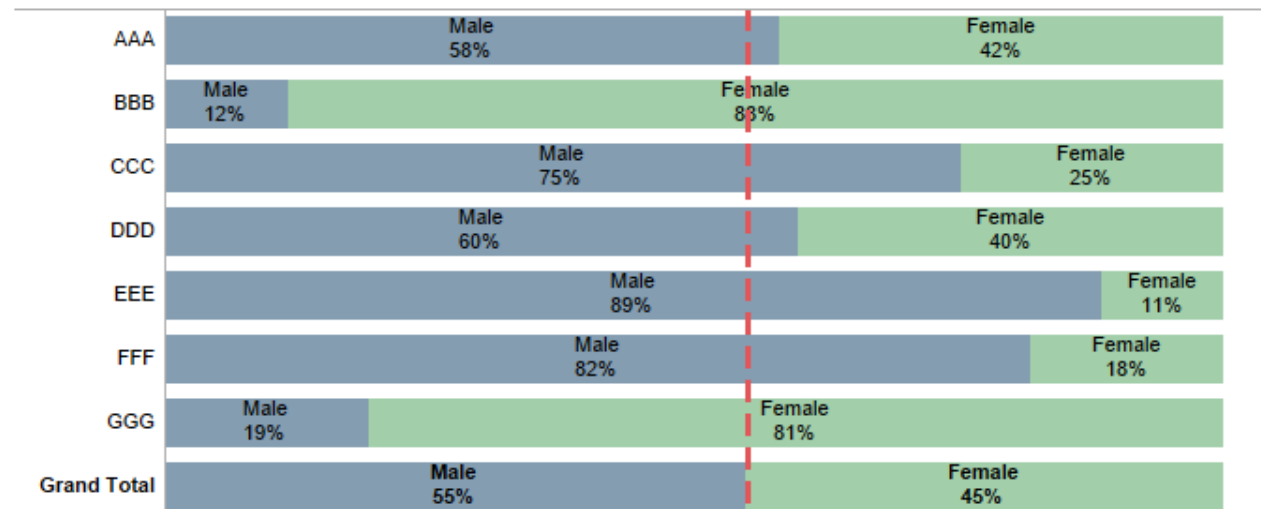
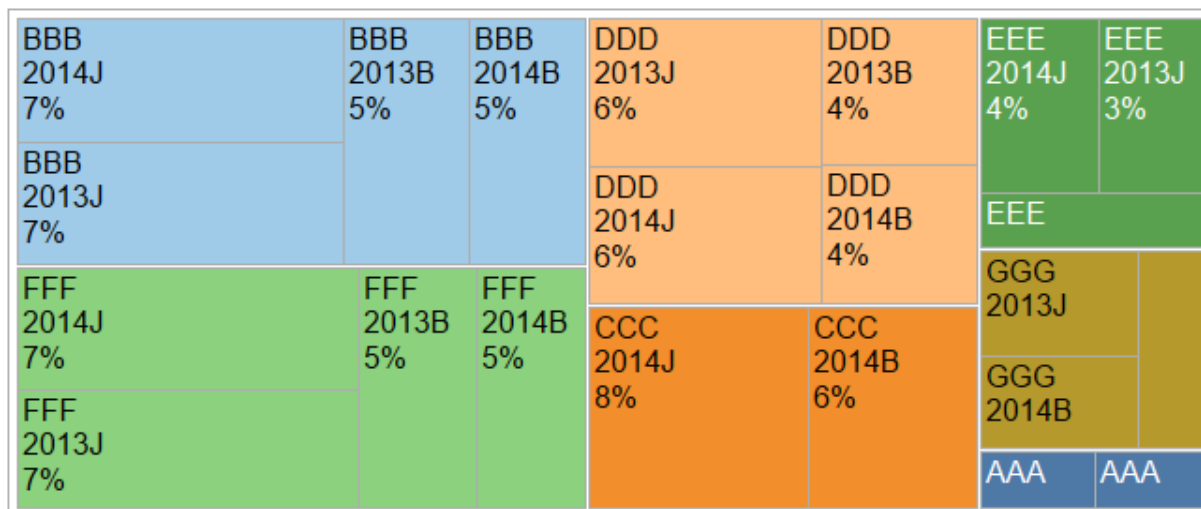
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Age Band & Education Background

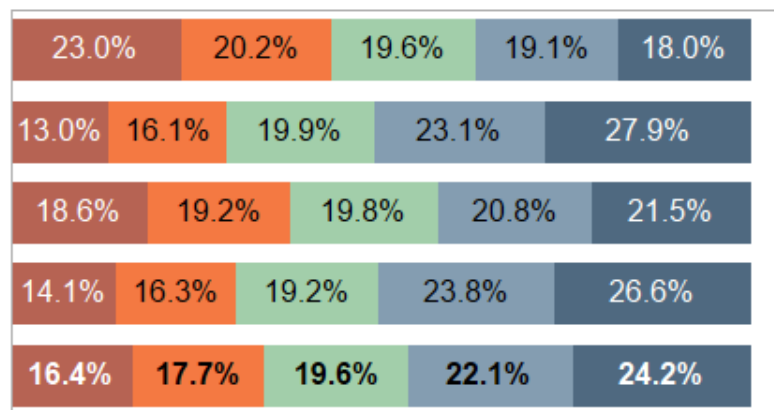
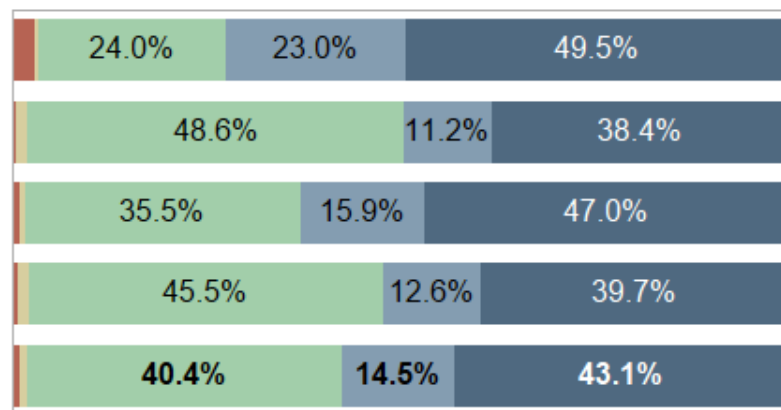
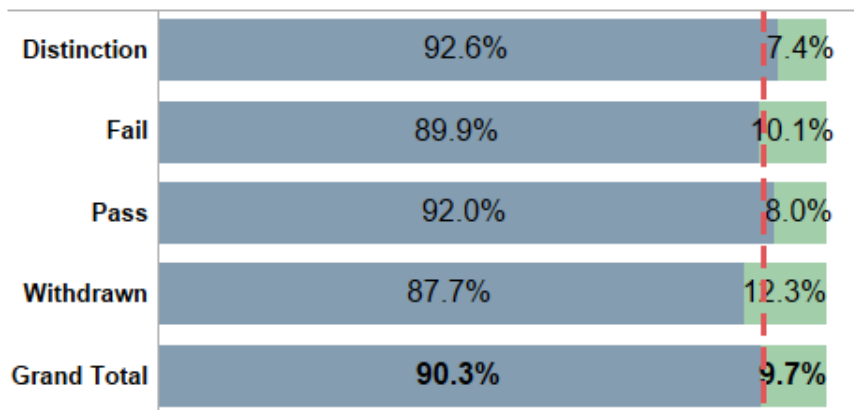
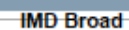
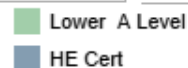
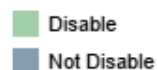


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Modules & Grades

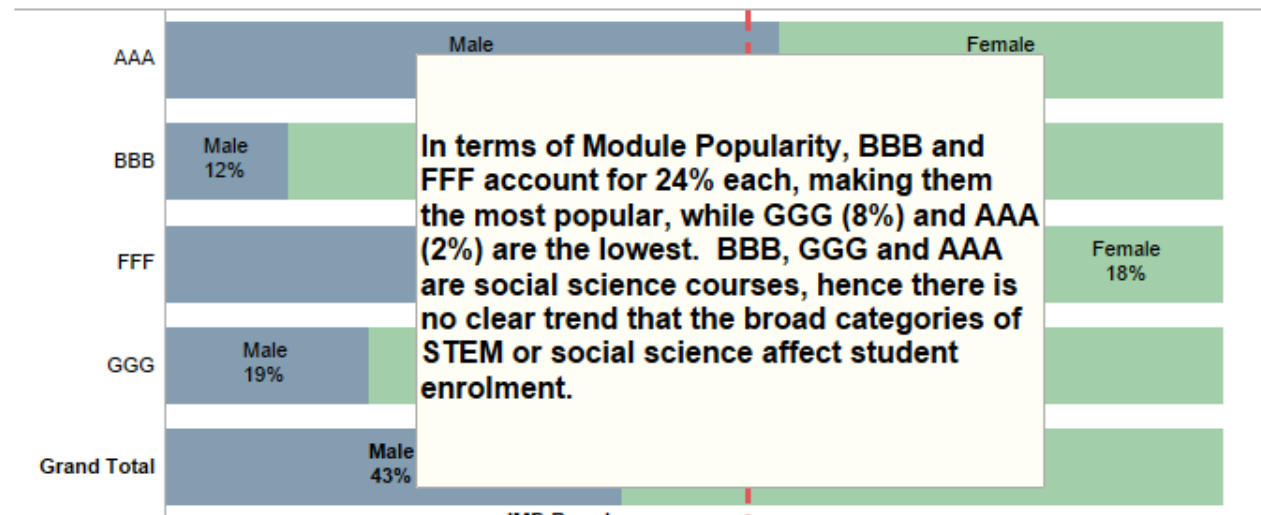
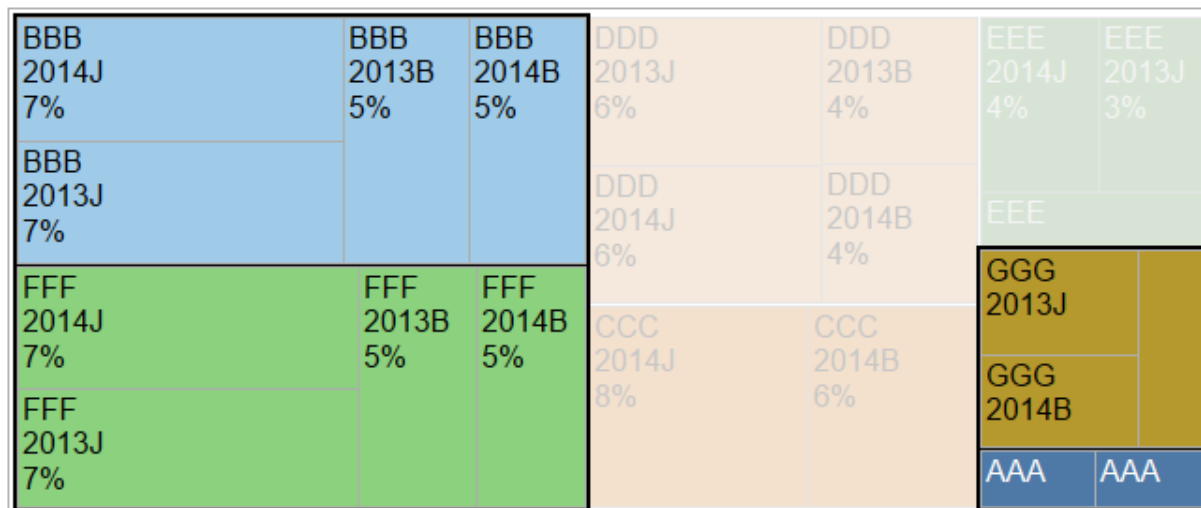


Grades



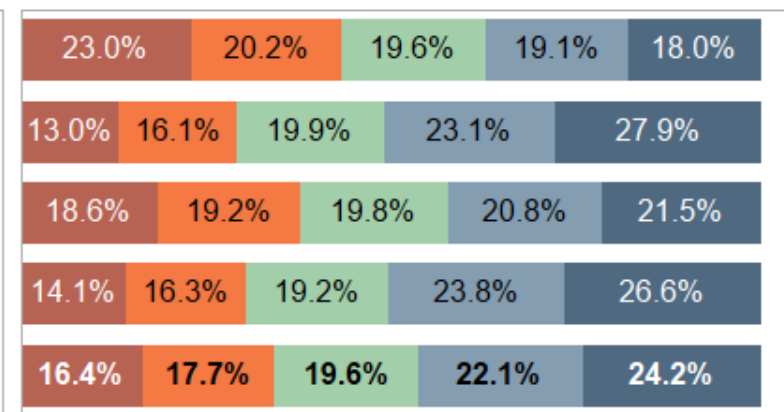
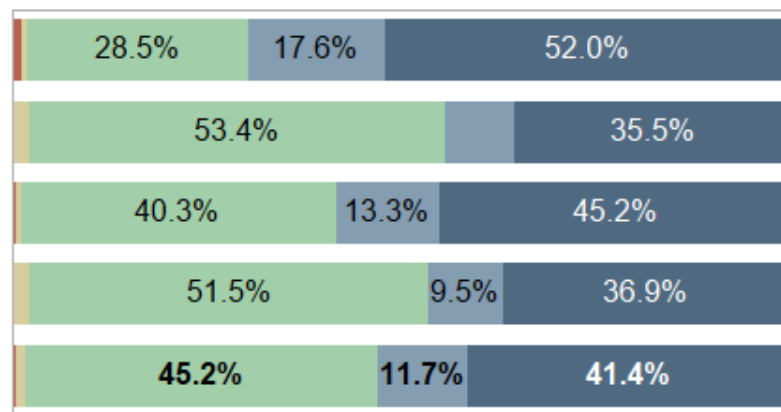
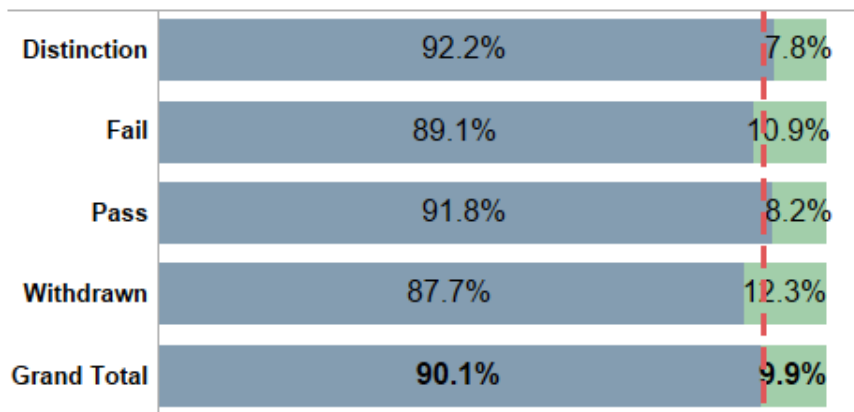
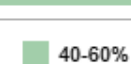
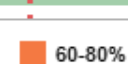
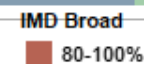
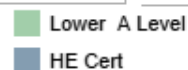
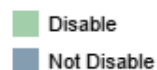
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Modules & Grades

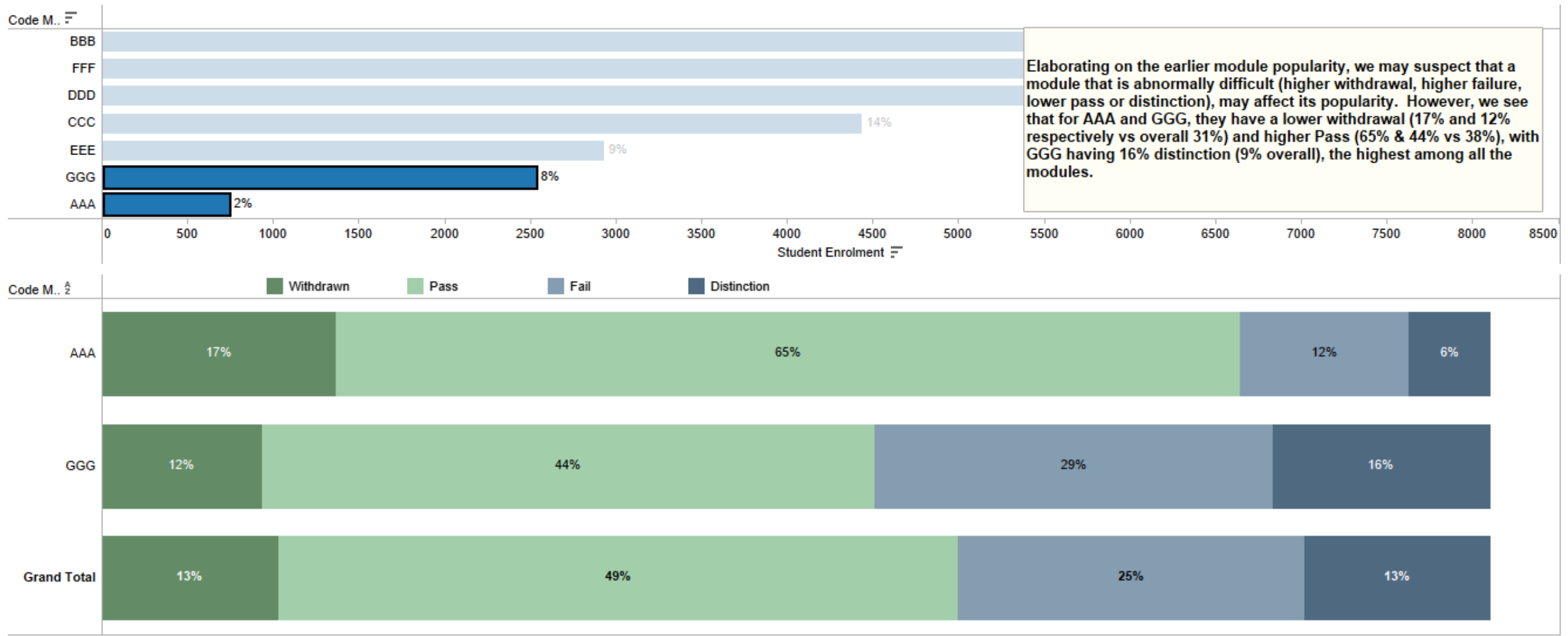


In terms of Module Popularity, BBB and FFF account for 24% each, making them the most popular, while GGG (8%) and AAA (2%) are the lowest. BBB, GGG and AAA are social science courses, hence there is no clear trend that the broad categories of STEM or social science affect student enrolment.

Grades

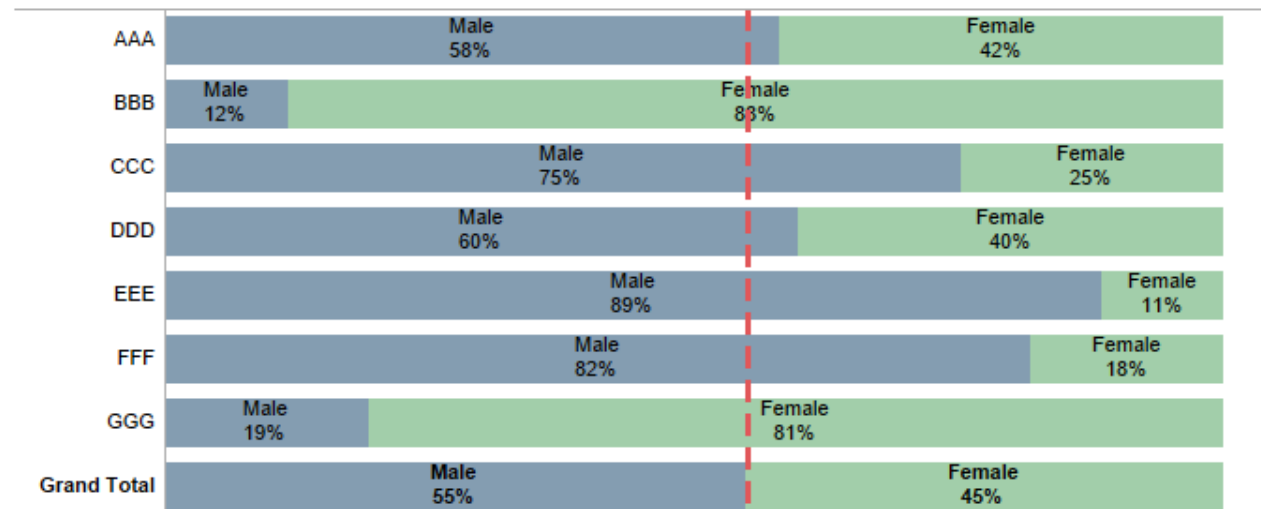
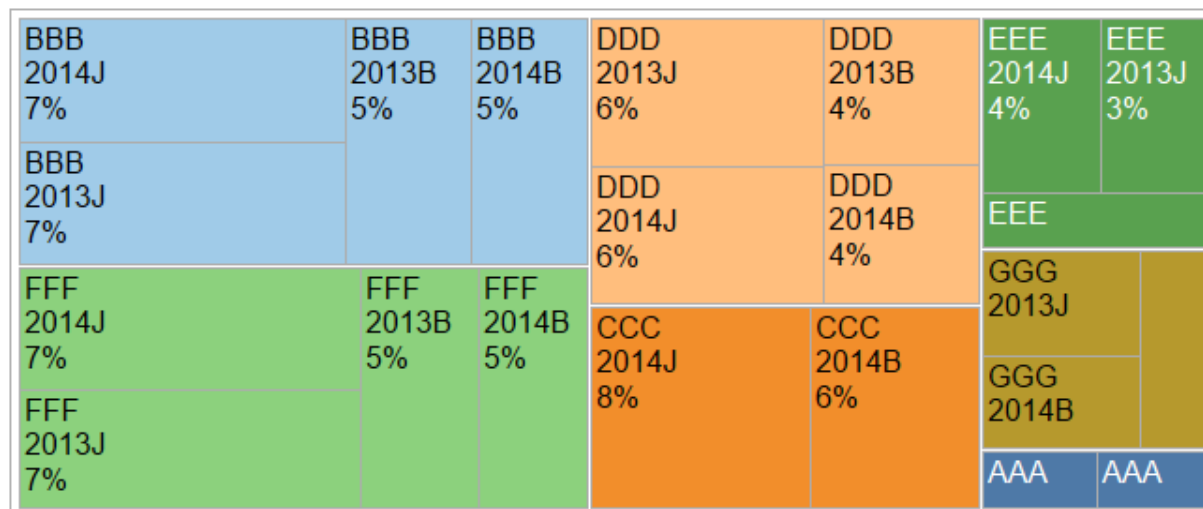


Effect of Grades on Module Popularity

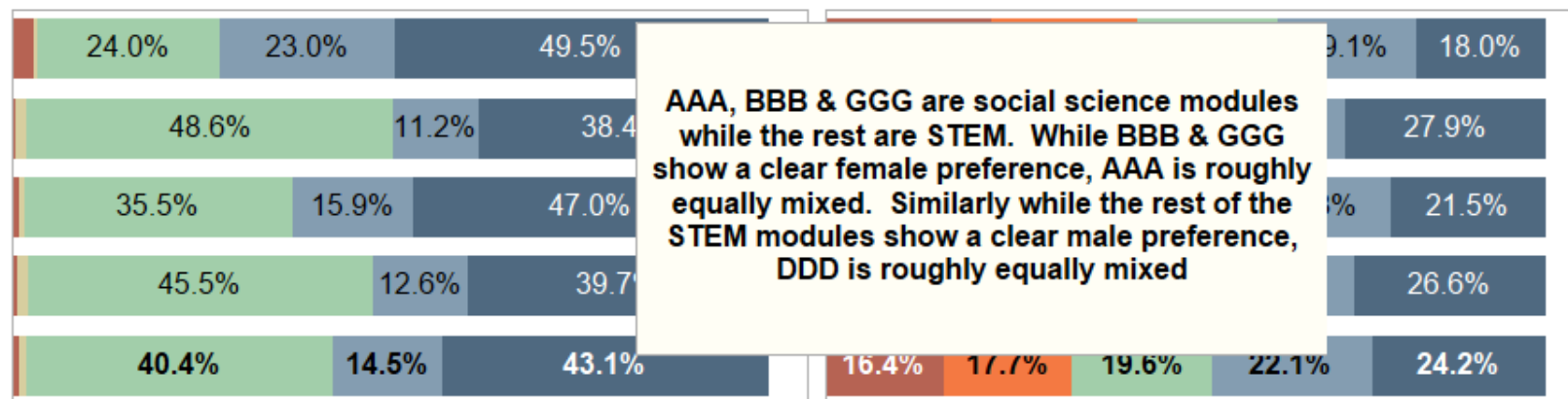
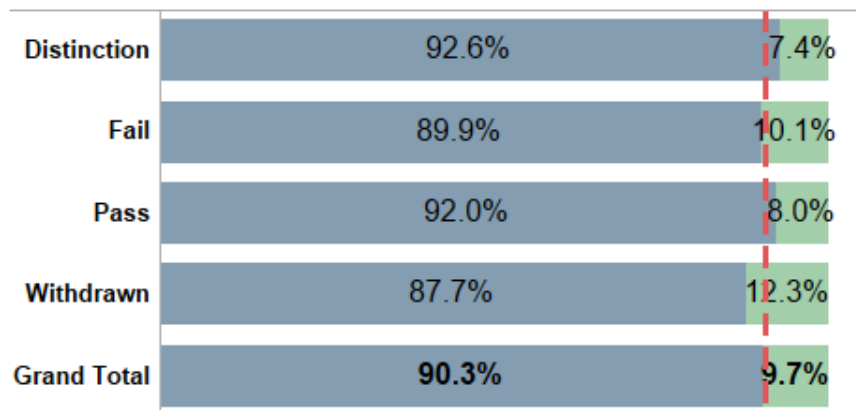


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Modules & Grades



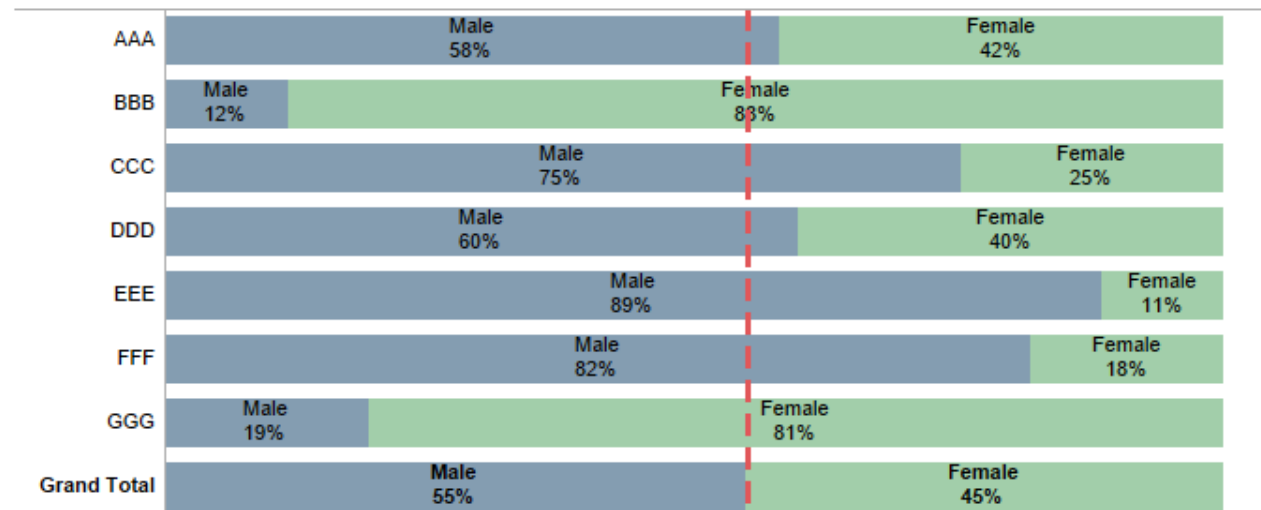
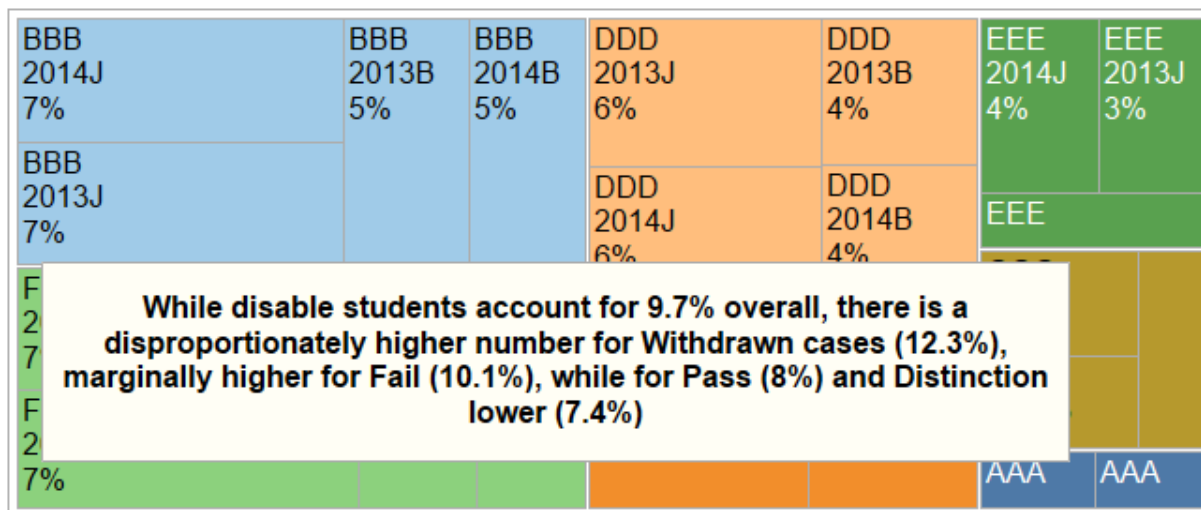
Grades



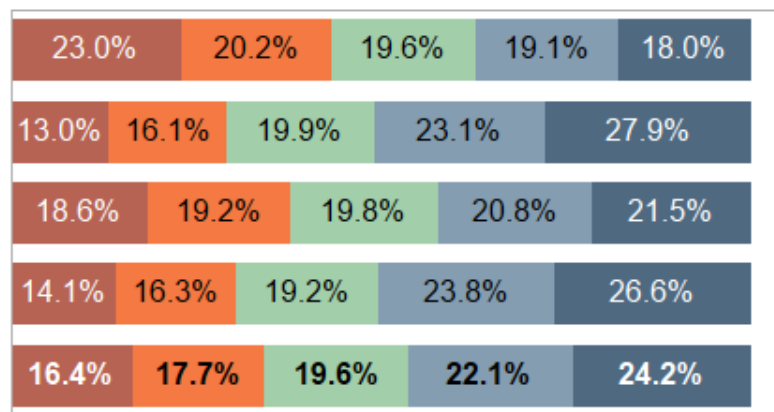
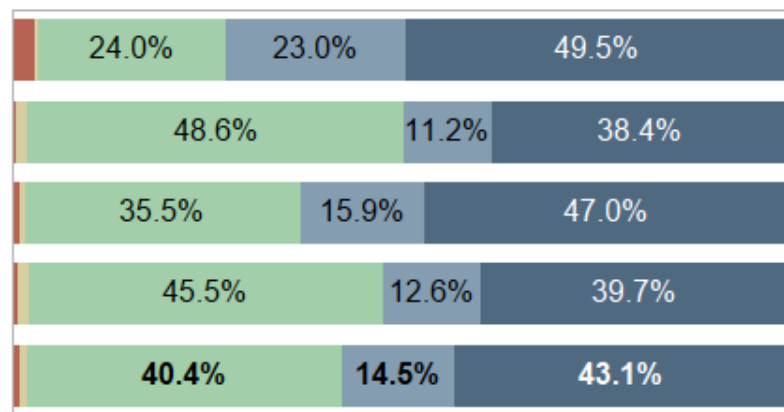
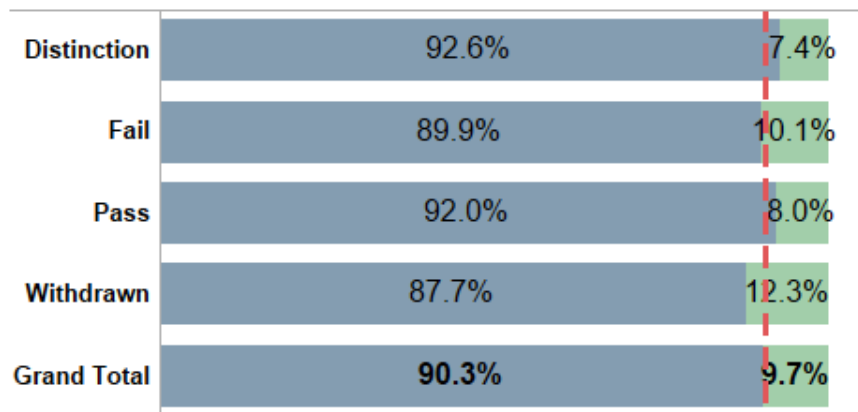
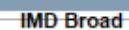
AAA, BBB & GGG are social science modules while the rest are STEM. While BBB & GGG show a clear female preference, AAA is roughly equally mixed. Similarly while the rest of the STEM modules show a clear male preference, DDD is roughly equally mixed

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Modules & Grades

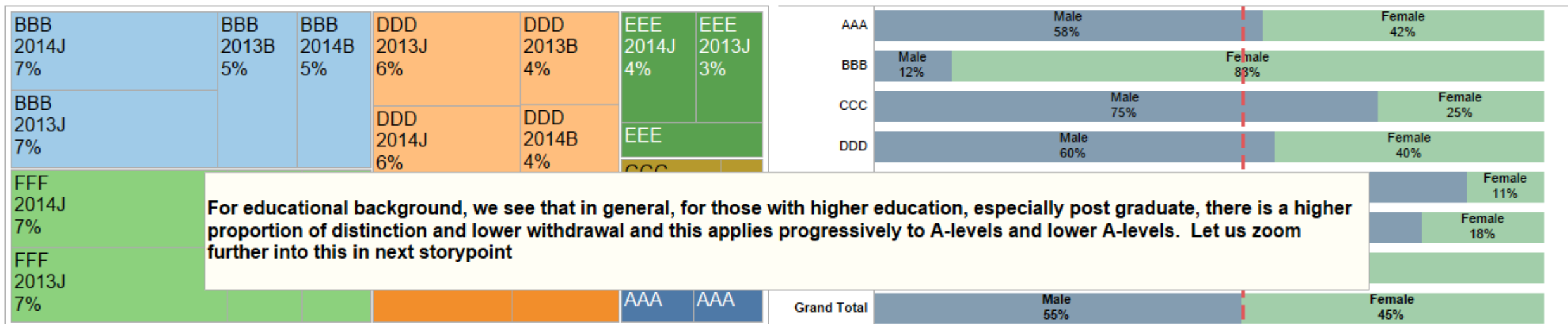


Grades



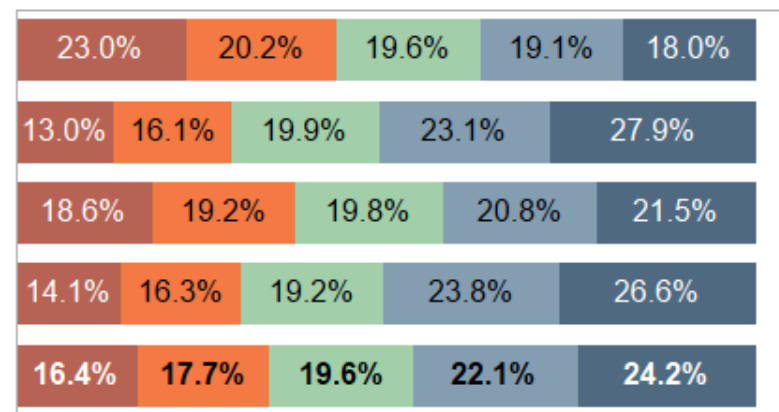
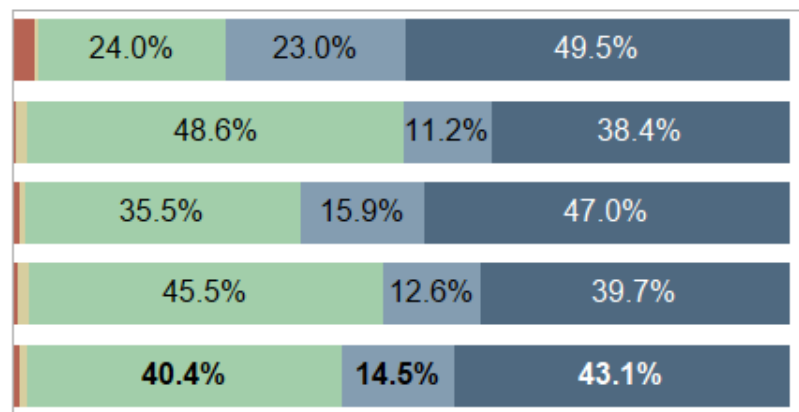
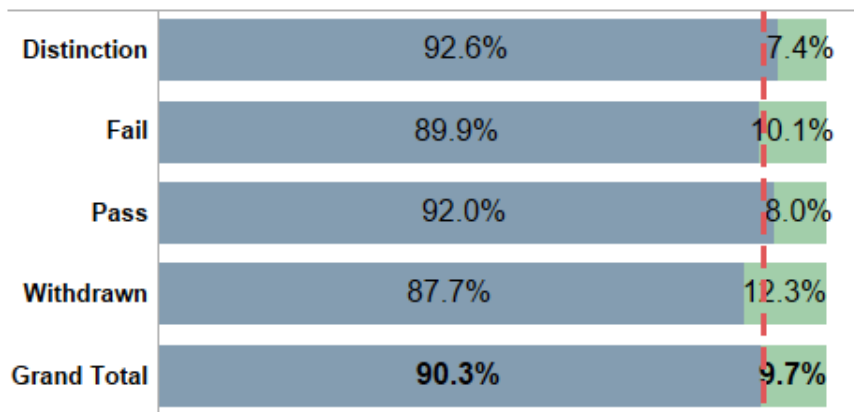
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Modules & Grades

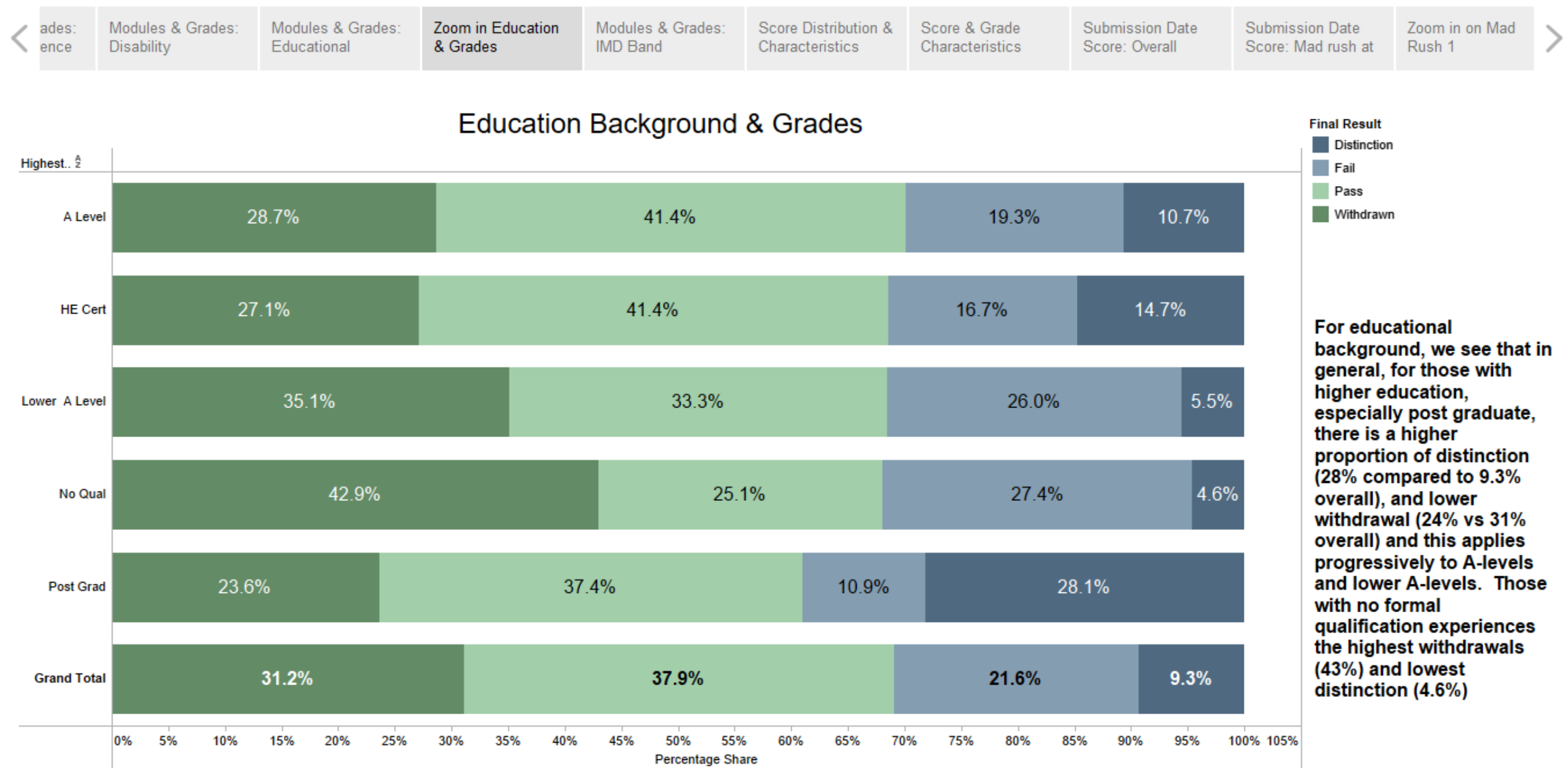


For educational background, we see that in general, for those with higher education, especially post graduate, there is a higher proportion of distinction and lower withdrawal and this applies progressively to A-levels and lower A-levels. Let us zoom further into this in next storypoint

Grades

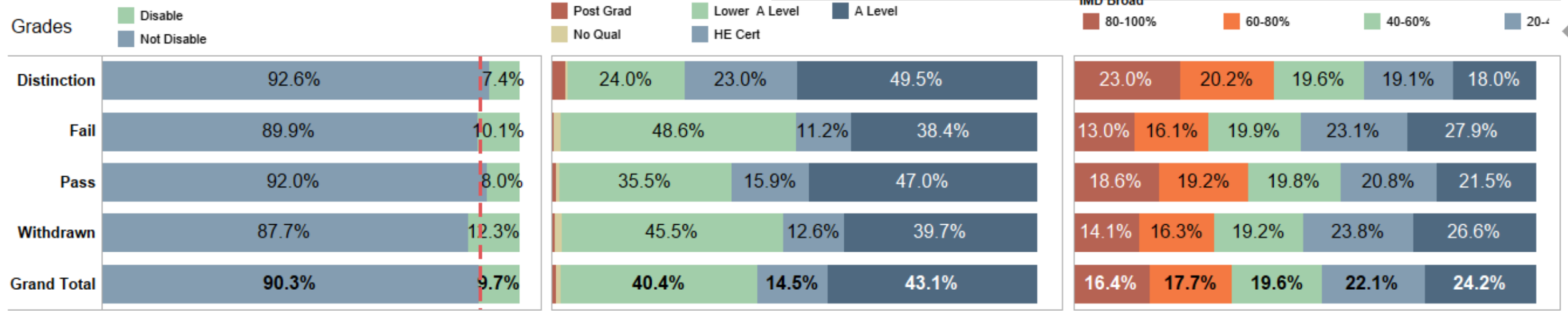
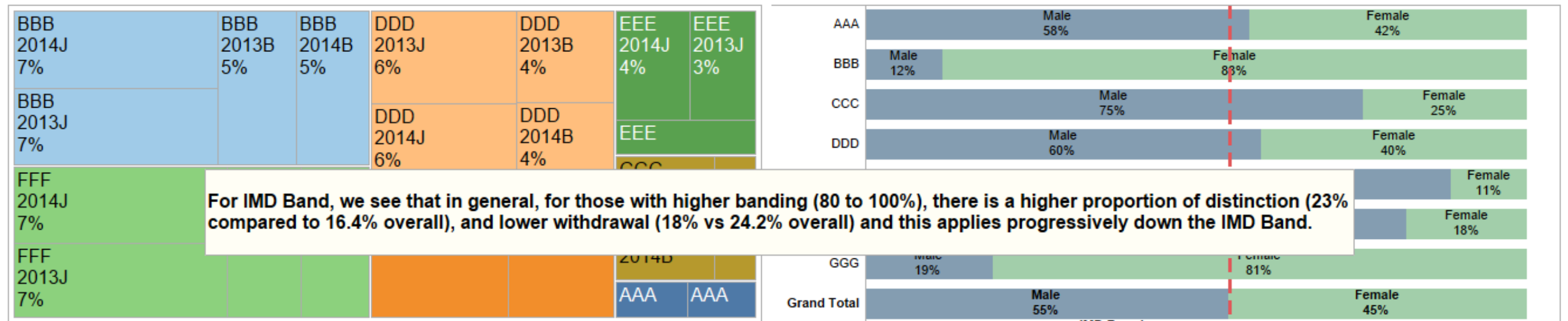


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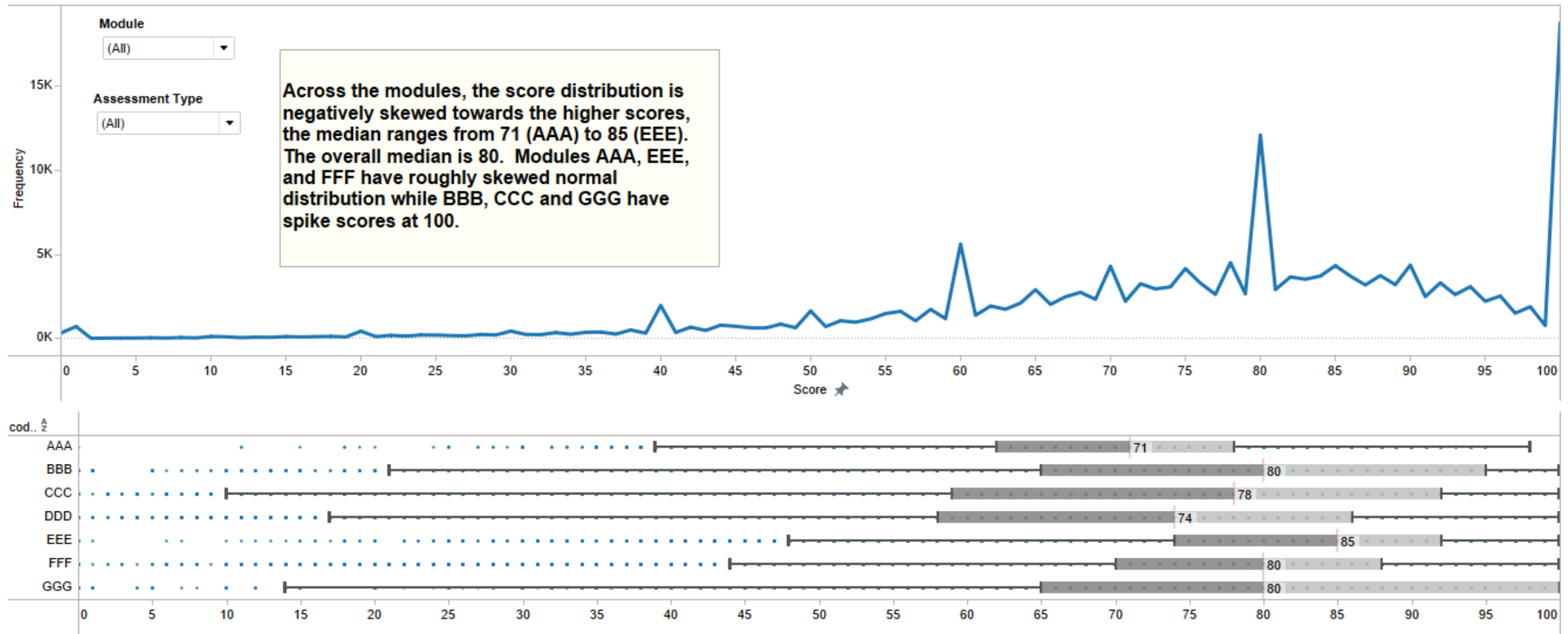


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Modules & Grades



Score Characteristics



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Modules & Grades:
Disability

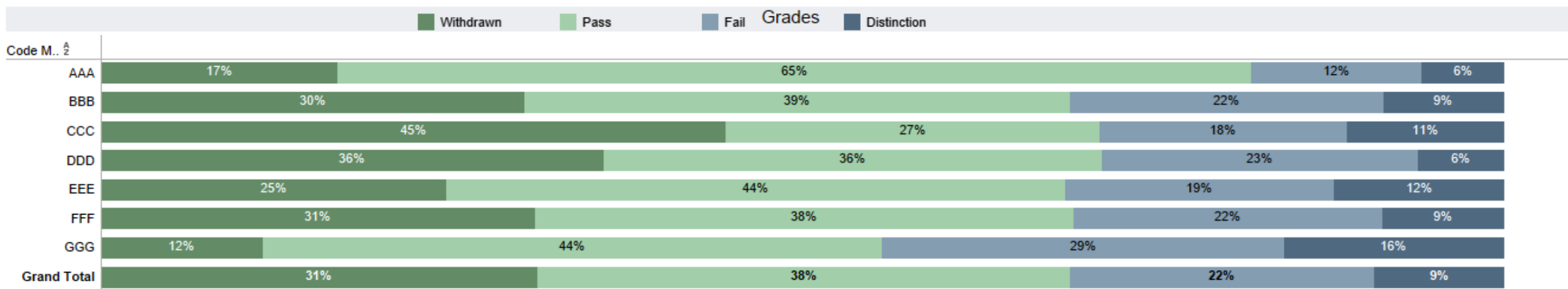
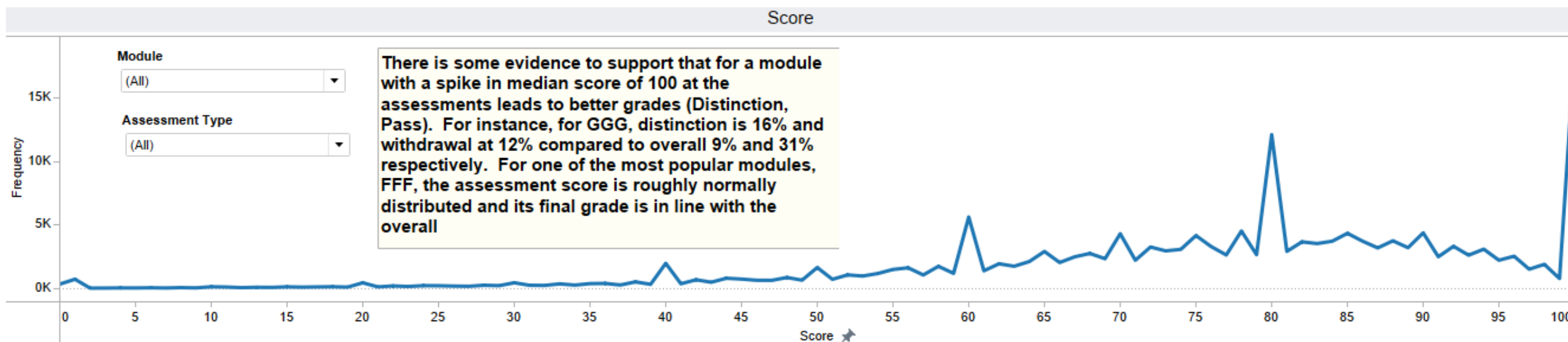
Zoom in Education
& Grades

Score Distribution & Characteristics

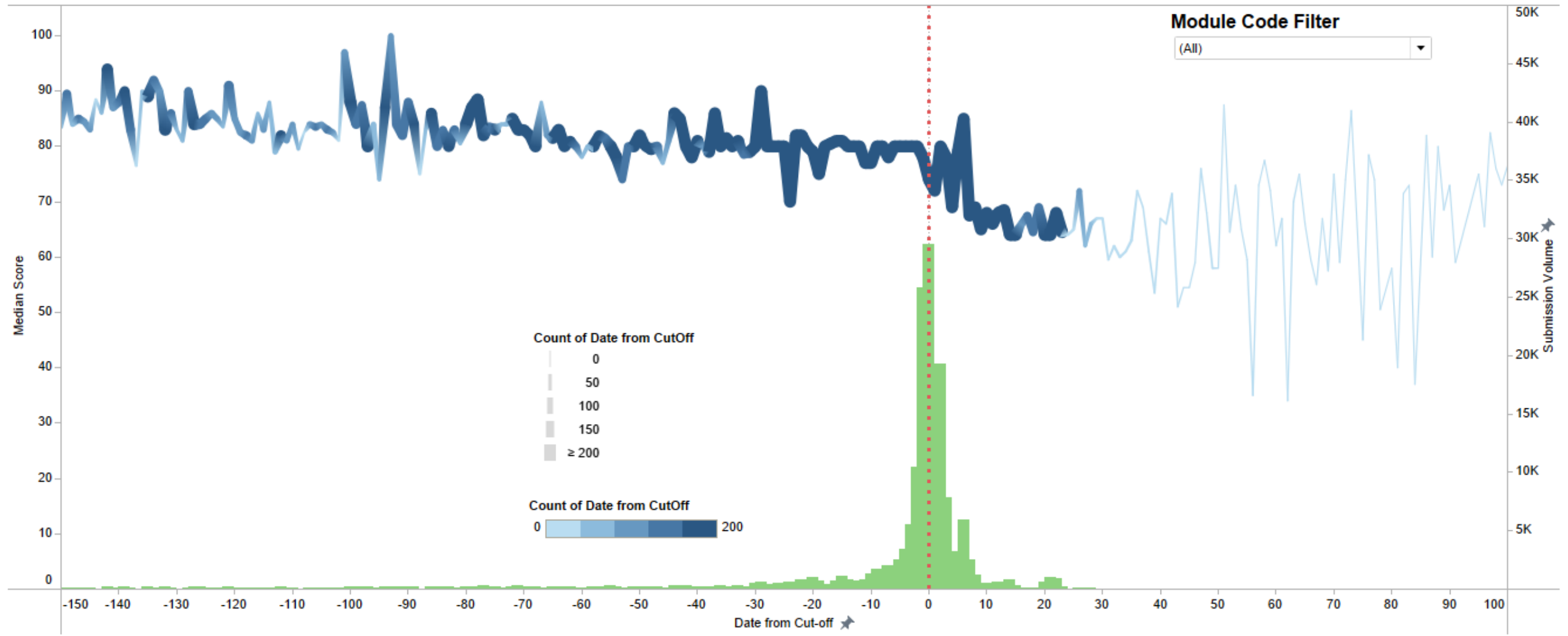
Submission Date
Score: Overall

Zoom in on Mad
Rush 1

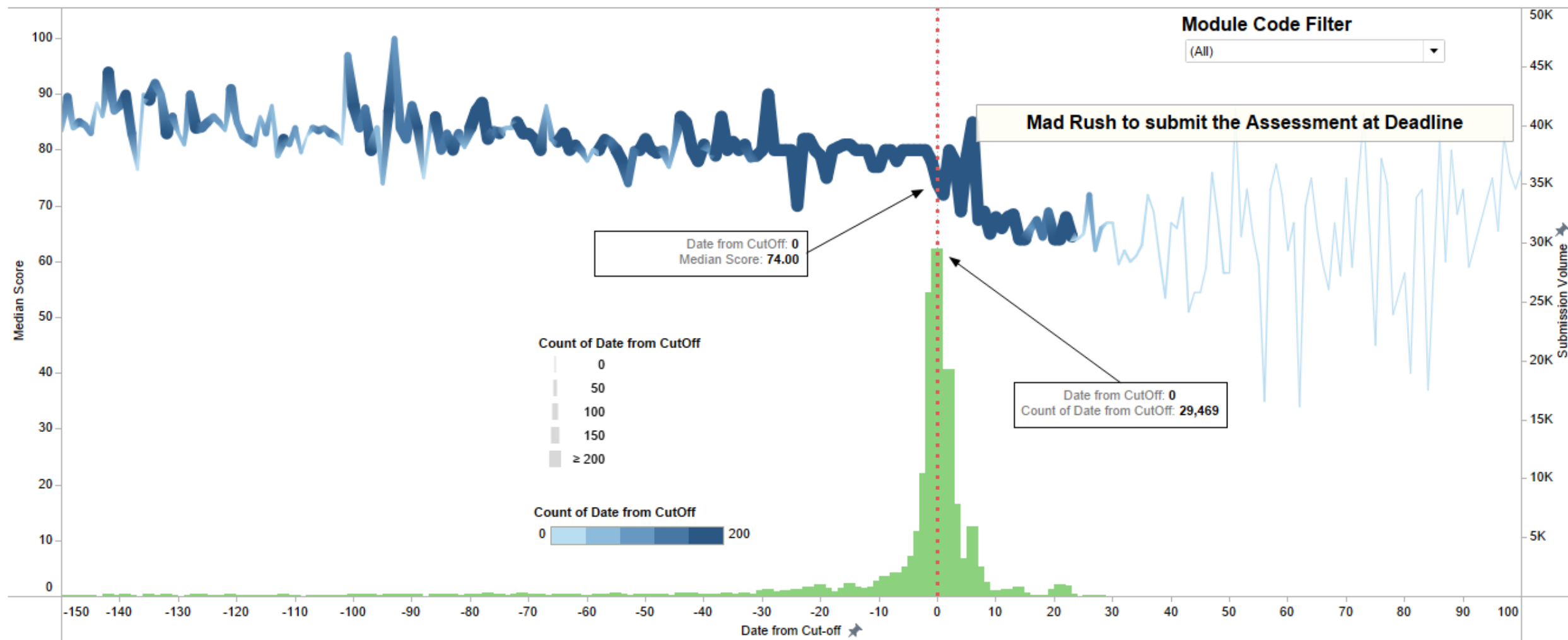
Score & Grade Characteristics



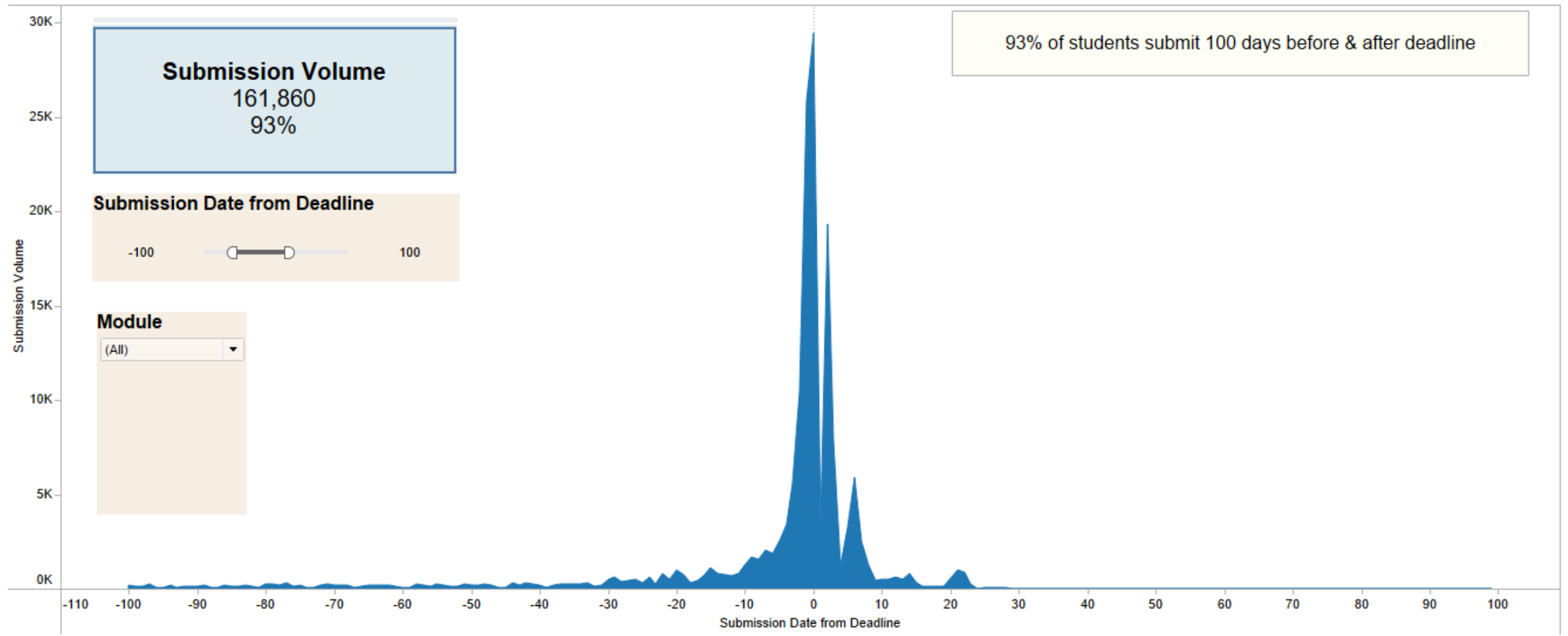
Score vs Submission from Deadline



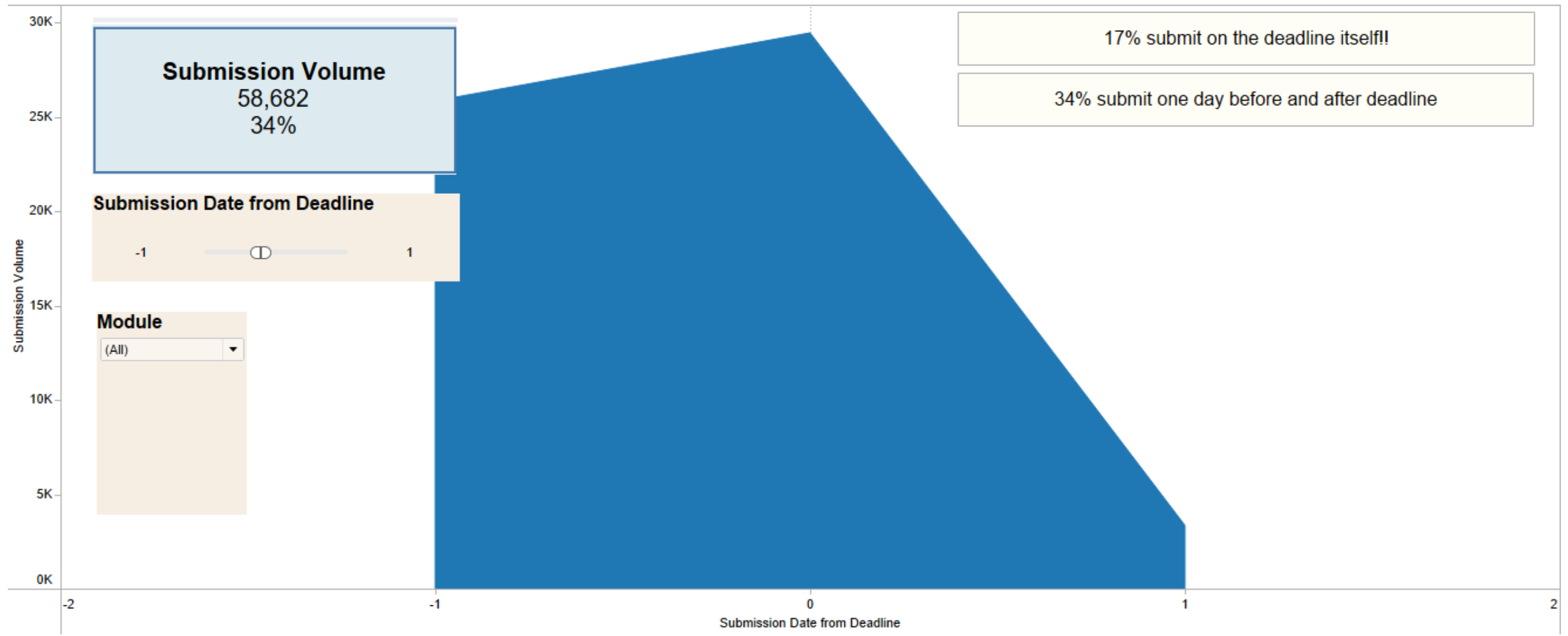
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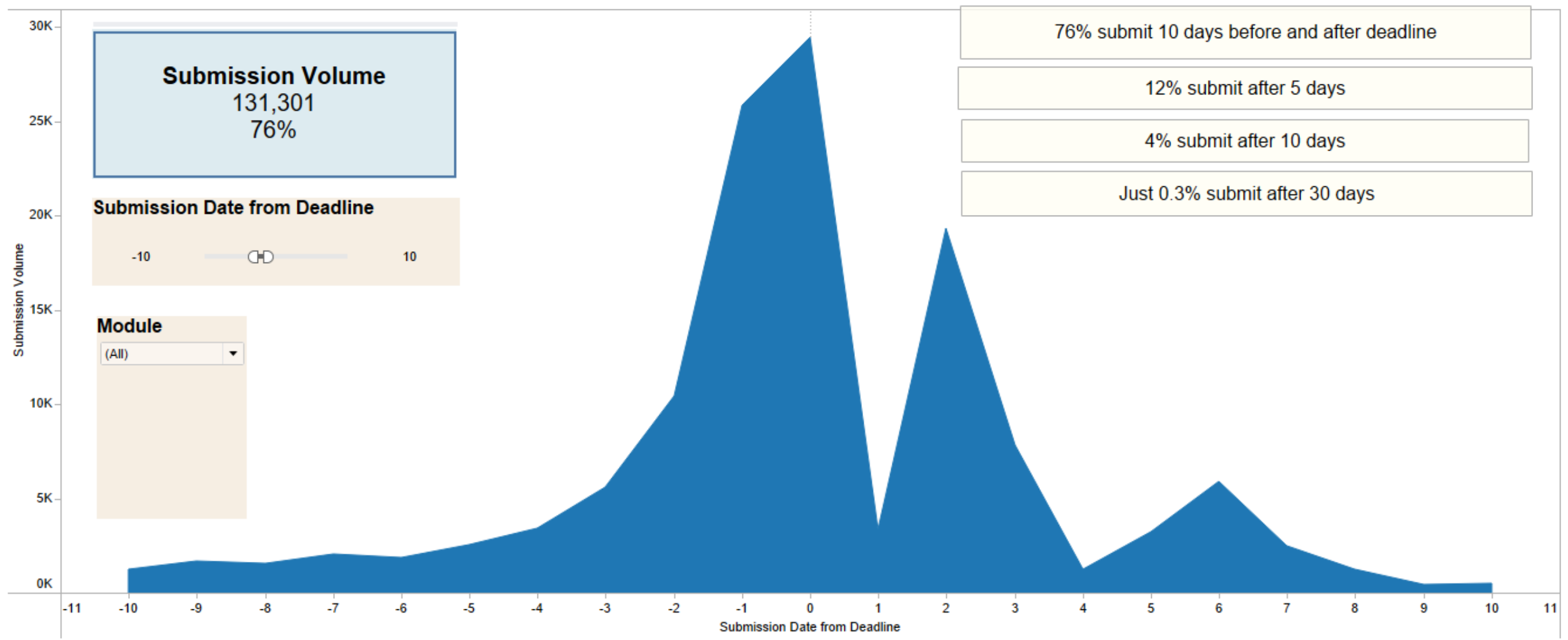
Submission Volume by Date from Deadline



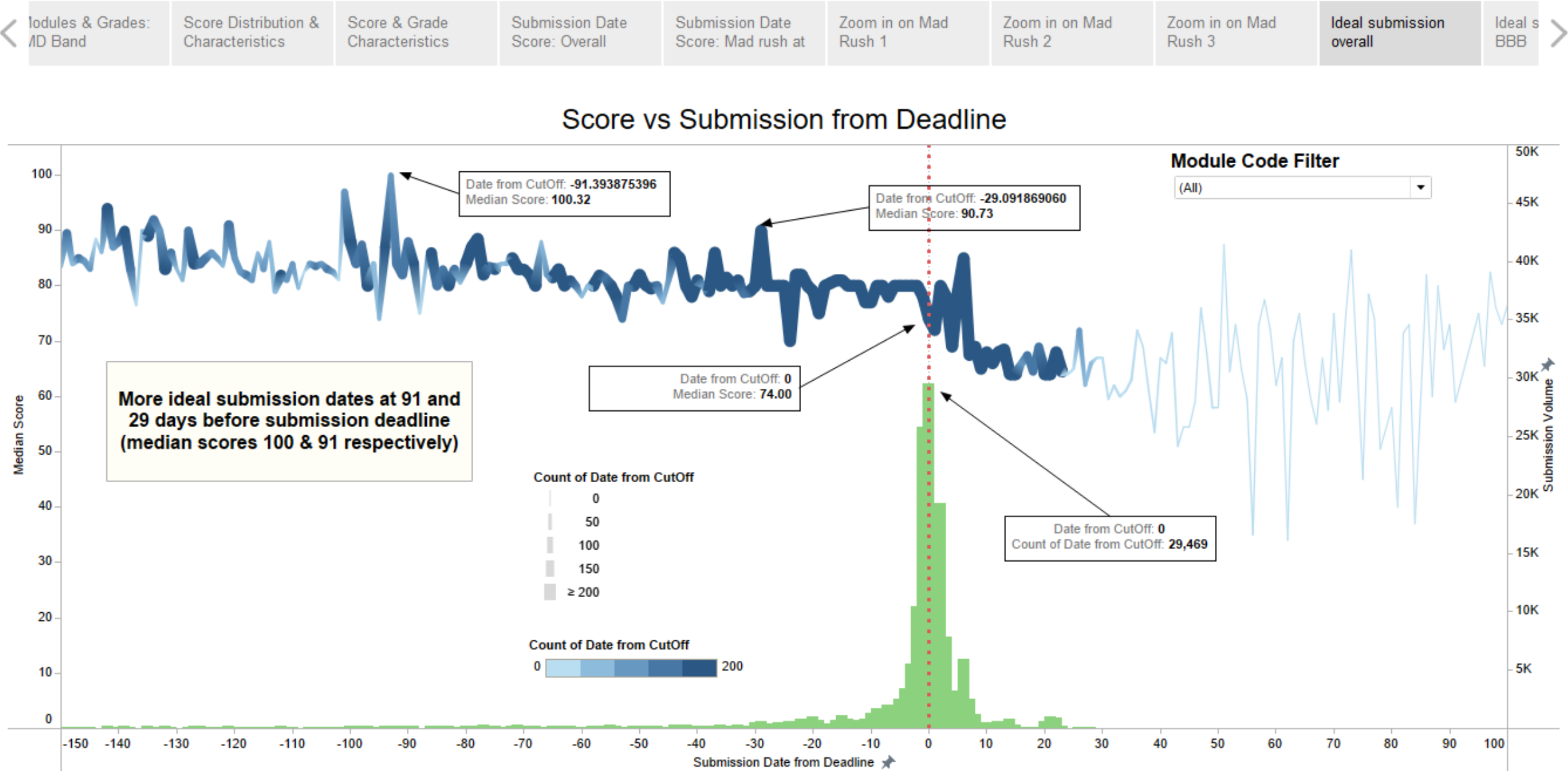
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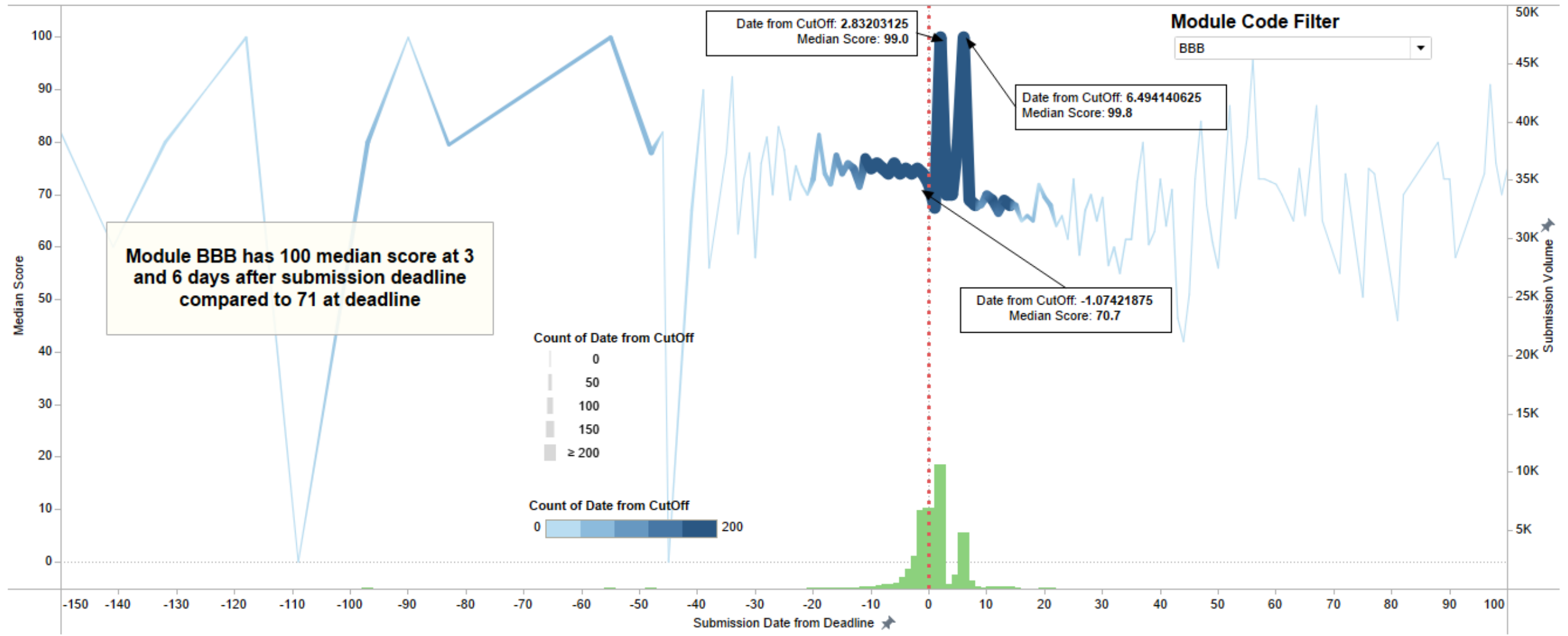
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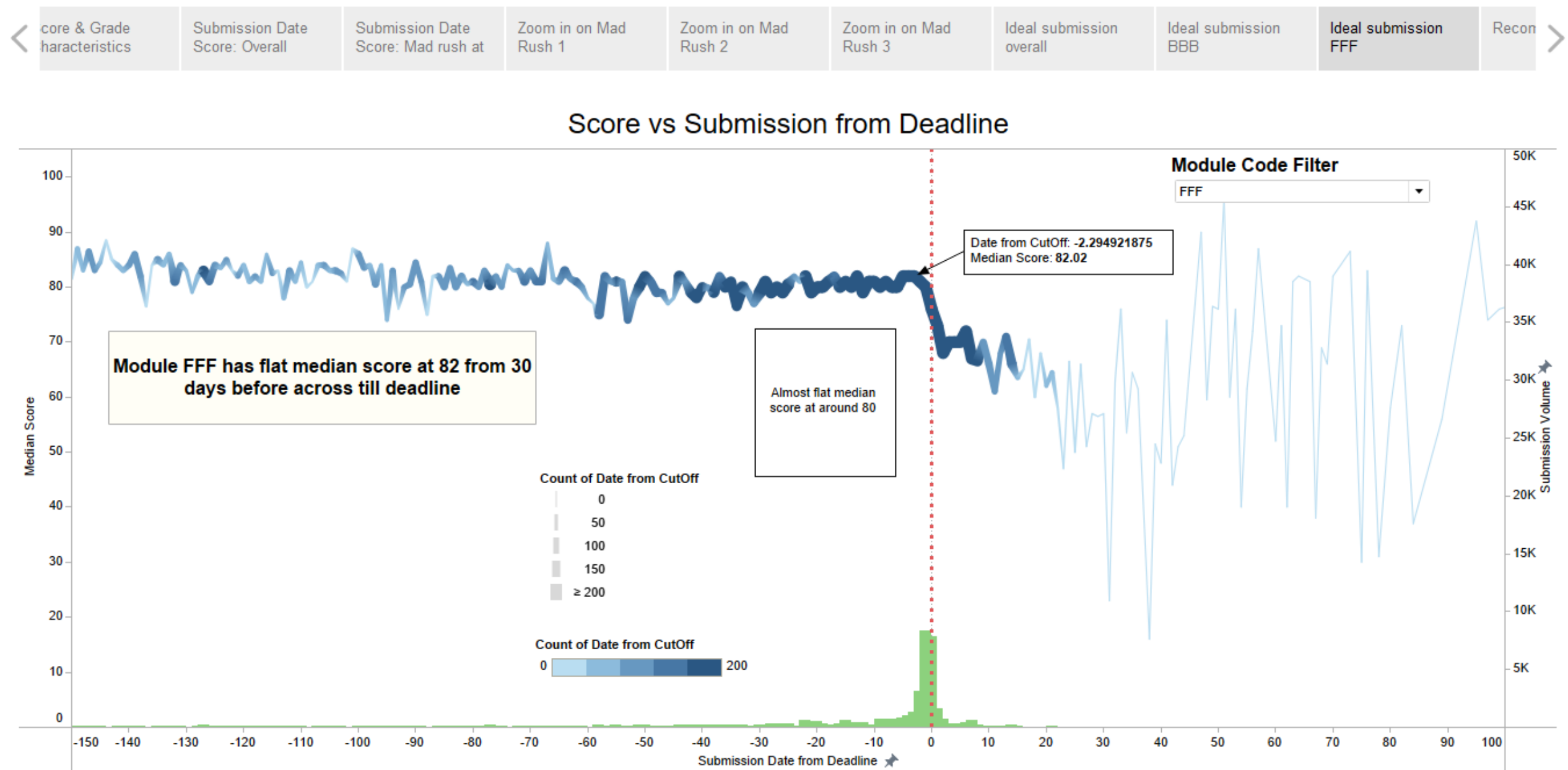
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Score vs Submission from Deadline



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THREE-PRONG TRANSFORMATION FRAMEWORK:

- **Targeted Recruitment.** We see that enrolment is highest at urban centres, regions with fewer educational institution options, among young adults trying to achieve their first degree. Open University's flexible distance learning methodology allow these young working adults to realise their desire of getting a degree. As such, we should actively recruit students based on these demographics.
- **Module Transformation.** We see that there is clear gender preference for certain courses. According to a 2017 UNESCO report, 35% of females are in STEM courses. There is growing evidence that females can study and perform well in STEM courses (see Straits Times article, "Steering girls towards STEM career" on 8 Feb 2021, at Annex). We should also delve deeper into AAA and DDD to see how they bucked
- The assessment scoring should be revised in two areas. One, certain modules/assessments have the largest congregation of scores at 100, which is not really ideal because it did not separate out the better students. A more ideal scoring distribution should be a normal distribution with a median score of about 70 to 80. Two, late submissions long after the deadline are still scored. The recommendation is a step-down score approach, eg late submission within 5 days, 20% discount on the score, late 5 to 10 days, 30%, and so on.
- **Student Empowerment.** We have seen various indicators that predispose students towards less ideal grades and outcome, eg those less educated, disabled and lower IMD banding leading to higher failures and withdrawals. These are vulnerable groups that need additional assistance.

Stephanie Yeo
Senior Correspondent

When mathematics teacher Pranati Bagchi encouraged her daughter, Rimi Chakravarti, to take coding lessons about two years ago, she did not expect the then 14-year-old to return home feeling defeated.

"She told me that she didn't want to continue coding because there were only two girls and 20 boys in the class. She did not feel like she belonged there," says Mrs Bagchi, 43.

Rimi's experience echoed what her mother had noticed during lessons as well.

"As a teacher, I have noticed that girls do not show as much enthusiasm as the boys in Stem (science, technology, engineering and mathematics) subjects, even if they get high marks in school. Their interest keeps dropping as they get older."

As the world celebrates the International Day of Women and Girls in Science on Thursday, the fact remains that there is a huge gender gap in Stem fields.

Women make up only 35 per cent of higher education students studying in Stem fields worldwide, a 2017 United Nations Educational, Scientific and Cultural Organisation report found, with the lowest enrolment in subjects such as information, communication and technology, and engineering.

Locally, about a third of engineering and IT undergraduates are female, and Infocomm Media Development Authority figures reveal

Steering girls towards Stem careers

Parents can play an active role in encouraging their daughters to pursue their interest in science, technology, engineering and mathematics, a sector with a huge gender gap

