Using Blog-Facilitated Discussions to Enhance Student-Directed Learning

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BRODY SCHOOL OF MEDICINE
7th Annual Medical Education Day

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Disclosure - XComP Analytics Inc.

Collaborative Team Members

- Mark Clinkscales, MA, Discussion Platforms Specialist, ECU SoDM

- Yammer Inc. Component of Microsoft
- Qualtrics Inc.
- IBM

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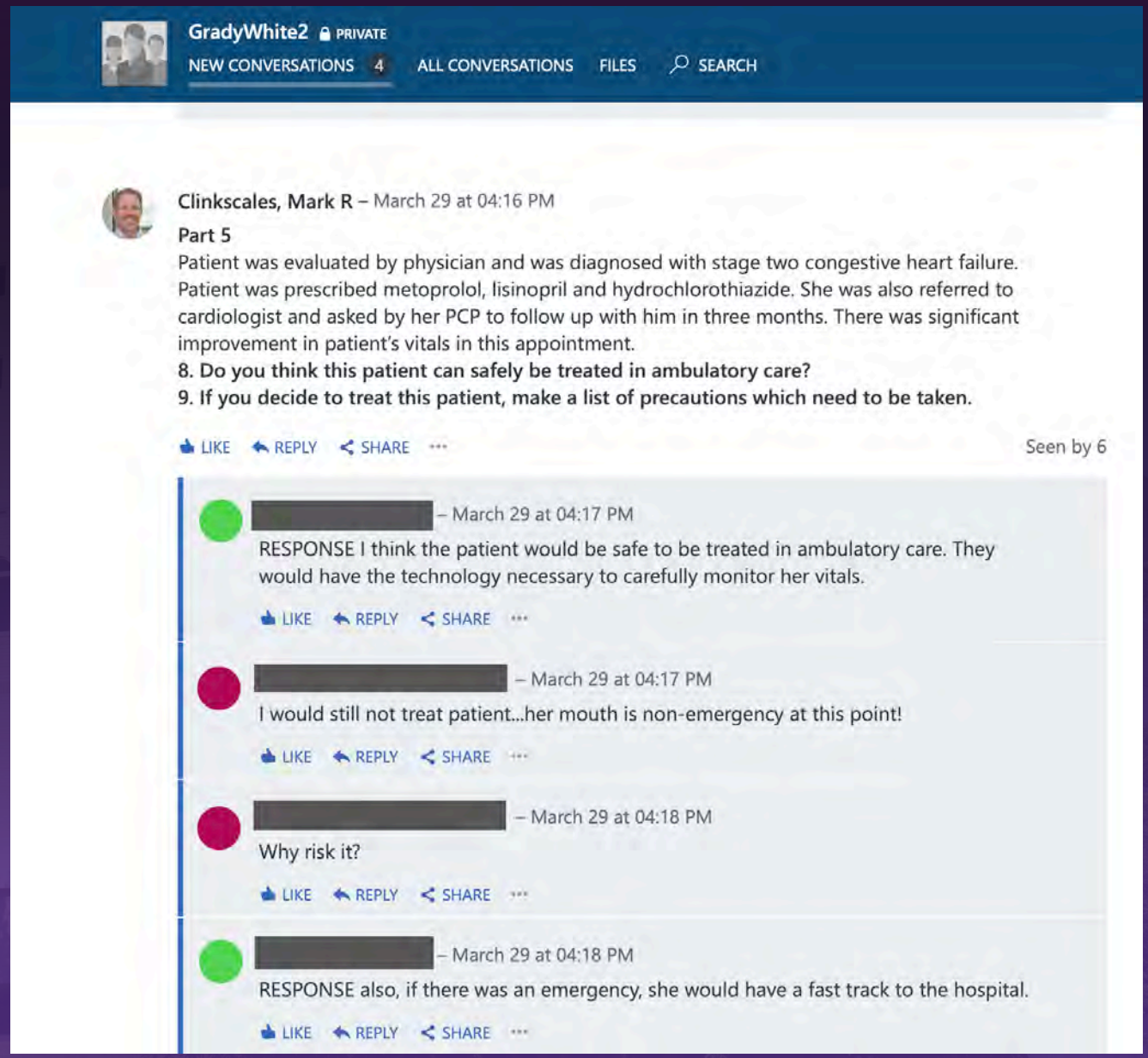
Rationale/Need

- Commission on Dental Accreditation requires Self-Directed Learning as part of the curricular instruction.
  - “Faculty must serve as role models demonstrating that they understand and value scientific discovery and life-long learning in their daily interactions with students, patients and colleagues.
  - Educational programs must depart from teacher-centered and discipline-focused pedagogy to enable and support the students’ evolution as independent learners actively engaged in their curricula using strategies that foster integrated approaches to learning.”
- Dental education focuses on problem-based and case-based learning to fulfill this requirement.
- Blogs made PBL/CBL scalable
  - Since the early 1990s, PBL engages small group discussions on any topic, while CBL presents progressively disclosed case scenarios to prompt discussion.
  - Since the early 2000s, micro-blog technologies have been used to increase the scale and integration of PBL/CBL into the didactic instruction.
  - In 2008, the author created a technology for grading participation in these discussions - thus, increasing the use of the technique.

Methods/Description

- Yammer (micro-blog) was used to subset the students into groups of 5-6 members, and to facilitate discussions using threads and posts.

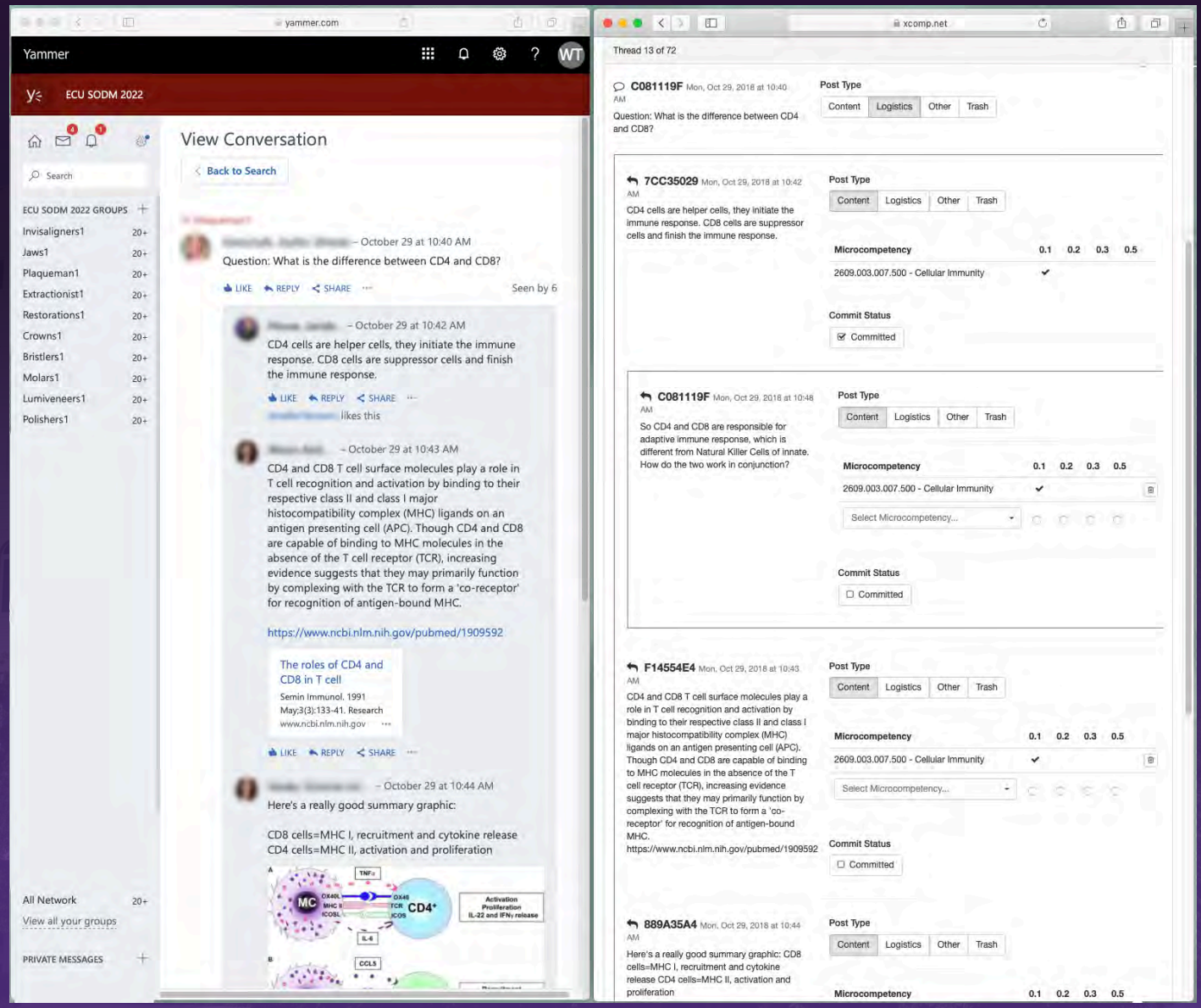


Methods/Description

- Within the grading system, each post is categorized into 4 types
  - Content posts - add research to the thread
    - are secondarily tagged with a microcompetency code which maps the post to the program competencies, and is given a relative value (between 0.1 and 1) based on the quality and quantity of the content.
  - Logistics posts - are used to identify questions and leader direction.
  - Other posts - track positive social interactions - support and praise for the group.
  - Trash posts - eliminate error posts from grading. The group score is based on a combination of individual and group participation.

Methods/Description

- Yammer (micro-blog) was used to subset the students into groups of 5-6 members, and to facilitate discussions using threads and posts.
- Each week, the data from these discussions was exported into a comma-separated values file which is ingested into a custom grading system.



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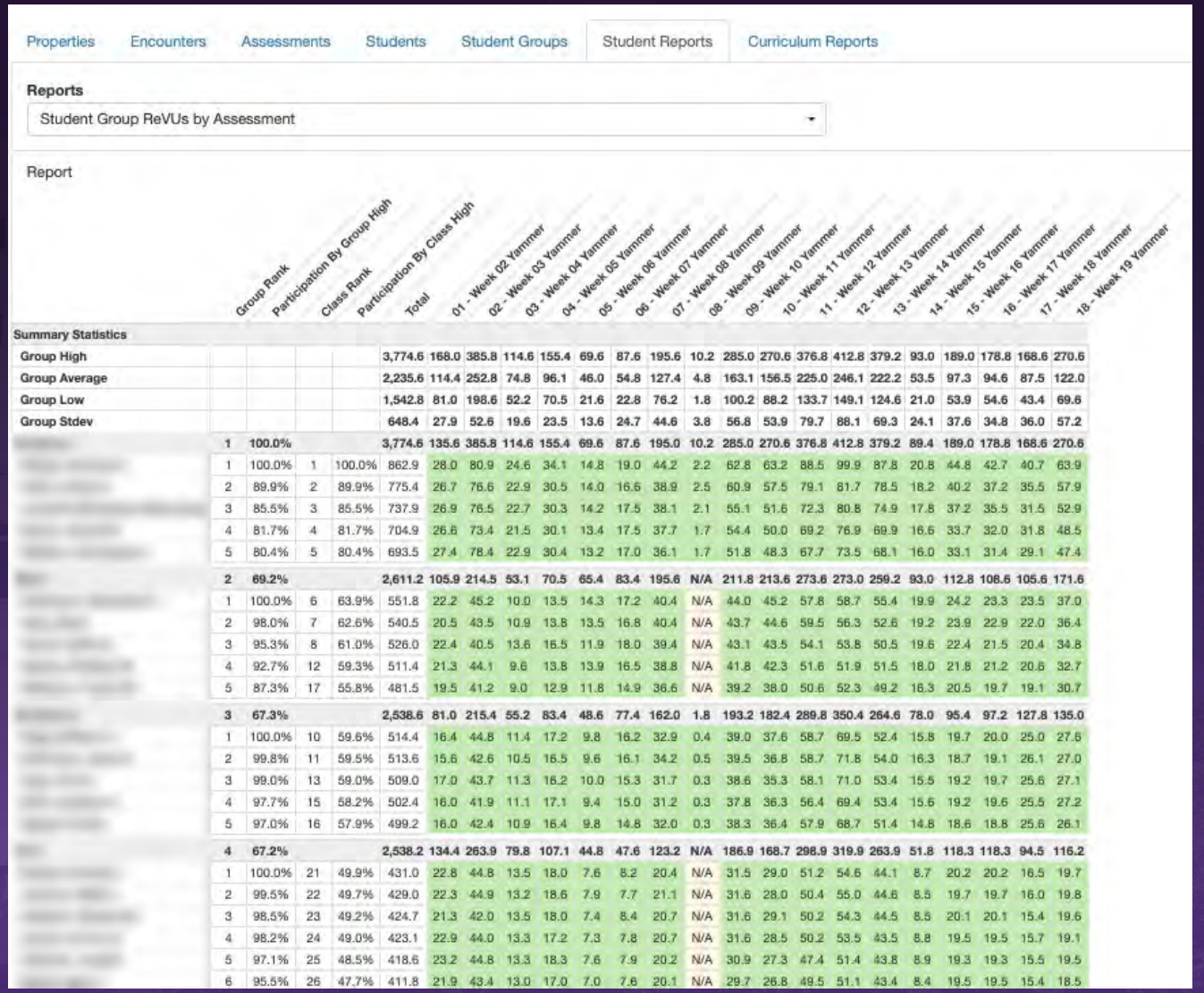
Methods/Description

- Group reports
  - Ranks student groups
  - Ranks students within the groups
  - Ranks the students in the class
- Live data
  - Students can see their rankings as each week passes
- Counts as part of student "honors"
  - Have to be in the top of the class in Yammer, Clinic and Didactics to graduate with honors.



Properties | Encounters | Assessments | Students | Student Groups | Student Reports | Curriculum Reports

Reports

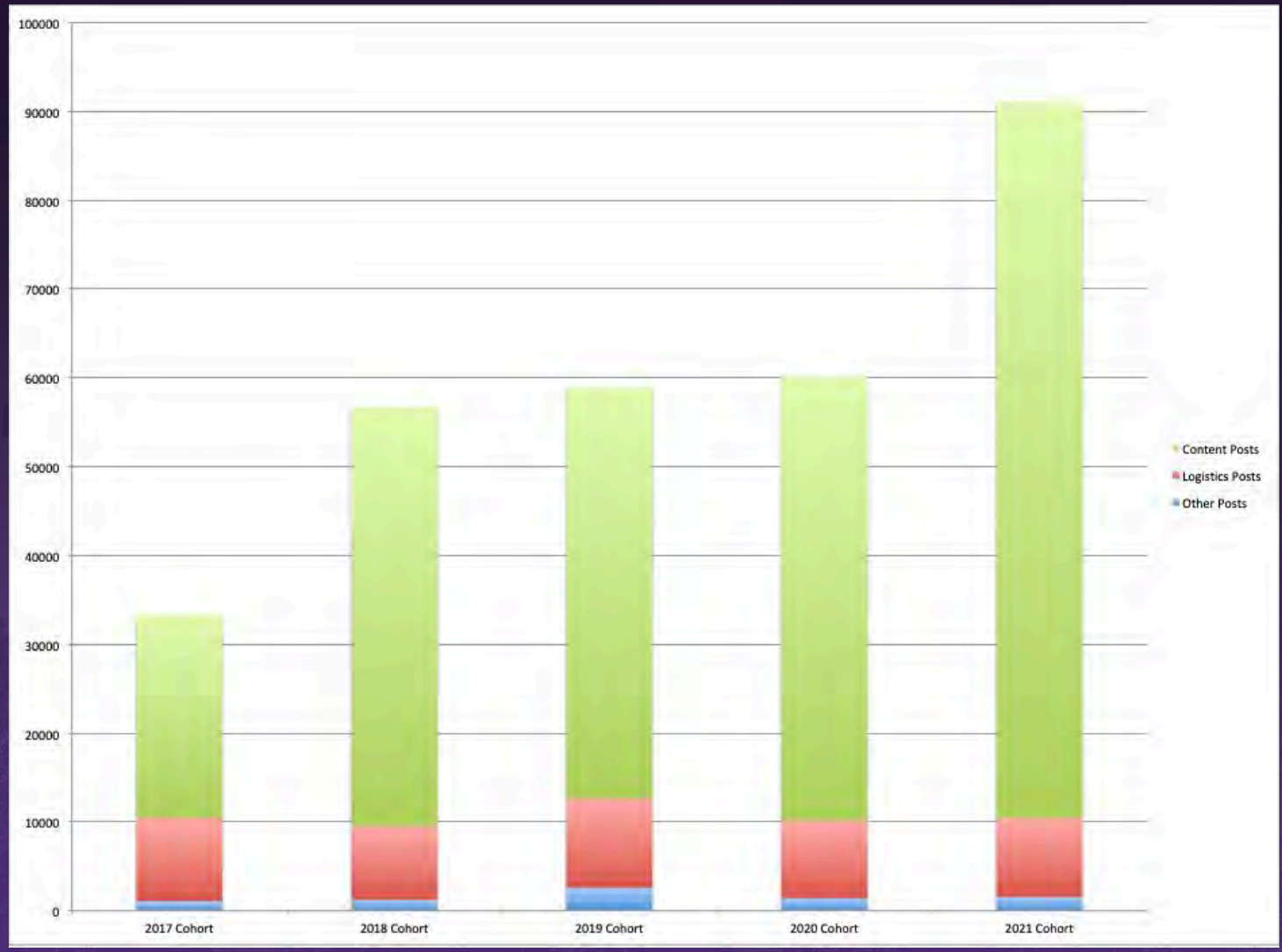
Student Group ReVUs by Assessment

Report

			Group Rank		Participation By Group High		Class Rank		Participation By Class High	Total	01 - Week 02 Yammer	02 - Week 03 Yammer	03 - Week 04 Yammer	04 - Week 05 Yammer	05 - Week 06 Yammer	06 - Week 07 Yammer	07 - Week 08 Yammer	08 - Week 09 Yammer	09 - Week 10 Yammer	10 - Week 11 Yammer	11 - Week 12 Yammer	12 - Week 13 Yammer	13 - Week 14 Yammer	14 - Week 15 Yammer	15 - Week 16 Yammer	16 - Week 17 Yammer	17 - Week 18 Yammer	18 - Week 19 Yammer
Summary Statistics																												
Group High										3,774.6	168.0	385.8	114.6	155.4	69.6	87.6	195.6	10.2	285.0	270.6	376.8	412.8	379.2	93.0	189.0	178.8	168.6	270.6
Group Average										2,235.6	114.4	252.8	74.8	96.1	46.0	54.8	127.4	4.8	163.1	156.5	225.0	246.1	222.2	53.5	97.3	94.6	87.5	122.0
Group Low										1,542.8	81.0	198.6	52.2	70.5	21.6	22.8	76.2	1.8	100.2	88.2	133.7	149.1	124.6	21.0	53.9	54.6	43.4	69.6
Group Stdev										648.4	27.9	52.6	19.6	23.5	13.6	24.7	44.6	3.8	56.8	53.9	79.7	88.1	69.3	24.1	37.6	34.8	36.0	57.2
[redacted]	1	100.0%								3,774.6	135.6	385.8	114.6	155.4	69.6	87.6	195.0	10.2	285.0	270.6	376.8	412.8	379.2	89.4	189.0	178.8	168.6	270.6
[redacted]	1	100.0%	1	100.0%						862.9	28.0	80.9	24.6	34.1	14.8	19.0	44.2	2.2	62.8	63.2	88.5	99.9	87.8	20.8	44.8	42.7	40.7	63.9
[redacted]	2	89.9%	2	89.9%						775.4	26.7	76.6	22.9	30.5	14.0	16.6	38.9	2.5	60.9	57.5	79.1	81.7	78.5	18.2	40.2	37.2	35.5	57.9
[redacted]	3	85.5%	3	85.5%						737.9	26.9	76.5	22.7	30.3	14.2	17.5	38.1	2.1	55.1	51.6	72.3	80.8	74.9	17.8	37.2	35.5	31.5	52.9
[redacted]	4	81.7%	4	81.7%						704.9	26.6	73.4	21.5	30.1	13.4	17.5	37.7	1.7	54.4	50.0	69.2	76.9	69.9	16.6	33.7	32.0	31.8	48.5
[redacted]	5	80.4%	5	80.4%						693.5	27.4	78.4	22.9	30.4	13.2	17.0	36.1	1.7	51.8	48.3	67.7	73.5	68.1	16.0	33.1	31.4	29.1	47.4
[redacted]	2	69.2%								2,611.2	105.9	214.5	53.1	70.5	65.4	83.4	195.6	N/A	211.8	213.6	273.6	273.0	259.2	93.0	112.8	108.6	105.6	171.6
[redacted]	1	100.0%	6	63.9%						551.8	22.2	45.2	10.0	13.5	14.3	17.2	40.4	N/A	44.0	45.2	57.8	58.7	55.4	19.9	24.2	23.3	23.5	37.0
[redacted]	2	98.0%	7	62.6%						540.5	20.5	43.5	10.9	13.8	13.5	16.8	40.4	N/A	43.7	44.6	59.5	56.3	52.6	19.2	23.9	22.9	22.0	36.4
[redacted]	3	95.3%	8	61.0%						526.0	22.4	40.5	13.6	16.5	11.9	18.0	39.4	N/A	43.1	43.5	54.1	53.8	50.5	19.6	22.4	21.5	20.4	34.8
[redacted]	4	92.7%	12	59.3%						511.4	21.3	44.1	9.6	13.8	13.9	16.5	38.8	N/A	41.8	42.3	51.6	51.9	51.5	18.0	21.8	21.2	20.8	32.7
[redacted]	5	87.3%	17	55.8%						481.5	19.5	41.2	9.0	12.9	11.8	14.9	36.6	N/A	39.2	38.0	50.6	52.3	49.2	16.3	20.5	19.7	19.1	30.7
[redacted]	3	67.3%								2,538.6	81.0	215.4	55.2	83.4	48.6	77.4	162.0	1.8	193.2	182.4	289.8	350.4	264.6	78.0	95.4	97.2	127.8	135.0
[redacted]	1	100.0%	10	59.6%						514.4	16.4	44.8	11.4	17.2	9.8	16.2	32.9	0.4	39.0	37.6	58.7	69.5	52.4	15.8	19.7	20.0	25.0	27.6
[redacted]	2	99.8%	11	59.5%						513.6	15.6	42.6	10.5	16.5	9.6	16.1	34.2	0.5	39.5	36.8	58.7	71.8	54.0	16.3	18.7	19.1	26.1	27.0
[redacted]	3	99.0%	13	59.0%						509.0	17.0	43.7	11.3	16.2	10.0	15.3	31.7	0.3	38.6	35.3	58.1	71.0	53.4	15.5	19.2	19.7	25.6	27.1
[redacted]	4	97.7%	15	58.2%						502.4	16.0	41.9	11.1	17.1	9.4	15.0	31.2	0.3	37.8	36.3	56.4	69.4	53.4	15.6	19.2	19.6	25.5	27.2
[redacted]	5	97.0%	16	57.9%						499.2	16.0	42.4	10.9	16.4	9.8	14.8	32.0	0.3	38.3	36.4	57.9	68.7	51.4	14.8	18.6	18.8	25.6	26.1
[redacted]	4	67.2%								2,538.2	134.4	263.9	79.8	107.1	44.8	47.6	123.2	N/A	186.9	168.7	298.9	319.9	263.9	51.8	118.3	118.3	94.5	116.2
[redacted]	1	100.0%	21	49.9%						431.0	22.8	44.8	13.5	18.0	7.6	8.2	20.4	N/A	31.5	29.0	51.2	54.6	44.1	8.7	20.2	20.2	16.5	19.7
[redacted]	2	99.5%	22	49.7%						429.0	22.3	44.9	13.2	18.6	7.9	7.7	21.1	N/A	31.6	28.0	50.4	55.0	44.6	8.5	19.7	19.7	16.0	19.8
[redacted]	3	98.5%	23	49.2%						424.7	21.3	42.0	13.5	18.0	7.4	8.4	20.7	N/A	31.6	29.1	50.2	54.3	44.5	8.5	20.1	20.1	15.4	19.6
[redacted]	4	98.2%	24	49.0%						423.1	22.9	44.0	13.3	17.2	7.3	7.8	20.7	N/A	31.6	28.5	50.2	53.5	43.5	8.8	19.5	19.5	15.7	19.1
[redacted]	5	97.1%	25	48.5%						418.6	23.2	44.8	13.3	18.3	7.6	7.9	20.2	N/A	30.9	27.3	47.4	51.4	43.8	8.9	19.3	19.3	15.5	19.5
[redacted]	6	95.5%	26	47.7%						411.8	21.9	43.4	13.0	17.0	7.0	7.6	20.1	N/A	29.7	26.8	49.5	51.1	43.4	8.4	19.5	19.5	15.4	18.5

Results

- Points and Posts:
- 2013 (2017):
  - Student average points: 349.3
  - Student average content posts: 485.5
- 2014 (2018):
  - Student average points: 347.5
  - Student average content posts: 1,372
- 2015 (2019):
  - Student average points: 665.3
  - Student average content posts: 2,046
- 2016 (2020):
  - Student average points: 682.0
  - Student average content posts: 2,273
- 2017 (2021):
  - Student average points: 1,000.10
  - Student average content posts: 3,582



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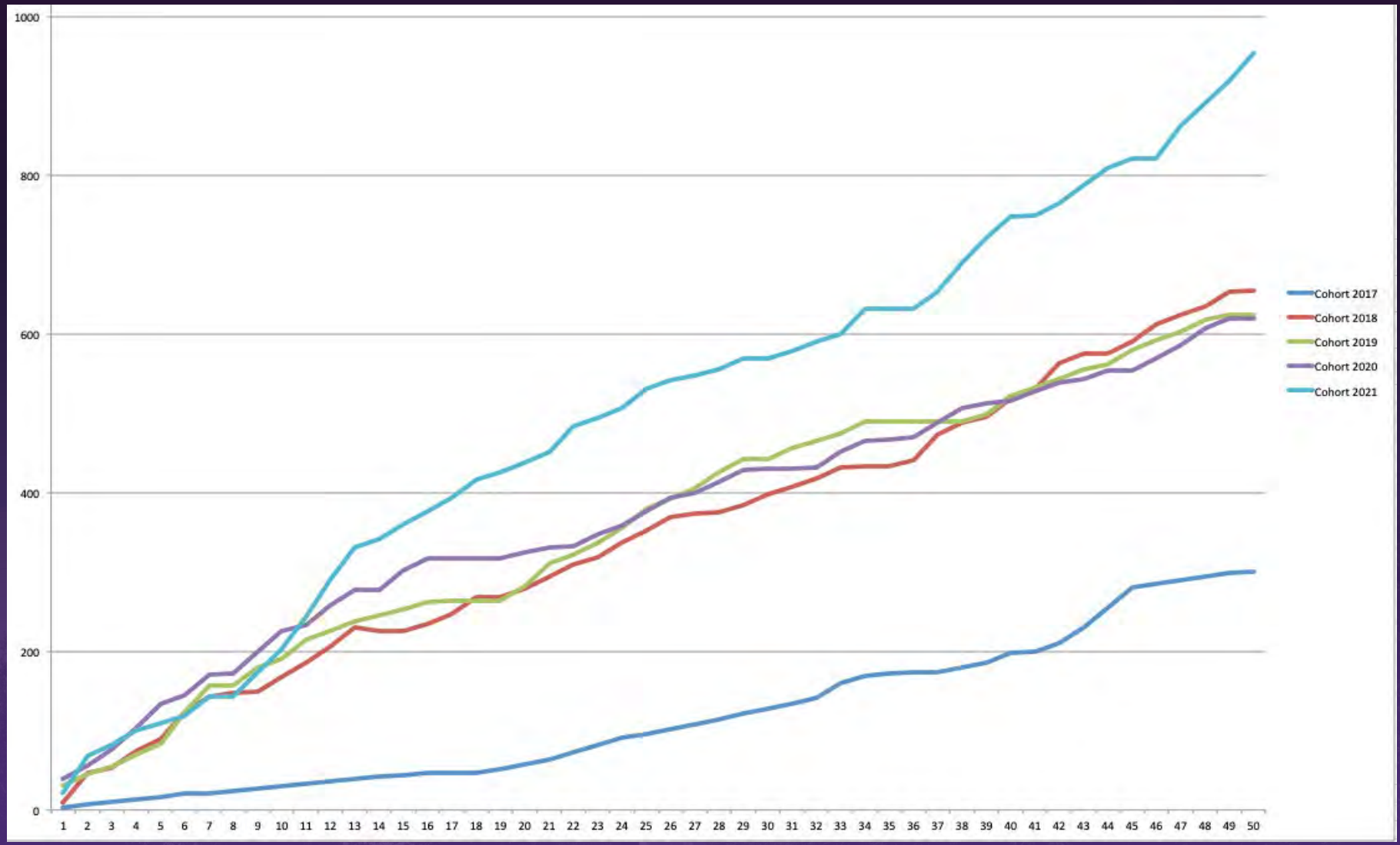
Results



- Increase in performance over the years

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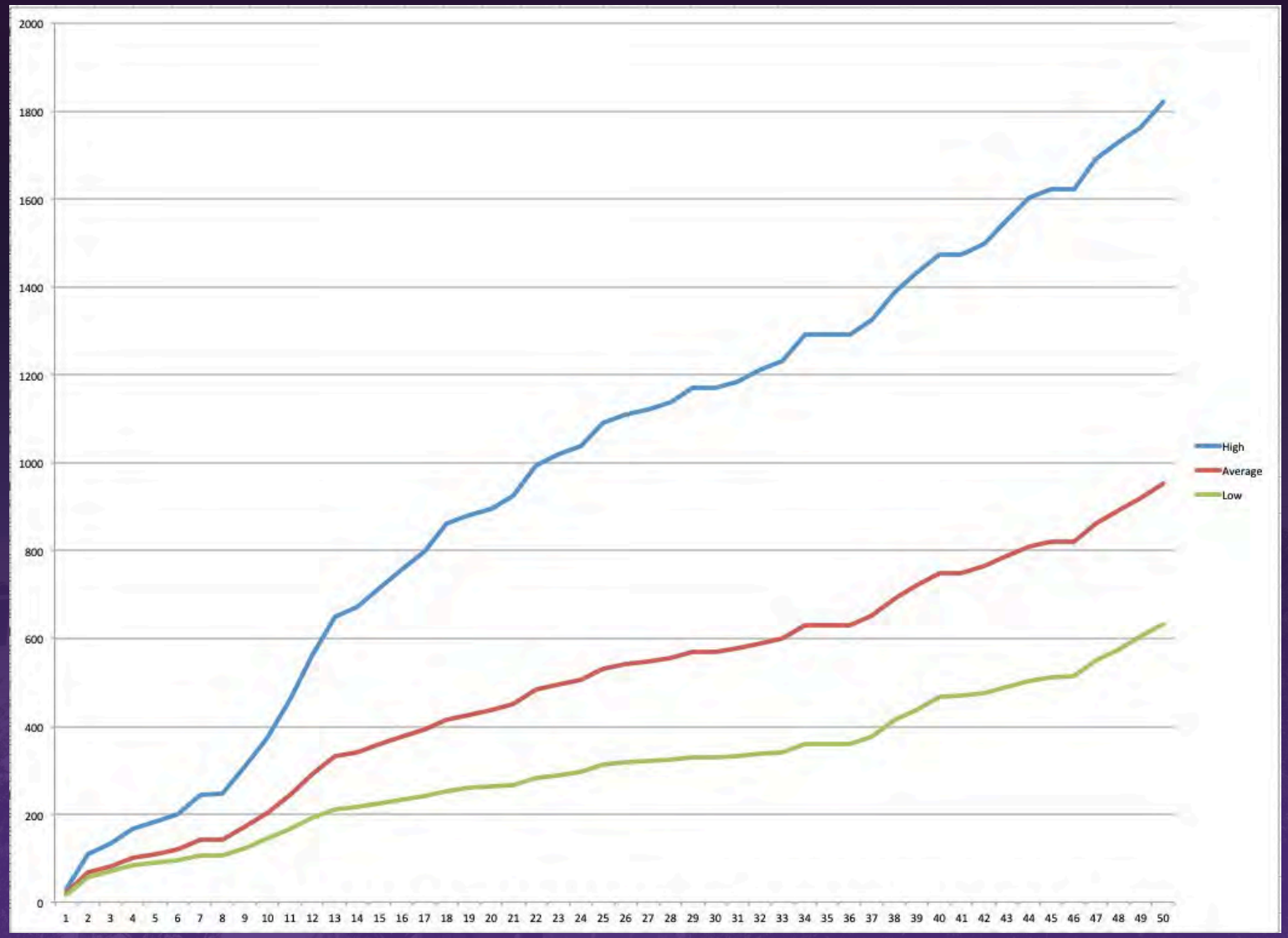
Results



- “Capacity”

Challenges Encountered

- Student Resistance to active participation
  - They like the idea of active participation
  - “It’s not fair”
- Curriculum ”Packing”
  - Can’t we use that time for more lectures?
- Constant renewal of cases
  - Students hand down cases to “save” the next class from having to ”work” during the cases.

Lessons Learned

- (1) Few students would actively participate in student-directed learning activities without the reward of points or the risk of a poor grade from not participating.
- (2) Students struggle to create their own questions.
- (3) Specific student behaviors become evident.
  - (a) "Instigators" enjoy starting posts to drive student participation.
  - (b) "Fillers" enjoy answering questions with content posts.
  - (c) "Cheerleaders" enjoy making group-supporting encouragement posts.
  - (d) "Lurkers" minimally participate and watch the others posts.
- (4) Any faculty participation in a thread increase the group participation by a factor of 4.
  (5) No student who has finished in the top 50% of Yammer discussions has ever failed the national board exams.

Next Steps

- Would love to create our own discussion platform that would handle the basics of post-type identification.
- Would add a few more types of posts.
  - ”I Wonder” Post – would allow for rhetorical questions as content.
  - “Connecting the Dots” Post – would allow for two concepts to be shown as connected.
- Expand cases into all courses.

Acknowledgements

- Kim Jefferson and Allison Hope who were pioneers to grading before we perfected our technique
- Dr. Alison Yeung – pioneer case writer.
- Dr. Iquebal Hassan - “iron man” of cases.