

Current Event Video Assignments in an Undergraduate Genetics Course

Megan Rolf and Jennifer Bormann

Kansas State University

ASI 500-Genetics

- Kansas State University ASI 500-Genetics
 - Taught each spring and fall (fall Rolf, spring Bormann)
 - Large lecture format (enrollment ~120-160)
 - General biology is only pre-req
 - Required by all ASI majors
 - Also serves College of Agriculture (primarily agronomy and horticulture)
- Often cited as a difficult course
 - Do in-class activities
 - Genome sequencing
 - DNA packaging
 - Offer creative assignment choices (required and bonus)
 - Video assignments
 - Gene Discussions
 - Review Sheet Participation

Fall 2016 Course Components

- Grading Scheme

- Online homework (10 @10 pts) 100 pts
- Regularly Scheduled Exams (4 @ 100 pts) 400 pts
- Cumulative Final Exam 200 pts
- Review Sheet Participation (5 @ 5 pts) 25 pts
- Current Events Videos 50 pts

- Total Points 775 pts

- Bonus

- 5 points for each exam (typically essay)
- Gene Discussion

Subject Matter

- Unit 1 - Mendelian inheritance, sex linkage, epistasis, pedigree analysis
- Unit 2 - Chromosome structure, DNA structure and replication
- Unit 3 - Transcription, translation, gene expression, biotechnology
- Unit 4 - Genomics, quantitative and population genetics

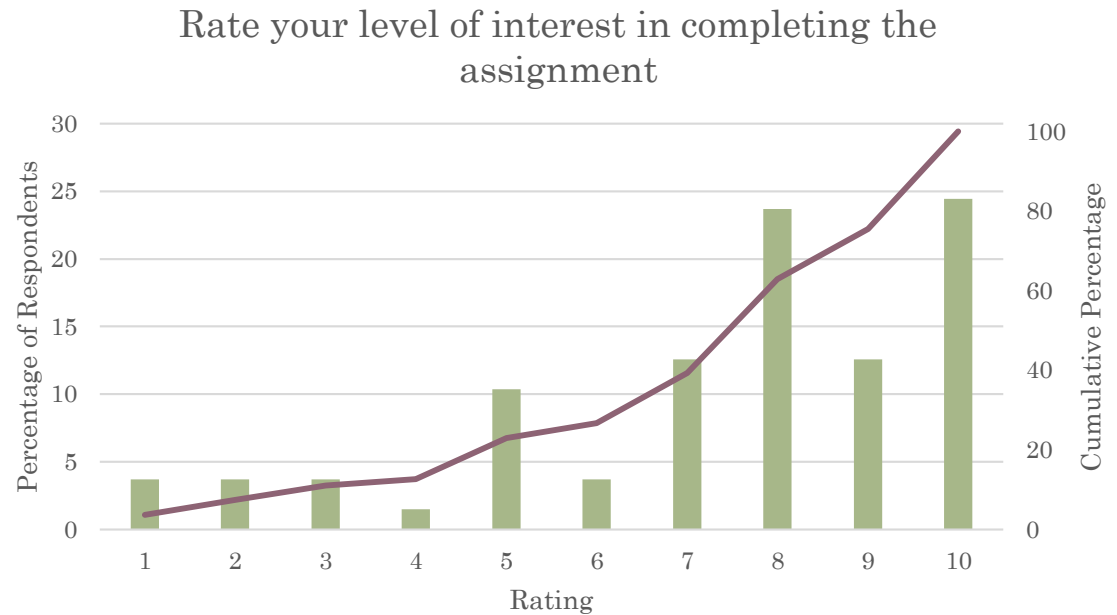
- Incorporation of current events from news outlets has potential to reinforce student learning and help application of knowledge post-degree

Video Overview

- Group-based collaborative project (50 points)
 - Choose own group members
- 3-5 minutes in length
- Must use article from news source and must be about genetics subject
 - No more than 1 year old (August 2015-August 2016)
 - No duplicate topics
- Must summarize the article, explain the genetics concept in a creative way
 - Connect to concepts from class
 - Implications for crop or animal production
- Grades based on the following criteria:
 - 10 pts Met the deadlines for group signup (5 pts) and paper submission (5 pts)
 - 10 pts Evaluations of group participation completed by group members
 - 10 pts Evaluations of the presentations by classmates
 - 20 pts My evaluation of creativity (5 pts), presentation of concept in the article (5 pts), clarity in explaining the genetics concept (5 pts), and fitting the time guidelines (5 pts)
- Viewed last week of class for peer review, uploaded to class YouTube channel
 - Surveyed on their perceptions of the assignment and their learning
 - Approved by KSU Institutional Review Board

Level of Interest in the Assignment

Rating	Frequency	Percentage
1	5	3.7
2	5	3.7
3	5	3.7
4	2	1.5
5	14	10.4
6	5	3.7
7	17	12.6
8	32	23.7
9	17	12.6
10	33	24.4



61% rated 8 or higher out of 10

Was Making the Video Fun?

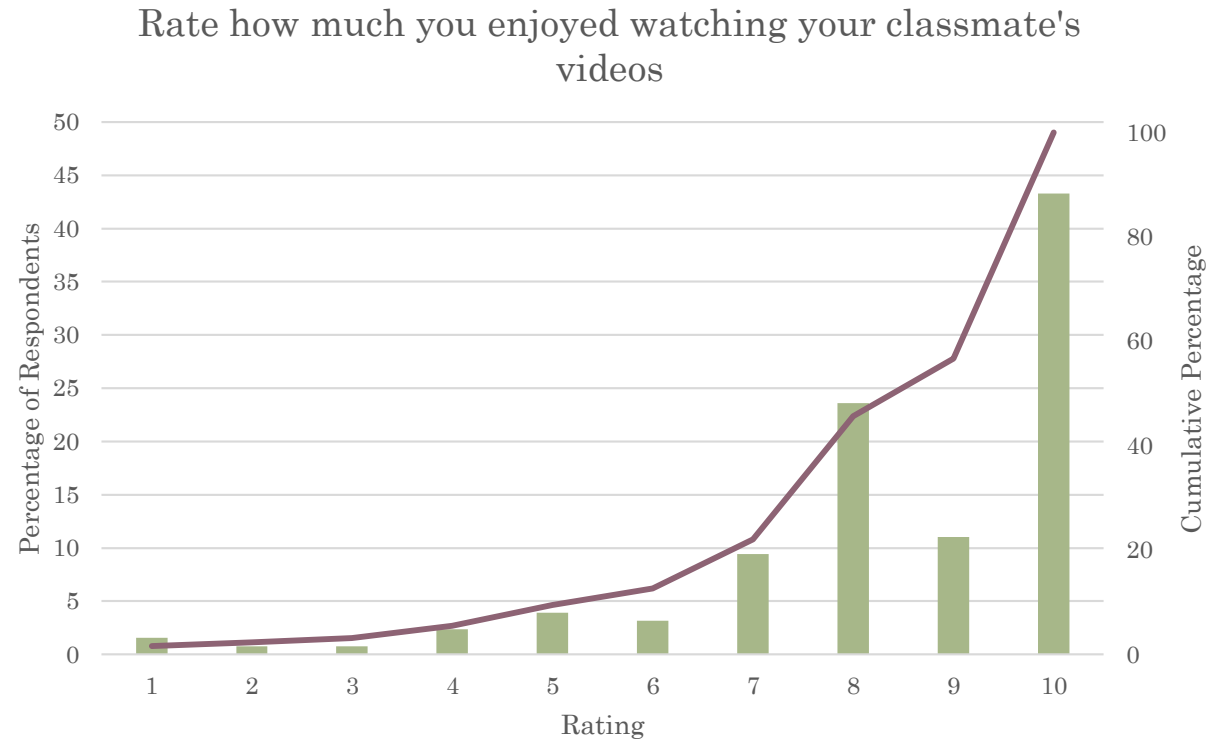
Rating	Frequency	Percentage
1	7	5.2
2	5	3.7
3	3	2.2
4	5	3.7
5	12	8.9
6	5	3.7
7	20	14.8
8	29	21.5
9	13	9.6
10	36	26.7



58% rated 8 or higher out of 10

Did You Enjoy Watching Peer Videos?

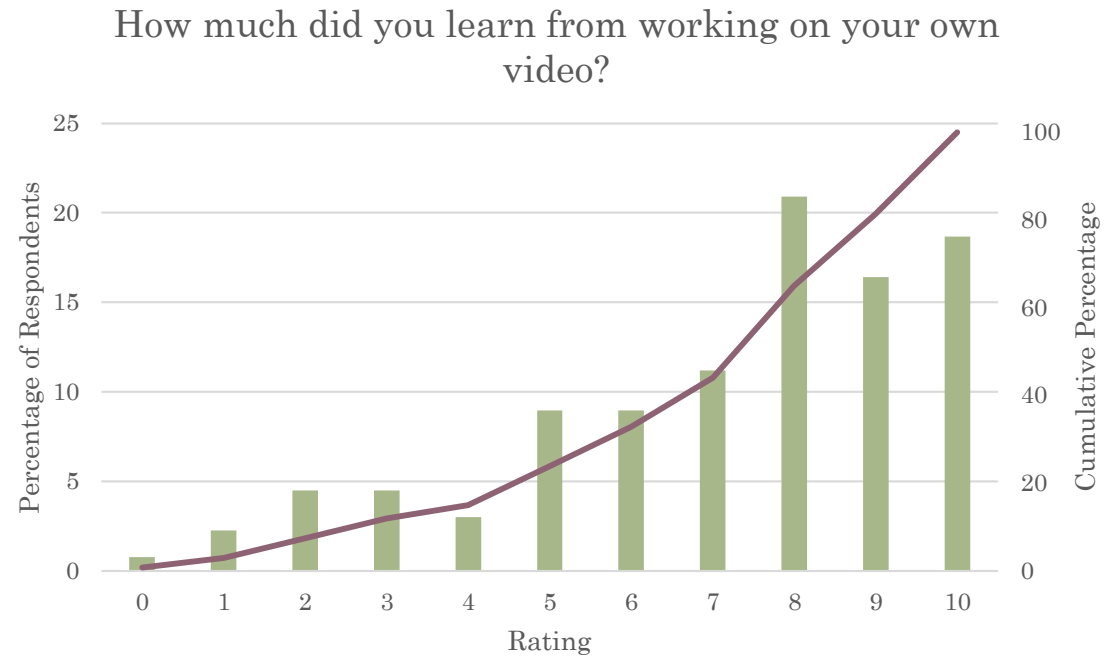
Rating	Frequency	Percentage
1	2	1.6
2	1	0.8
3	1	0.8
4	3	2.4
5	5	3.9
6	4	3.2
7	12	9.5
8	30	23.6
9	14	11.0
10	55	43.3



78% rated 8 or higher out of 10

Learning From Working on Own Video

Rating	Frequency	Percentage
0	1	0.8
1	3	2.2
2	6	4.5
3	6	4.5
4	4	3.0
5	12	9.0
6	12	9.0
7	15	11.2
8	28	20.9
9	22	16.4
10	25	18.7



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Learning From Watching Other Videos

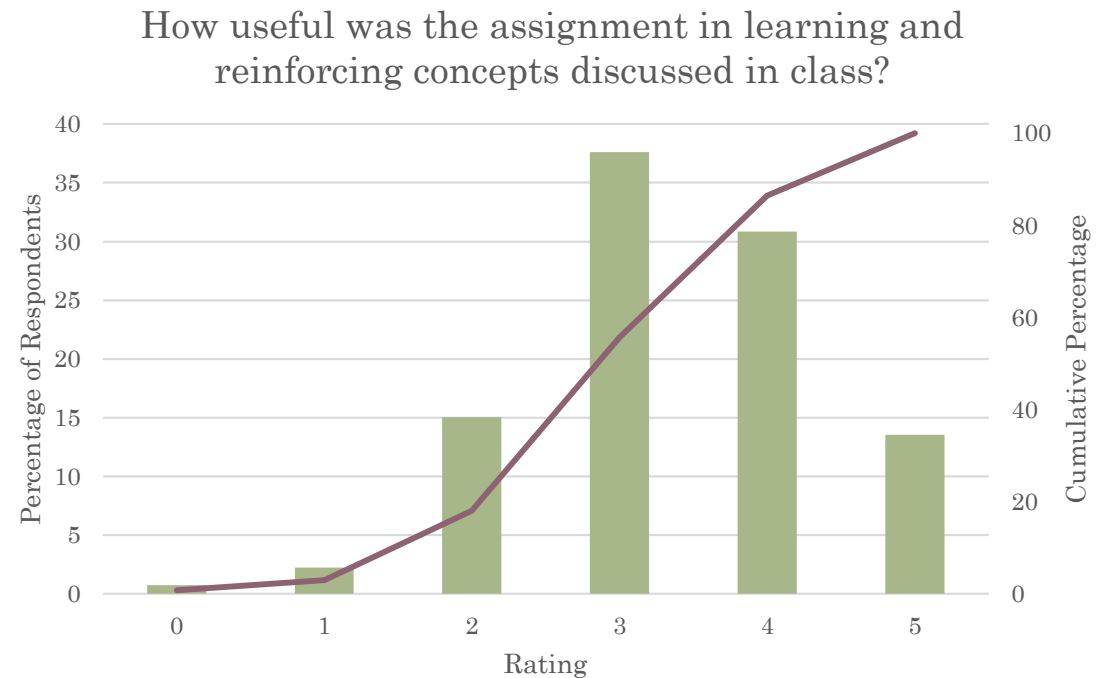
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60% rated 8 or higher out of 10

Reinforcing Concepts from Class

Rating	Frequency	Percentage
0	1	0.75
1	3	2.26
2	20	15.04
3	50	37.59
4	41	30.83
5	18	13.53



44% rated 4 or higher out of 5

Video Examples

- All videos posted on Genetics Course YouTube channel:
 - https://www.youtube.com/channel/UCZkUtT-tpWsg_1LHr8YPiKQ

Science Stars

People's Choice
Entertainment Mavens

Conclusions

- Perceived learning from completing these activities was moderate to high
- Most students enjoyed completing the assignment
- Most students enjoyed watching the videos put together by classmates as much or more than their own



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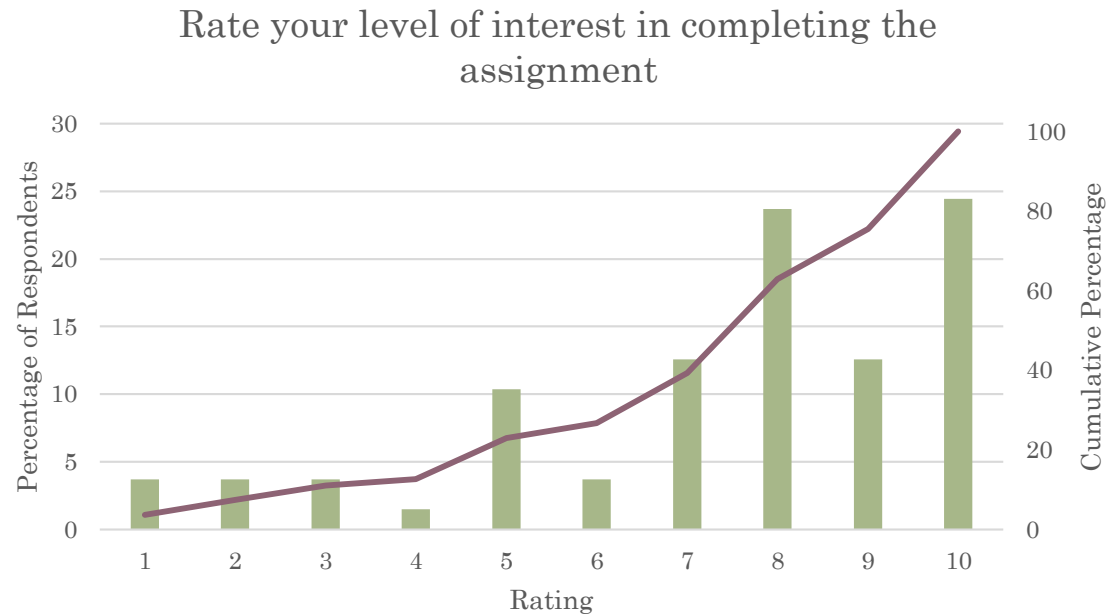
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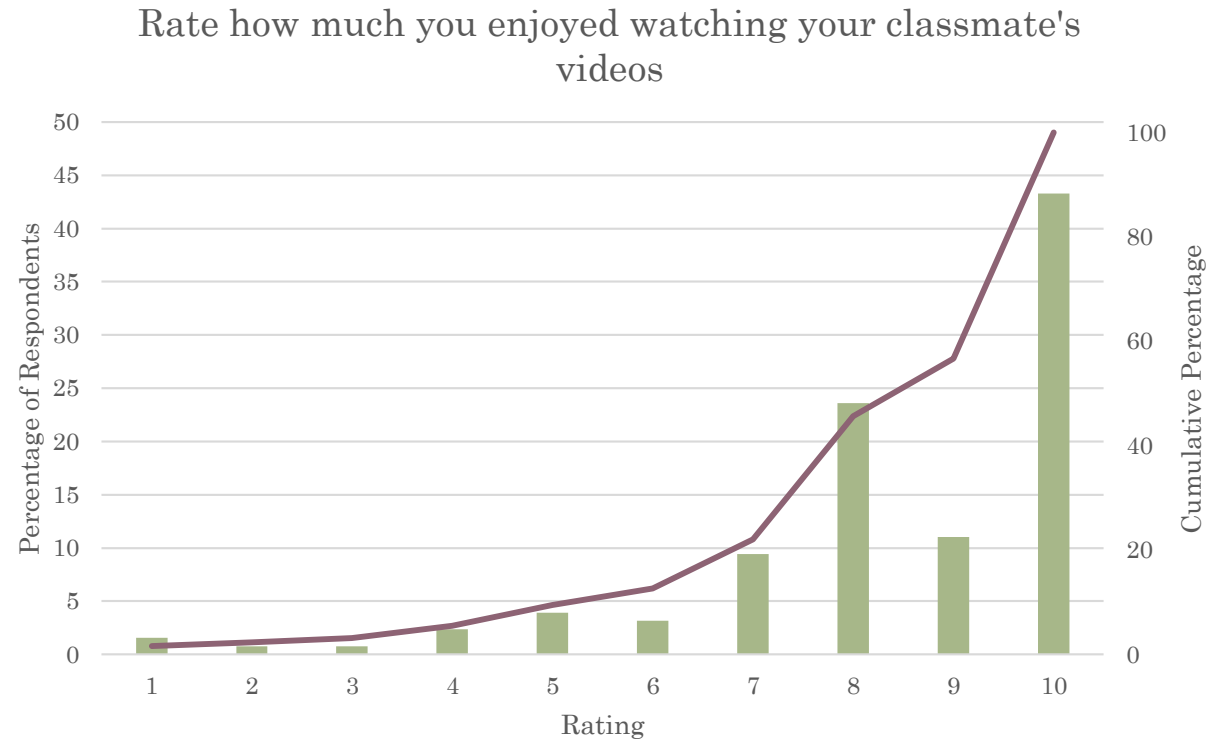
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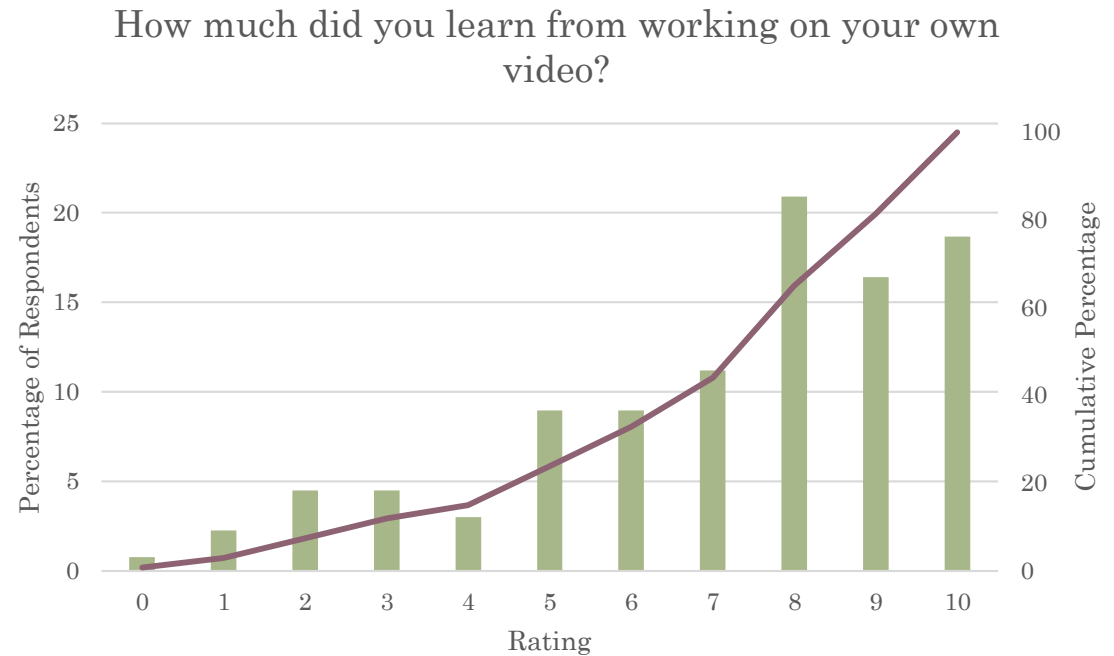
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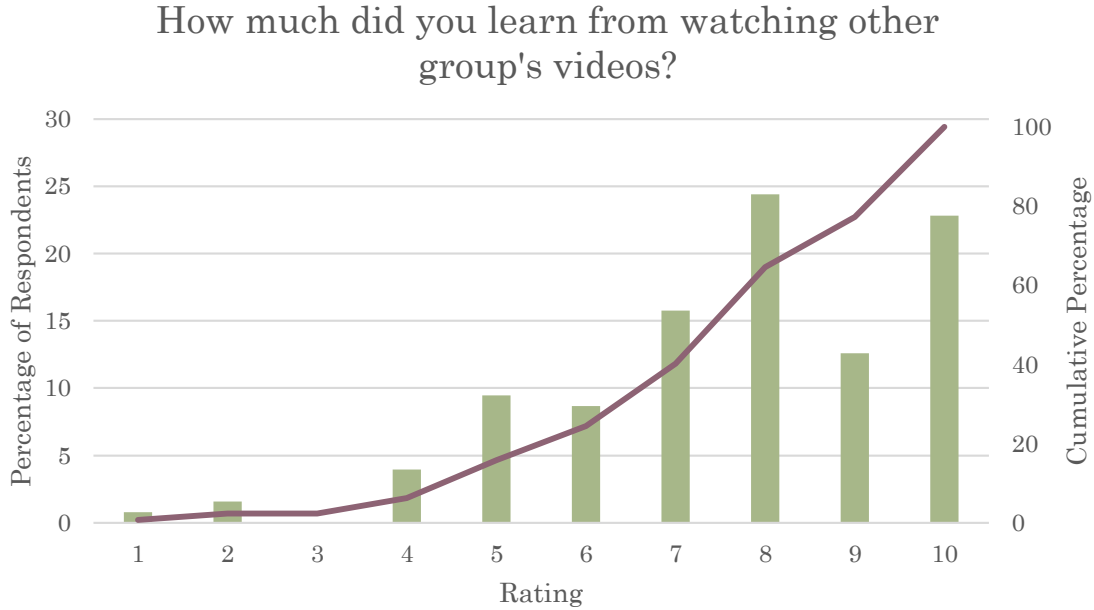
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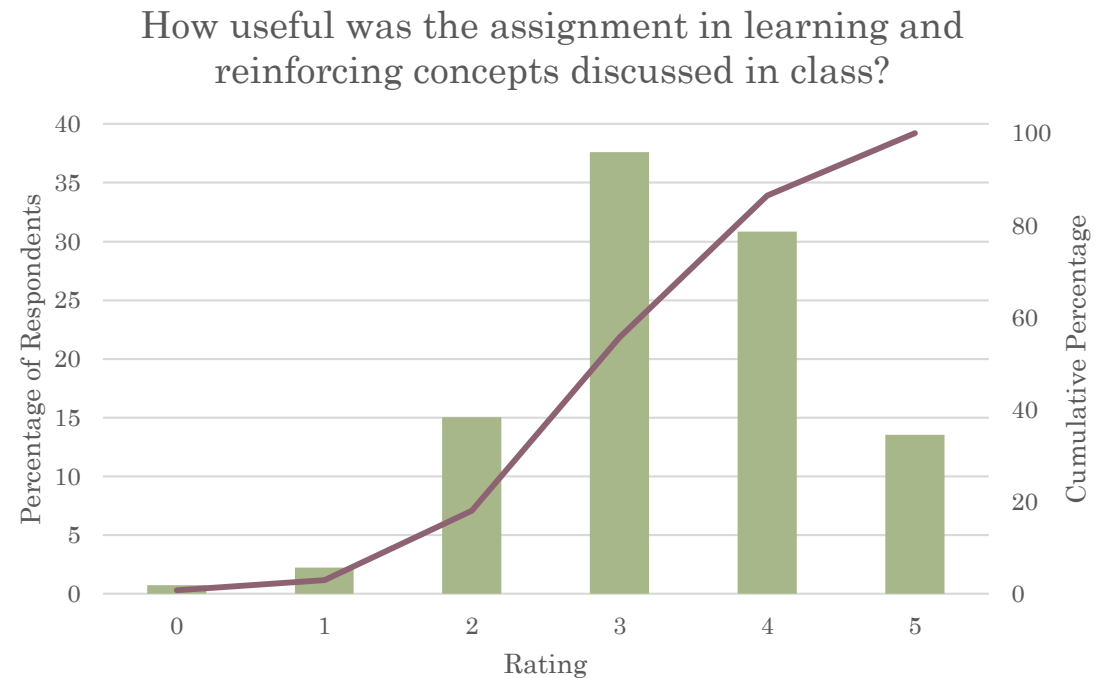
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