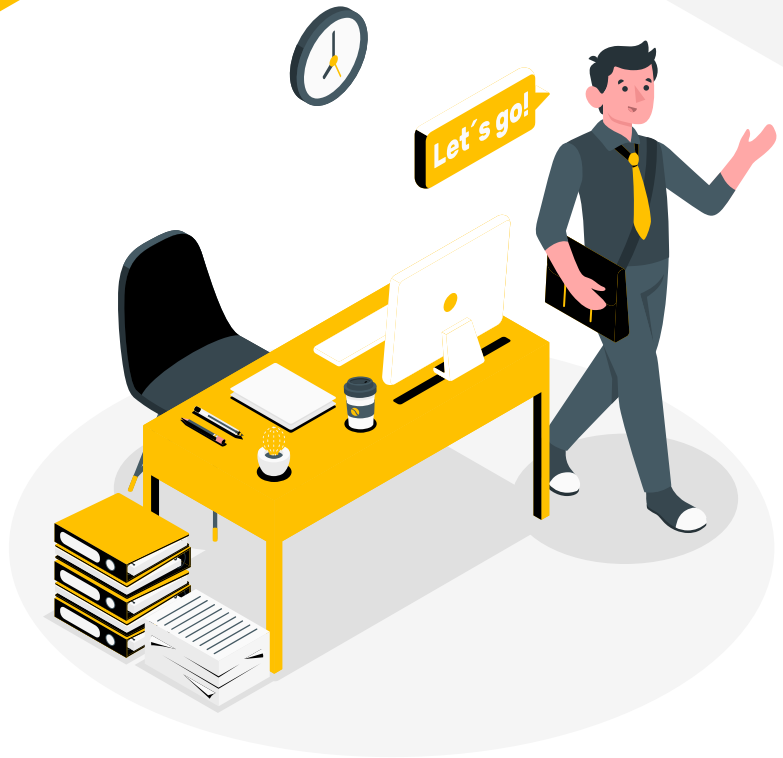
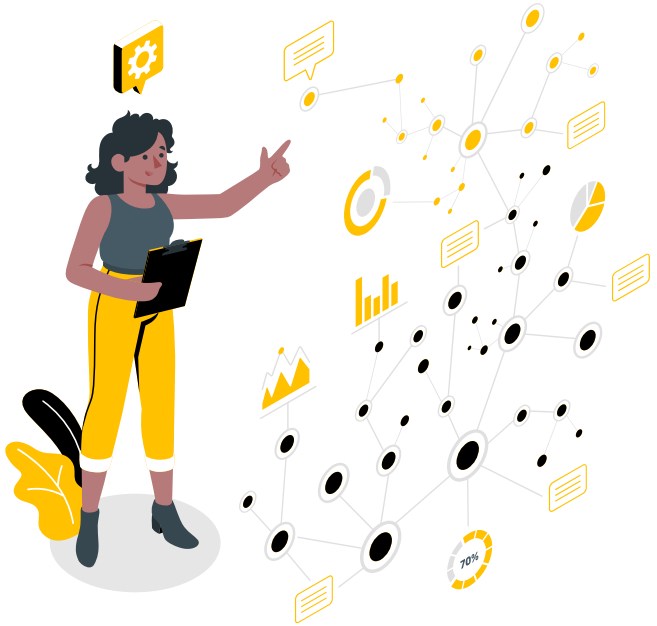
Assignment 2: PeerWise Groups



Group 2

Purpose



01

Problem

Purpose of Analysis

What are the impacts of group membership for performance using PeerWise?

Key words:

- PeerWise
- Group Membership

Further Problems Investigated

Motivation

Does working in a group have an impact on student motivation?

Performance

Does working in a group have an impact on academic performance?

Actionable Comments

How can actionable feedback comments influence overall group question quality?

Importance

Importance of Problem

"student groupings on collaborative tasks and students' reactions to student questioning also seems fruitful"

Chin & Osborne, 2008

Students

Teachers

Educational tool developers

Stakeholders

Stakeholder Analysis

Primary Stakeholder: Gareth Denyer

- Collected and supplied data
- Course Director and created experiment design

Secondary Stakeholder : Approx 600 2nd Year Biochemistry students

- Subjects of study
- Participation is non-voluntary
- Power Relationships: academic incentive tied to performance and motivation
    - Source of External Motivation

Integrity, Merit, Respect

02

Raw Data

The Characteristics of the Data

SAMPLE SIZE

Roughly 600 students

DEMOGRAPHIC

De-identified class over 4 cycles at the University of Sydney

TEAMS

Divided into 9 coloured teams

QUESTIONS

The number of questions each individual student has authored

COMMENTS

The number of questions each individual student has answered

ACADEMIC MARK

The academic achievement of each individual student

Consent

Collection

Unknown if consent for the collection of Peerwise data for study was acquired by Denyer

Beyond the scope of data analytics team

Participation Implications

Unknown if the implications of participating was explained to students

Management of Data

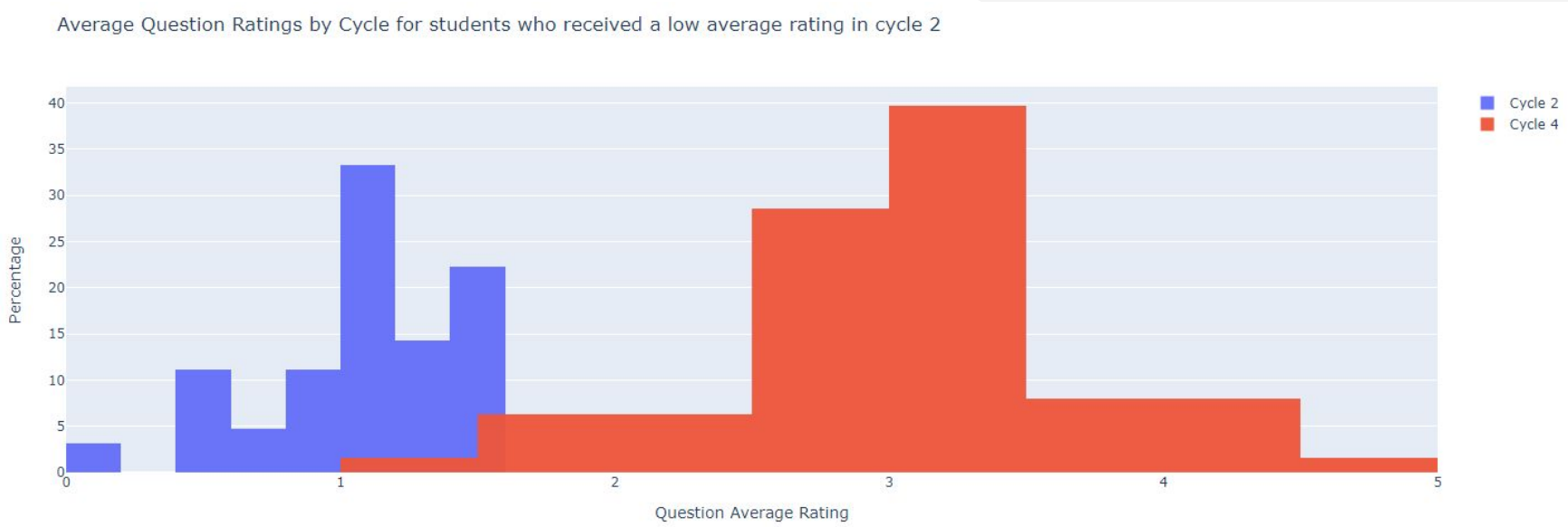
- Data was kept in a central GitHub repository
- Changes were only made to copies of the data
- Immutability of data will not be affected by additional columns were created during our exploration and analysis
- The data used for this assignment will all be deleted at the completion of this assignment

03

Meaning and Results

Main takeaways and results

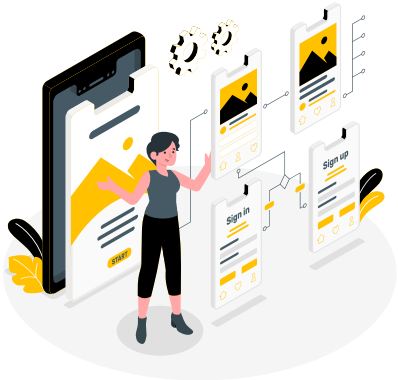
In cycle 2 when averaging all students, they performed better in cycle 4



More Results

- Students who submitted slowly in cycle 2 submitted their questions for cycle 4 earlier on average. It is likely that this is due to group participation

- In general teams with more useful comments had better academic marks and ratings.



Potential Bias

GROUPS

Not *all* group interaction was recorded

MOTIVATION

Number of days since the cycle started may misrepresent motivation

CONFIRMATION

Assumed group involvement would be beneficial

Limitations

- Students in groups with members who did not comment on their question were allowed to comment on other groups' questions
- Many missing or nan values for the questions quality mark
- Some teams had less students

Thank You!

References

- Chin, C., & Osborne, J. (2008). Students' Questions: A Potential Resource for Teaching and Learning Science. Studies in Science Education, 44, 1-39. Retrieved from: https://doi.org/10.1080/03057260701828101