

# **Individual Peer Assessed Contribution to group work (IPAC)**

**by the *IPAC Consortium***

## List of abstracts covered in this session

- ***IPAC - Individual Peer Assessment of Contribution to group work*** by Pilar Garcia Souto et al.
- ***What do students think of the IPAC method*** by Ryan Grammenos et al.
- ***Staff moderations when using IPAC*** by Cicely Striolo
- ***Comparison of technical platforms for running IPAC*** by Mira Vogel
- ***Home-made and readily available IPAC tool – Run your practice your way and efficiently*** by Pilar Garcia Souto
- ***Case study: Making group work easier for the lecturer with IPAC*** by Cloda Jenkins
- ***Case study: Influence of peer assessments on students and assessors in capstone group design projects*** by Will Newton and Eral Bele
- ***Case study: Using IPAC across disciplines and methodologies- what are the typical marks given by students to peers?*** by Pilar Garcia Souto
- ***Training students to utilise peer feedback for self-reflections*** by Folashade Akinmolayan

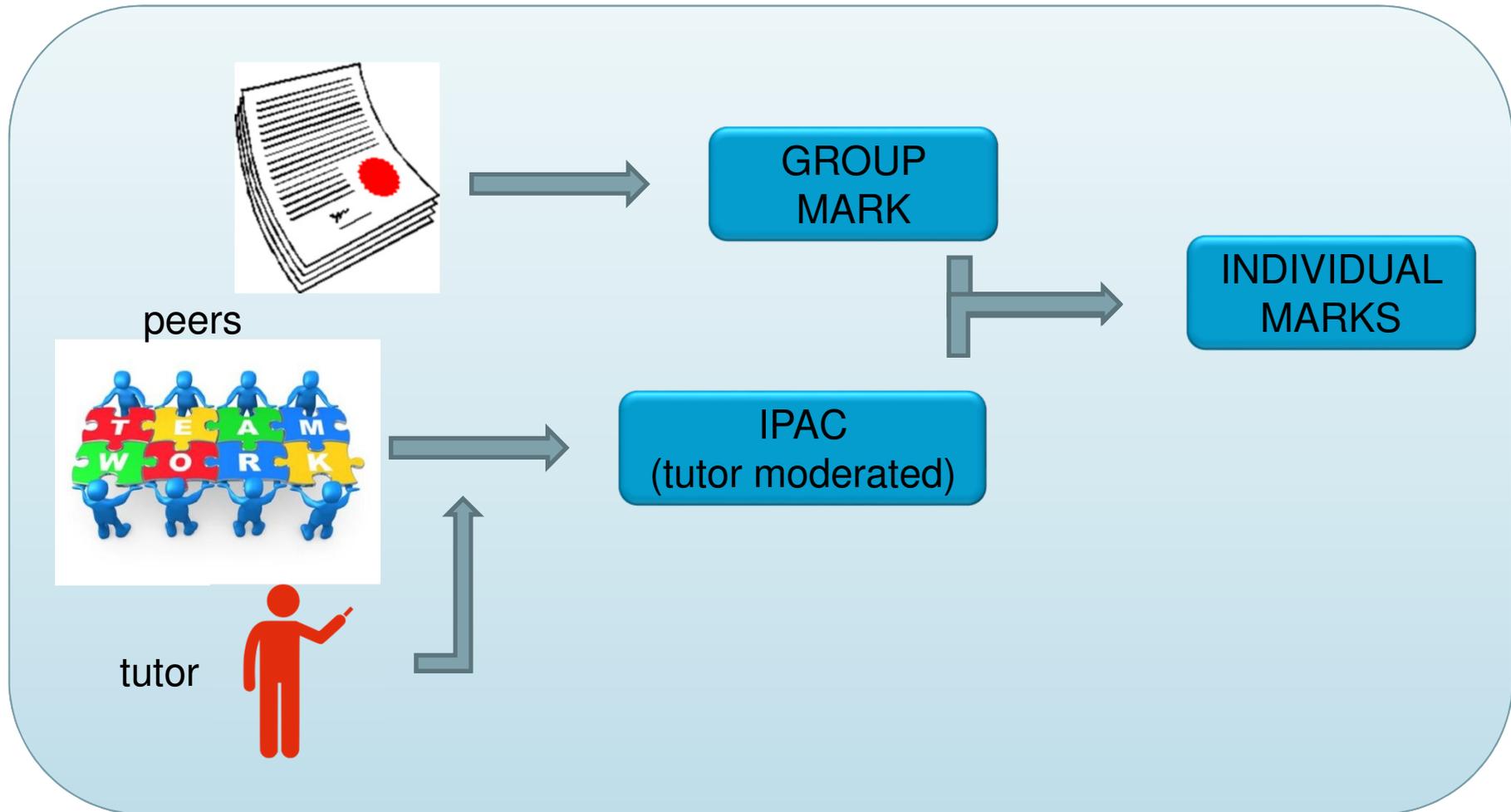
# IPAC

## Individual Peer Assessed Contribution to group work

### Why?

- Staff and students across UCL are concerned about the **fairness of group assessment** as this can greatly damage the student experience.
  - Different levels of peers' engagement to group work?
  - Individual mark needed vs a group mark
  - Reflected into the NSS comments 2016 (might increase as group work increases)
- **IPAC** can be included in group work so students get **individual marks** based on their contribution as assessed by peers instead of a **group mark**. This **aims to promote student engagement and tackles associated problems**.

# IPAC – How does it work?



## Benefits

- Promotes student engagement and tackles associated problems.
- Peer and self assessment (includes self reflection)
- Practice to give meaningful and tactful feedback.
- Students understand how their personal contribution is perceived?
- Fairer mark.
- Better understanding of group dynamics by tutor.

## Limitations

- Additional deadline and assessment for students.
- Big amount of data/information for tutor (system needed or very staff time consuming)
- Requires students' training.
- Might require case by case moderation in extreme situations of dysfunctional group.
- (Student gaming?)
- (Student alliances?)

# 1. IPAC Consortium

## Who are we?

- Over 40 staff members from 20 departments who are either contributing to the consortium or interested in using the outcomes.
- Various students from 3 departments.

# Our work: enquiring



staff



students



institution



Literature review



Commercial systems

## Our work: defining and developing



Key elements of the methodology and options



Guidelines and recommendations



In-house IPAC system



Support to practitioners

## IPAC – our work



**<https://wiki.ucl.ac.uk/display/IC/IPAC>**

## 2. Key elements of IPAC methodology and Methodology recommendations



Key elements of the methodology and options



Guidelines and recommendations

(under development)

## 3. Student perception

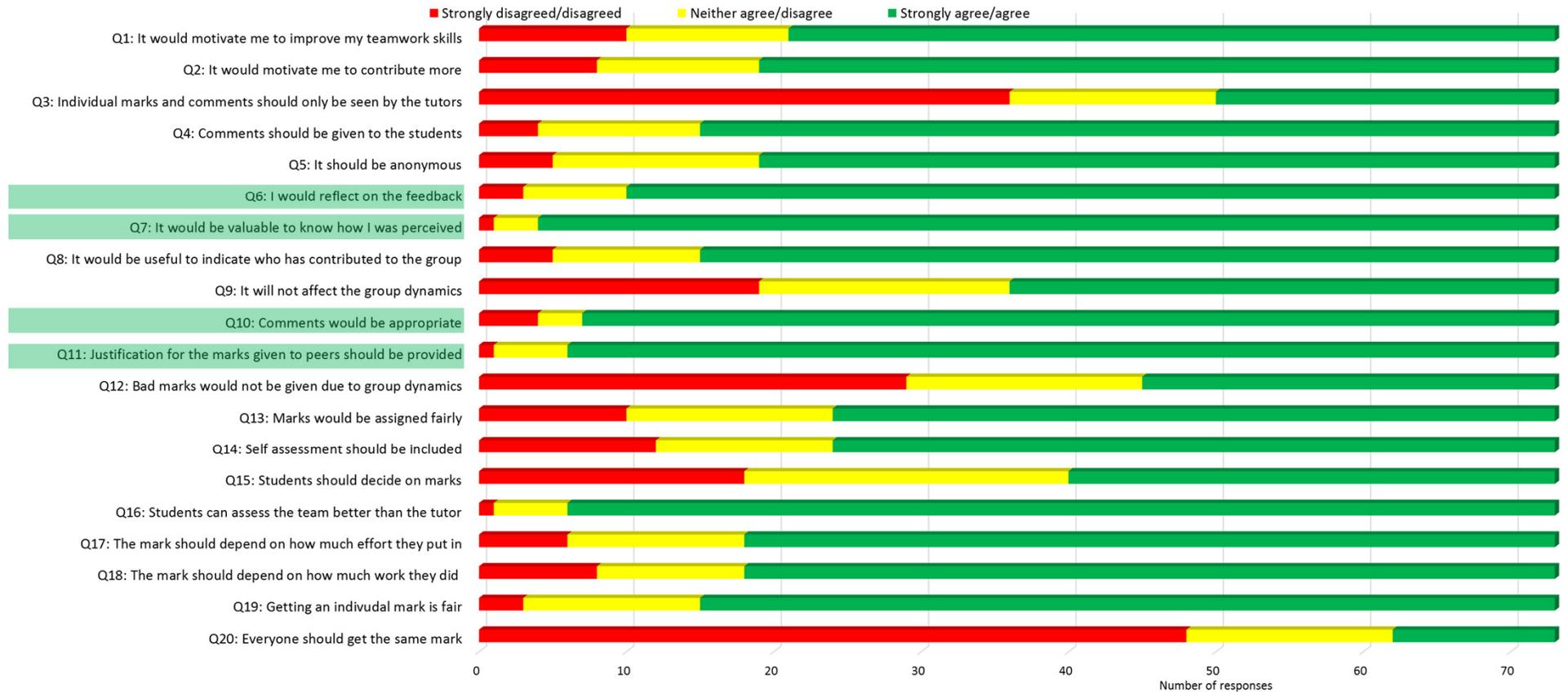


students

# Data collection

- **Anonymous questionnaires**
  - Run on Moodle
  - Surveyed 89 people.
  - 12 departments, mainly Engineering Faculty.
  - First year undergraduates through to PhD students.
  - March 2017 to June 2017.
- **Focus groups**
  - Run by students
  - 4 focus groups, two in March 2017 and 2 in June 2017
  - 44 students participated in total
  - Population:
    - Undergraduates to PhD students
    - Mainly Engineering Faculty
    - Experience with group work

## SURVEY RESULTS



**Key result: FEED...BACK** – To understand and reflect.

## Key outcomes

- 92% in favour of peer assessment [Q16].
- 79% in favour of IPAC [Q19, Q20].

### **Main points: (PTSF-PTJCF)**

1. **Purpose.**
2. **Transparency.**
3. **Size of class.**
4. **Frequency of group work.**
5. **Proper Training.**
6. **Justification of marks.**
7. **Criteria.**
8. **Feedback.**

**Take Away Message:** Please treat students fairly, providing them justified & constructive feedback (**PTSF-PTJCF**)

# Analysis of main points: PTSF-PTJCF

- 1. Purpose: [Q3]**  
Concept of peer assessment has to be introduced and its usefulness clearly **explained**.
- 2. Transparency: [Q3]**  
Students should not feel they are an experiment. The entire PA **process** should be **visible**.
- 3. Size of class: [Q5, Q9, Q12]**  
Small classes make it almost impossible to **preserve anonymity**. Need to account for this carefully.
- 4. Frequency of group work: [Q5, Q9, Q12]**  
If the same groups (from small classes?) work on different projects over a long period, a “**vendetta**” situation might arise.
- 5. Proper Training: [Q16, Q20]**  
Clear **guidelines** should be given to students. They must be **trained** prior to official assessment.
- 6. Justification of marks: [Q3, Q11, Q13]**  
Justification must be **based on feedback**. Students feel moral responsibility to pass everyone.
- 7. Criteria: [Q8]**  
Criteria must be **phrased properly**. Students’ understanding of all criteria must be checked.
- 8. Feedback: [ Q3, Q6, Q7, Q10]**  
Should be **continuous** and **regular**, initially formative (to warn) and then summative (to award).

## Current work in progress

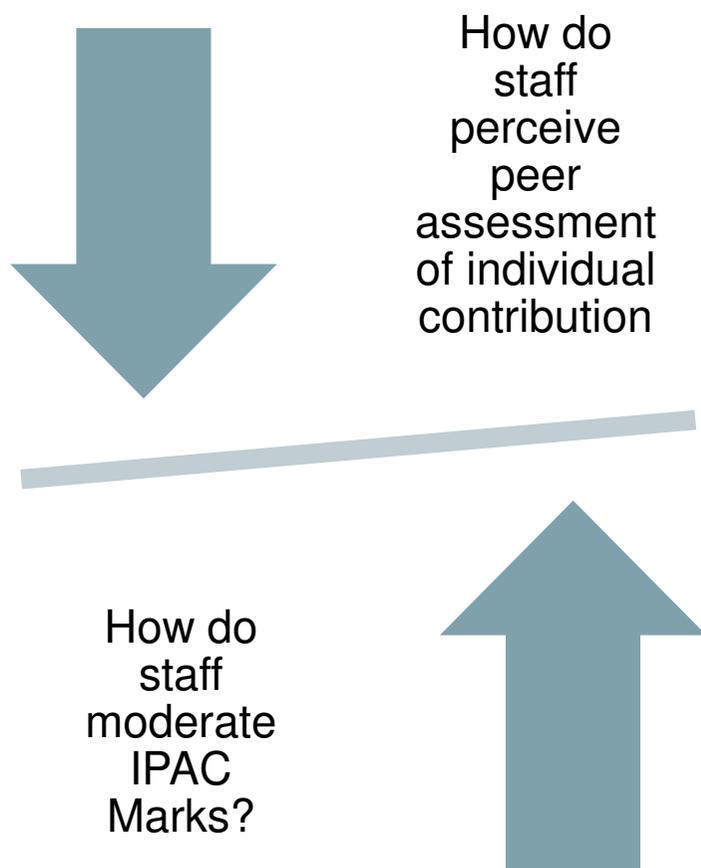
- Preparing a paper on the student perceptions of IPAC for submission to the *Journal on Assessment & Evaluation in Higher Education*.
- Case study on the ChangeMakers project is being prepared for contribution towards a wider research study carried out by the UCL ChangeMakers team.
  - Aimed at understanding nature and impact of staff-student partnership.

## 4. Staff moderations when using IPAC



staff

# Research Questions and Description



- Interviews of staff who are IPAC Consortium Members
- Case study of reported techniques

# Context: Background Characteristics and Commonalities of Peer Assessment at UCL

- Primary Aims: **Provide insight to group dynamics**
- Assessment is **not** replacing teacher assessment of **technical content**
- **Process is labour intensive**
- All student assessments are **summative**
- Most approach the **peer assessment** with the intent of ensuring **anonymity**
- All IPAC implemented is at the **undergraduate level**

User Faculty	Intent	Staff Satisfied	Module Size
Eng Sci	Judge individual effort	Yes	400+
Eng Sci	↑ student satisfaction	Mostly	140-160
Joint*	Assess group functionality	Mostly	45
Eng Sci**	Assess team skills	No	35 (MSc)

\*Arts and Sciences Degree

\*\* IPAC not implemented

# Actual Practice vs Literature

## Staff Practice

- **ALL students are trained**, informed of consequences and provided guidelines or rubrics **to conduct their peer assessments**
- Students conduct both **external-facing** and **reflective assessments**
- Marks are **reinforced** by **free comment** to justify the mark given
- **Staff** offer alternate assessment, and **nullify student assessments** that did not follow the guidelines or try to 'game' the system in place- as promised when IPAC was being introduced

## Literature

- **"Students should understand and acknowledge the purpose, importance & usefulness of the procedure..."** (Cheng & Warren, 2000)
- "Students are **less likely** to attempt free riding [or other negative behaviour] **when the practice has been discussed, exposed, and condemned in class.**" (King & Behnke, 2005)
- Peer assessment can lead to learning how to **give and receive criticism** and how **to discern helpful from unhelpful criticism.** (Topping, 2009)

## 5. Comparison of technical platforms for running IPAC



Commercial systems

## Needs

- **Easy to use** for students and staff,
- Easily **accessible** by students (integrates with Moodle),
- **Customizable** for staff,
- Complies with **data protection** regulations,
- Provides the **raw data**,
- Provides **calculated values** with **transparent** methodology,
- Option among some methodologies,
- Allow for **choice of self-assessment**,
- Provides a **range of feedback** to the students,
- Makes feedback anonymous.

# Comparison of platforms

Available to UCL people:  
[https://wiki.ucl.ac.uk/x/cke\\_Aw](https://wiki.ucl.ac.uk/x/cke_Aw)

Based on

- group walkthroughs,
- presentations,
- Changemakers student project.

The image shows a large, tilted screenshot of a complex spreadsheet or data table, likely a comparison of platforms. The table has multiple columns and rows, with some rows highlighted in green. The UCL logo is visible in the top right corner of the screenshot.

## Summary of platforms



- Likert scale or Split 100
- Feedback possible but awkward.
- Integrates with Moodle.
- Free and open
- Not hosted.



- Customisable questions.
- Tutor control over feedback.
- Free hosted service.



- Restricted to existing question bank.
- No Moodle integration.
- Sophisticated team-building.
- Commercially hosted, \$2 per year per student.

## SPARK<sup>PLUS</sup>

- Detects free-riders and over-raters.
- Customisable questions and scales.
- Visualisations.
- Tutor control over feedback.
- Commercially hosted.

## 6. Home-made available IPAC tool – Run your practice your way and efficiently



In-house IPAC system

## Developed IPAC system - How it works



Students complete  
questionnaire  
(template available)

(10-60 mins)



*In-house IPAC system*

Organize and analyse data  
(only needs a PC/laptop)

(5 mins)



Give quick and personalized  
feedback to students  
(summative and formative)

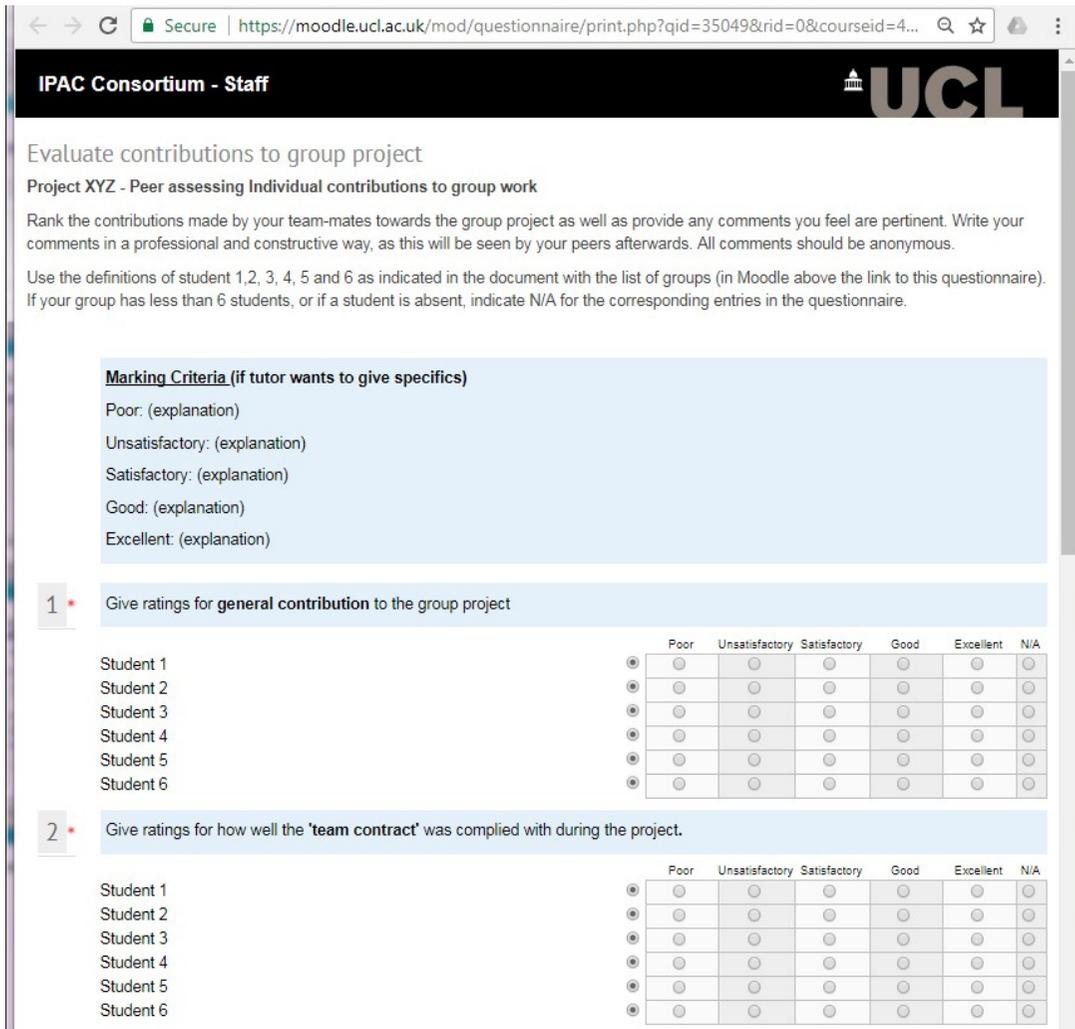
(5 mins)

- Live demonstration

(for divulgation, snap shots of the demonstration are provided)

# Snapshot

## Student view of the system (uses Moodle)



IPAC Consortium - Staff

Evaluate contributions to group project

Project XYZ - Peer assessing Individual contributions to group work

Rank the contributions made by your team-mates towards the group project as well as provide any comments you feel are pertinent. Write your comments in a professional and constructive way, as this will be seen by your peers afterwards. All comments should be anonymous.

Use the definitions of student 1, 2, 3, 4, 5 and 6 as indicated in the document with the list of groups (in Moodle above the link to this questionnaire). If your group has less than 6 students, or if a student is absent, indicate N/A for the corresponding entries in the questionnaire.

**Marking Criteria (if tutor wants to give specifics)**

Poor: (explanation)

Unsatisfactory: (explanation)

Satisfactory: (explanation)

Good: (explanation)

Excellent: (explanation)

1 • Give ratings for general contribution to the group project

	Poor	Unsatisfactory	Satisfactory	Good	Excellent	N/A
Student 1	<input type="radio"/>					
Student 2	<input type="radio"/>					
Student 3	<input type="radio"/>					
Student 4	<input type="radio"/>					
Student 5	<input type="radio"/>					
Student 6	<input type="radio"/>					

2 • Give ratings for how well the 'team contract' was complied with during the project.

	Poor	Unsatisfactory	Satisfactory	Good	Excellent	N/A
Student 1	<input type="radio"/>					
Student 2	<input type="radio"/>					
Student 3	<input type="radio"/>					
Student 4	<input type="radio"/>					
Student 5	<input type="radio"/>					
Student 6	<input type="radio"/>					

Completely customizable:

- N of students
- N of questions
- N of levels per criteria
- Description of levels in each criteria
- Text
- Justification included (optional)

## Snap shot

## Main screen of the system

New Process

File Help

Input

Group File C:\Users\pil\Desktop\IPAC\_demonstration\Demonstation2.0\test inpu

Questionnaire File C:\Users\pil\Desktop\IPAC\_demonstration\Demonstation2.0\test inpu

Summary

Current Settings Location: C:\Users\pil\Desktop\IPAC\_demonstration\Demonstation2.0\settings\_

Min Group Size: 4

Max Group Size: 5

Number of Groups: 5

Number of Students: 23

Number of Criteria: 6

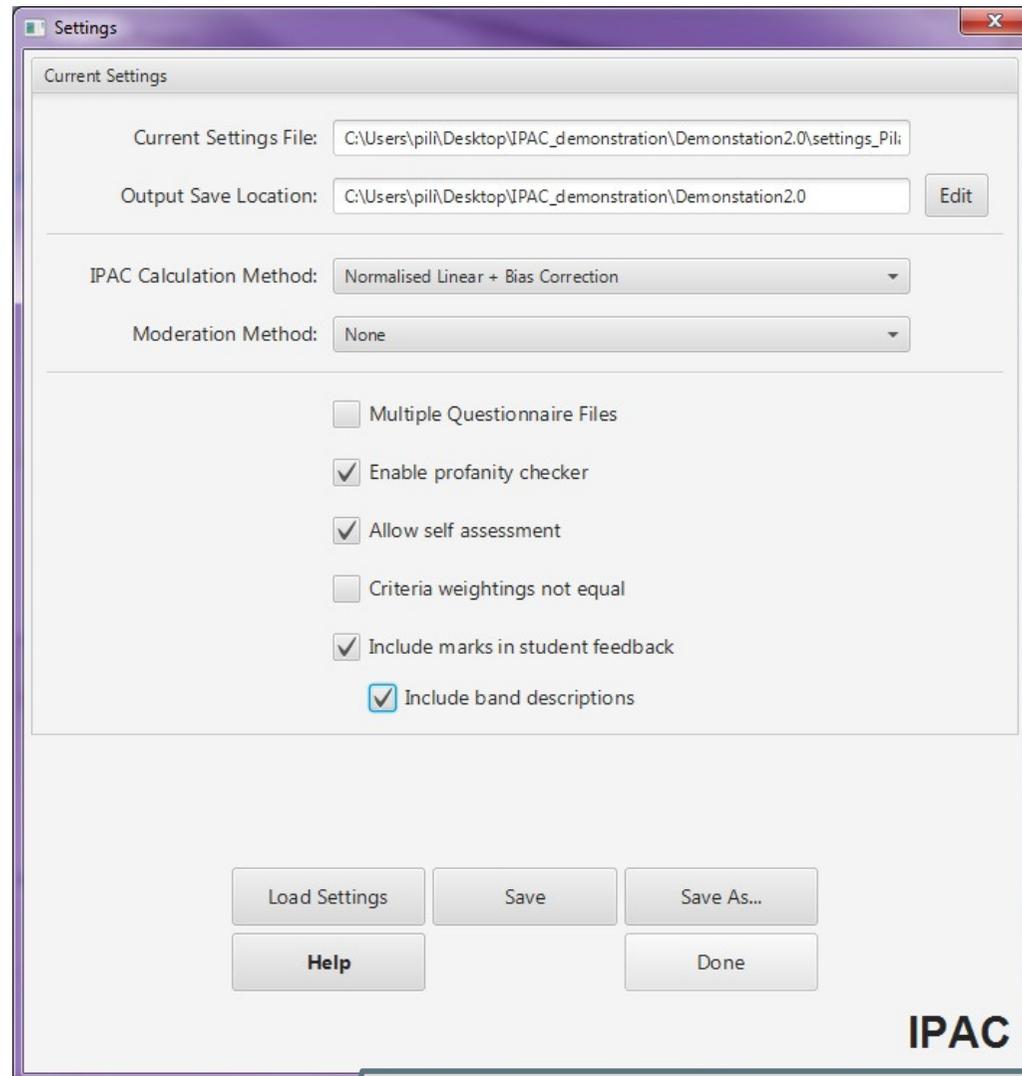
RUN

IPAC

- Select the input files
  - Team composition file
  - Questionnaire file downloaded from Moodle
- Summary updates automatically for verification
- Click RUN to process the data
- Help - documentation

# Snapshot

## Settings screen

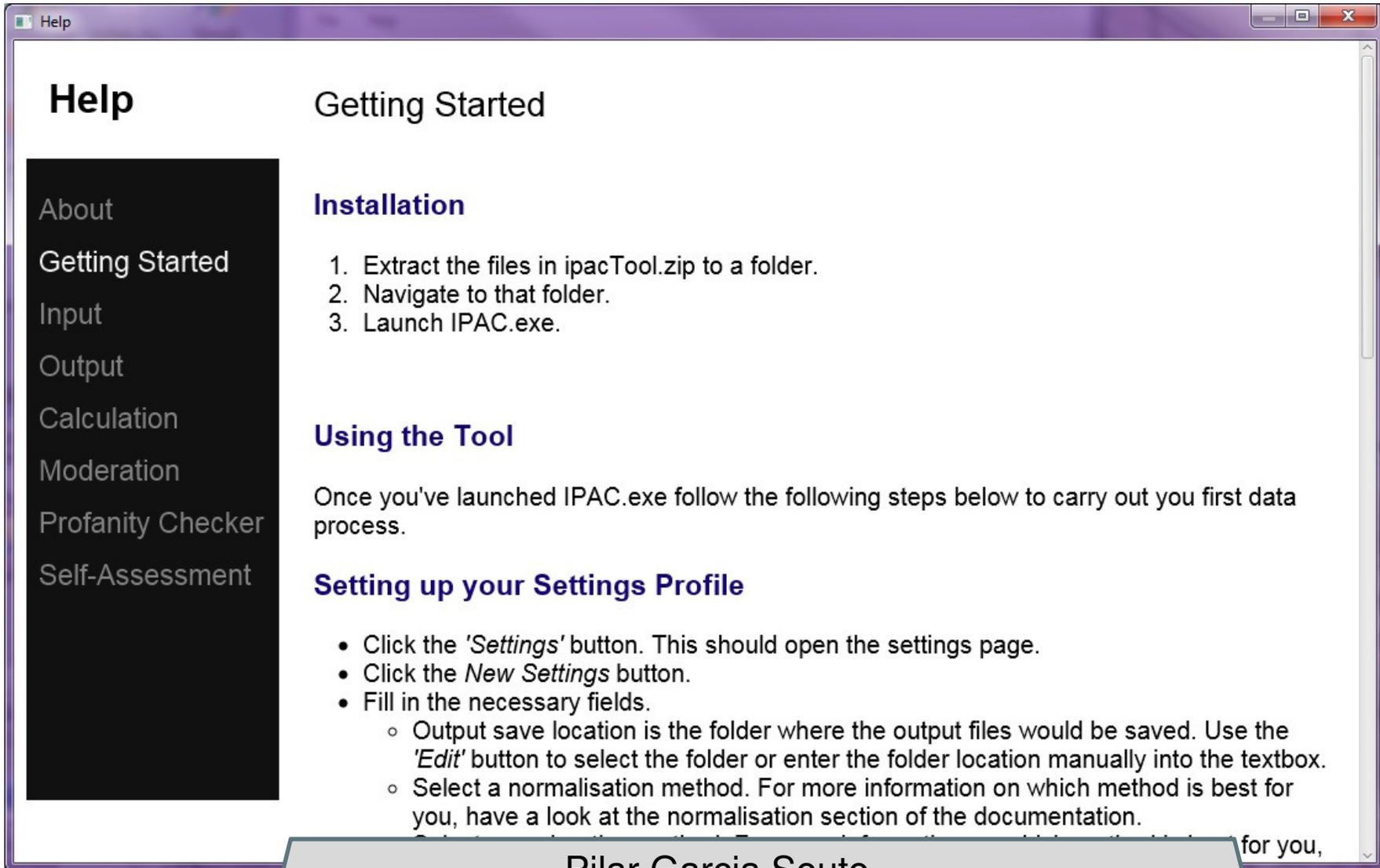


The system is customizable, allowing each tutor to run IPAC with their specifications, e.g.:

- Choose among various calculation methods
- Choose moderation
- Use multiple questionnaires at once
- Activate profanity checker
- Self-assessment
- Equal or unequal criteria weightings
- Select feedback that is given to students
- Save the settings for next time!

## Help - documentation

(All features and options explained)



The screenshot shows a window titled 'Help' with a dark sidebar on the left containing the following menu items: About, Getting Started, Input, Output, Calculation, Moderation, Profanity Checker, and Self-Assessment. The main content area is divided into sections: 'Getting Started', 'Installation' (with a numbered list: 1. Extract the files in ipacTool.zip to a folder, 2. Navigate to that folder, 3. Launch IPAC.exe), 'Using the Tool' (with a paragraph: 'Once you've launched IPAC.exe follow the following steps below to carry out you first data process.'), and 'Setting up your Settings Profile' (with a bulleted list: • Click the 'Settings' button. This should open the settings page. • Click the 'New Settings' button. • Fill in the necessary fields. • Output save location is the folder where the output files would be saved. Use the 'Edit' button to select the folder or enter the folder location manually into the textbox. • Select a normalisation method. For more information on which method is best for you, have a look at the normalisation section of the documentation. The text 'for you,' is partially visible at the bottom right of the window).

# Snapshot

**Output:** Organized data per group, student, and criteria

	Assessment Criterion 1									Assessment Criterion 2			Assessment Criterion 6		
	Group 1	Student 1	Student 2	Student 3	Student 4	Student 5	Average	Standard Deviation		Student 1	Student 2	Student 3	Student 4	Student 5	IPAC Factor
3	Student 1	5	6	6	6	5	5.6	0.5477		6	5	6			
4	Student 2	5	6	5	5	6	5.4	0.5477		6	6	5			
5	Student 3	5	5	5	5	5	5	0		6	5	5			
6	Student 4	4	6	6	5	6	5.4	0.8944		6	6	6			
7	Student 5	6	6	6	6	6	6	0		6	6	6			
9	Group 2	Student 1	6	5	6	6	6	5.8	0.4472		6	5	6		
10	Student 2	2	4	1	6	4	3.4	1.9494		2	5	2			
11	Student 3	6	4	6	6	5	5.4	0.8944		6	4	6			
12	Student 4	6	5	6	6	6	5.8	0.4472		6	6	6			
13	Student 5	3	4	5	6	5	4.6	1.1402		5	4	6			
15	Group 3	Student 1	0	5	3	0	3	3.6667	1.1547		0	6	4		
16	Student 2	0	6	5	0	6	5.6667	0.5774		0	5	6			
17	Student 3	0	5	6	0	6	5.6667	0.5774		0	5	5			
18	Student 4	0	6	6	0	6	6	0		0	6	6			
19	Student 5	0	5	6	0	6	5.6667	0.5774		0	5	6			
20															

# Snapshot

## Feedback to students (uploads into Moodle)

scores and comments.csv - Microsoft Excel

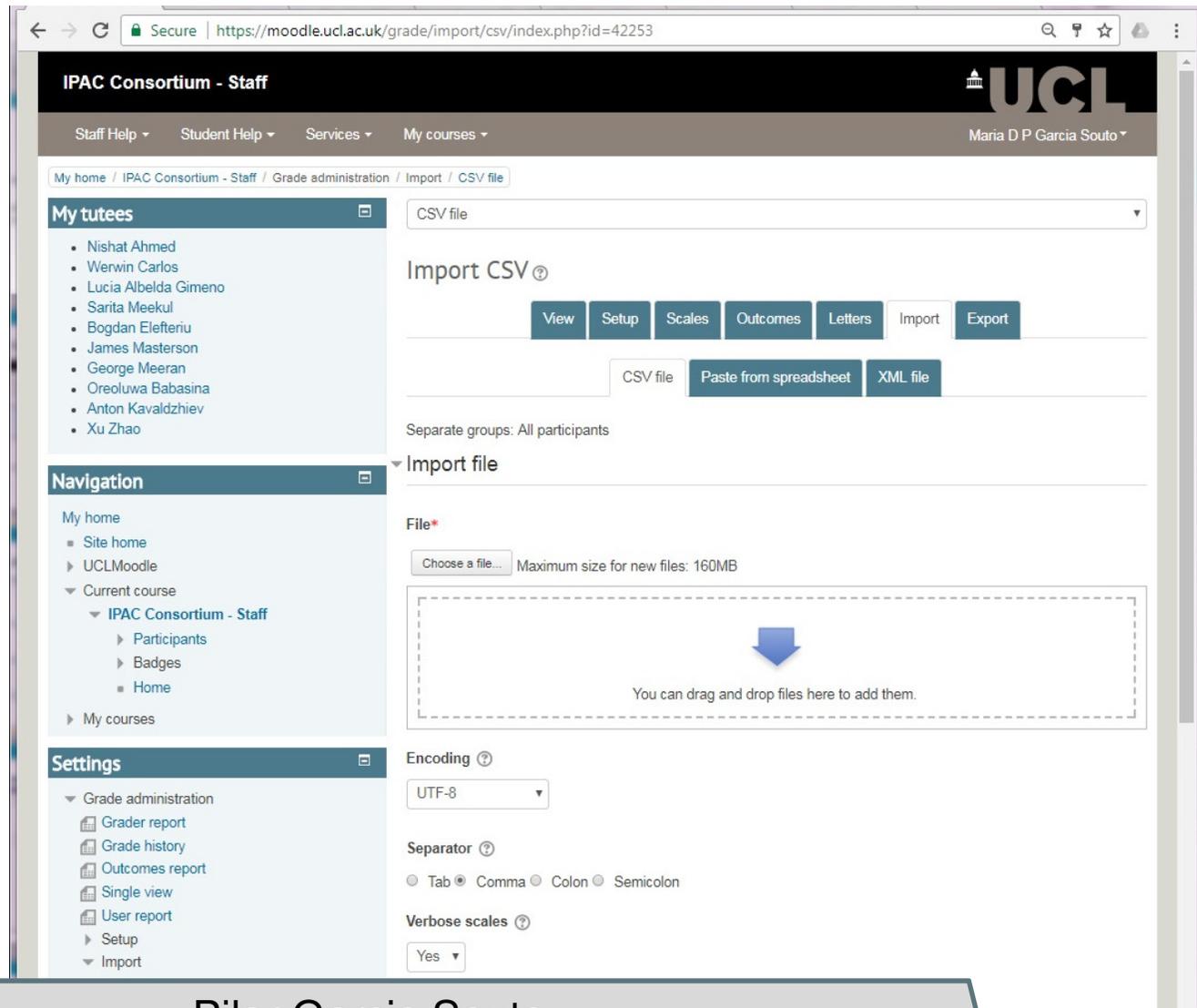
[Automatic tutor feedback specific for this student] and [Peer comments for this student]  
Summary of average marks received per assessment criterion.  
Criteria 1 = 6

	A	B	C	D	E	F	G	H	I	J	K	L
1	Name	Email Address	IPAC Score	C1 Average	C2 Average	C3 Average	C4 Average	C5 Average	C6 Average	Overall Weight	Comments feedback	Flagged Word(s)
2	Marie Curie	mcurie@ucl.ac.uk	0.9889	5.6	5.8	5.2	5.8	5.2	5	5.43	feedback specific for	
3	Blaise Pascal	bpascal@ucl.ac.uk	0.9808	5.4	5.6	5.2	5.6	5.4	5.2	5.4	marks received per	
4	Albert Einstein	aeinstein@ucl.ac.uk	0.968	5	5.4	5.4	5.4	5.4	5.4	5.33	marks received per	
5	Isaac Newton	inewton@ucl.ac.uk	1.0055	5.4	5.8	5.8	6	4.6	5.6	5.53	marks received per	
6	Galileo Galilei	ggalilei@ucl.ac.uk	1.0568	6	6	5.8	6	6	5	5.8	marks received per	
7	Gottfried Leibni	gleibniz@ucl.ac.uk	1.1142	5.8	5.8	6	5.6	5.6	5.6	5.73	marks received per	
8	Ada Lovelace	alovelace@ucl.ac.uk	0.7351	3.4	4	3.8	4	3.8	4.2	3.87	marks received per	
9	Alan Turing	aturing@ucl.ac.uk	1.0661	5.4	5.4	5.6	5.8	5.4	5.4	5.5	marks received per	
10	Linus Pauling	lpauling@ucl.ac.uk	1.1359	5.8	5.8	5.8	5.8	6	5.8	5.83	marks received per	
11	Dmitri Mendeleev	dmendeleev@ucl.ac.uk	0.9487	4.6	5.2	5.4	5.6	4	4.8	4.93	marks received per	
12	Niels Bohr	nbohr@ucl.ac.uk	0.8094	3.67	5.33	4.67	5	3.67	4.33	4.44	marks received per	
13	Hideki Yukawa	hyukawa@ucl.ac.uk	1.0376	5.67	5.67	5	6	5.67	6	5.67	marks received per	
14	Christiaan Huyge	chuygens@ucl.ac.uk	1.0265	5.67	5.33	6	5.33	5.67	5.67	5.61	marks received per	
15	Charles Darwin	cdarwin@ucl.ac.uk	1.0685	6	6	5.67	6	5.33	6	5.83	marks received per	
16	Thomas Edison	tedison@ucl.ac.uk	1.0579	5.67	5.67	6	5.67	6	5.67	5.78	marks received per	
17	Nikola Tesla	ntesla@ucl.ac.uk	1.0248	5	5.33	6	5.33	5.67	5.33	5.44	marks received per	
18	Max Planck	mplanck@ucl.ac.uk	1.0632	6	6	6	5.33	5.33	5.33	5.67	marks received per	
19	Ludwig Boltzma	lboltzmann@ucl.ac.uk	1.0955	6	6	6	5.67	5.67	5.67	5.83	marks received per	
20	Enrico Fermi	efermi@ucl.ac.uk	0.8165	4.67	4.67	4.33	5	4.33	4.33	4.56	marks received per	
21	James Clerk Max	jmaxwell@ucl.ac.uk	1.0285	6	5.5	6	5.75	5.5	5.75	5.75	marks received per	

# Snapshot

## Import marks and feedback into Moodle grade book

Few clicks and ...  
feedback and  
marks provided to  
all students!



The screenshot shows the Moodle 'Import CSV' interface for the 'IPAC Consortium - Staff' course. The browser address bar shows the URL: `https://moodle.ucl.ac.uk/grade/import/csv/index.php?id=42253`. The page header includes the UCL logo and the user name 'Maria D P Garcia Souto'. The breadcrumb trail is: 'My home / IPAC Consortium - Staff / Grade administration / Import / CSV file'. On the left, there are three main sections: 'My tutees' (listing names like Nishat Ahmed, Werwin Carlos, etc.), 'Navigation' (with links like Site home, UCLMoodle, and IPAC Consortium - Staff), and 'Settings' (with options like Grader report, Grade history, etc.). The main content area is titled 'Import CSV' and features several tabs: 'View', 'Setup', 'Scales', 'Outcomes', 'Letters', 'Import', and 'Export'. Below these are buttons for 'CSV file', 'Paste from spreadsheet', and 'XML file'. There is a section for 'Separate groups: All participants' and an 'Import file' section with a 'File\*' input field and a 'Choose a file...' button. A large dashed box with a blue arrow pointing down contains the text: 'You can drag and drop files here to add them.' At the bottom, there are settings for 'Encoding' (set to UTF-8), 'Separator' (radio buttons for Tab, Comma, Colon, Semicolon), and 'Verbose scales' (set to Yes).

## **QUESTIONS SO FAR**

**before moving to case studies?**

## 7. Case study: Making group work easier for lecturer with IPAC



Testing



staff



students

# Group working is important for life so I have built it into my courses for the last four years

## Logistics (10 week term)

- Assign teams in week 2
- Presentation in week 7
- Report (wiki/word) in week 10

## Marking

- 30% of assessment
- Expectation of everyone getting group mark
- Lower mark for poor individual contribution?

## Project and team organisation

- Leave team to decide how to take project forward

## Life before IPAC – evidence on individual contribution

- Attendance and group dynamics at lectures and compulsory seminars
- Performance in group presentation
- For one course, individual contribution to Moodle wiki
- Peer complaints – email/office hours
- Student response to chasing emails if missed compulsory seminars
- Student response to chasing emails if concerns raised by peers

Poor quality, random and qualitative information on individual contribution  
Only adjusted for group mark if hardly any sign of the student during the term  
Free-riding and 'unfairness' of group mark common theme in module feedback

## Introduced IPAC as part of wider set of information on individual contribution

- Compulsory project-linked seminars weeks 3, 6, and 9 (mark out of 1 for each)
- Presentation in week 7 (mark out of 1)
- Complete peer feedback quiz in weeks 4, 8 and 10 ['quick' to give feedback to students] (mark out of 1 for each)
- Wiki activity [for one of the two courses] (no marks\*)
- IPAC score in weeks 4, 8 and 10 [students get score and comments]

## Information on individual contribution affects individual mark

- +/-5% of group mark for outliers
  - Participation score (out of 1): average of scores for attendance, participation in presentation and completion of quizzes
  - Average IPAC score
- Raised issues with individuals mid-term to give right to reply and opportunity to adapt
- Recognised improvement over time

Transparent approach. Students engaging with each other as well as me.  
Far less discussion in office hours/by email

# Adjustment rules

Participation score (out of 1)		IPAC score (on track=1)	
>=0.75	No adjustment	Less than 0.45	Minus 5%
0.65-0.74	Minus 1%	0.45-0.54	Minus 4%
0.55-0.64	Minus 2%	0.55-0.64	Minus 3%
0.45-0.54	Minus 3%	0.65-0.74	Minus 2%
0.35-0.44	Minus 4%	0.75-0.84	Minus 1%
Less than 0.34	Minus 5%	0.85-1.03	No adjustment
		1.04-1.06	Plus 1%
		1.07-1.09	Plus 2%
		1.10-1.12	Plus 3%
		1.13-1.15	Plus 4%
		>1.15	Plus 5%

## Lessons learned (so far)

- Fewer issues in my inbox/at my door
  - Did worst cases engage with peer feedback?
  - Were some students too nice, particularly in the beginning?
- I need to be more explicit upfront about how I'm going to make adjustments next year
- I'm not very 'tech' but this tool made getting and sharing feedback easy/quick

Helped to have existing tool to analyse individual contribution  
Still like to see group dynamic face-to-face as well.

## It is not (just) about making my life easier

Giving and receiving feedback is important for life

- Learn to give constructive/polite feedback
- Learn to reflect on feedback
- Learn to regroup as a team in challenging times

Challenges of team working not gone away  
Face them and deal with them

## 8. Case study: Influence of peer assessment on students and assessors in capstone group design projects



Testing



staff



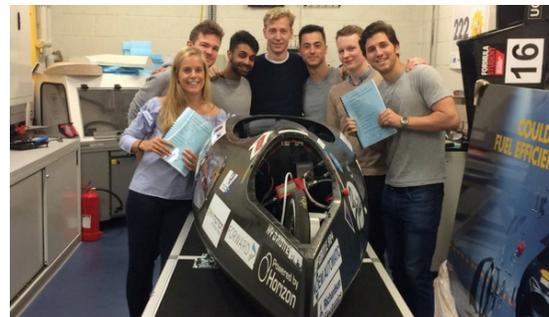
students

# MEng Capstone Group Design Project in Mechanical Engineering

- Year-long group design project. Groups of 5-12 students, supervised by an academic or industry partner.
- 2-credit module (50% of 4<sup>th</sup> year credits)



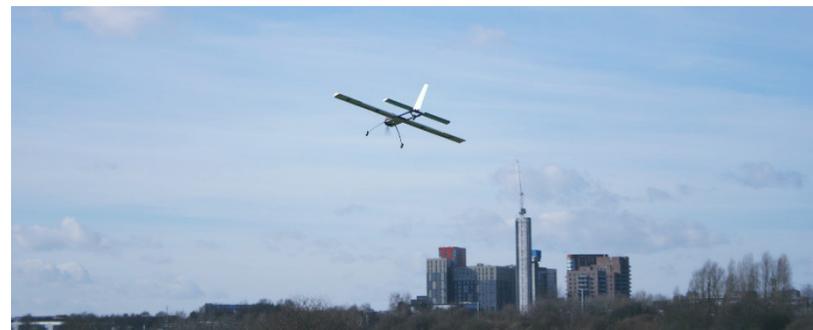
Formula Student



Shell Eco Marathon



Bamboo Cargo Bike



Unmanned Aircraft Systems

# MEng Capstone Group Design Project in Mechanical Engineering

- Assessment distribution: 90% team– 10% individual
- Before 2016: no modification of team grade for individual members, or normalisation by the individual grade
- Last 2 years: use of peer assessment with the following pattern:
  - 4 assessments yearly, typically after major milestones
  - Assessment results are made available to supervisors and students, but only supervisors can view free-text comments
  - Supervisors interview individual students twice a year, and grade performance (both observed and peer-assessed)
  - In the end of the year, supervisors suggest distribution of team grades through multiplicative factors, by moderating IPAC scores; final moderation is done by module coordinators

# Objectives of Peer Assessment

1. Fair representation of individual contributions

## Effective Formative Evaluation

- 2. Students: Can get periodic feedback on how well they are doing within the team
- 3. Students: Can push team members who have not performed well to do better
- 4. Supervisors: Can detect hidden team problems and advise or act on them

## Effective Summative Evaluation

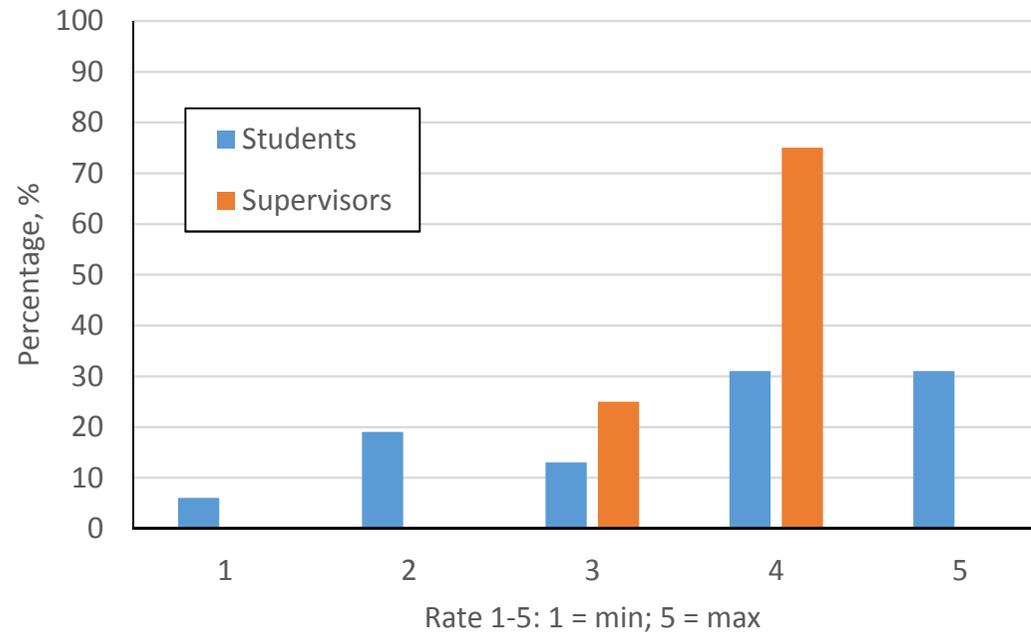
- 5. Supervisors: Can assess fairly contribution of individual team members

Have we achieved these objectives? A series of questions were posed to students and supervisors...



# 1. Fairness of Evaluation

How representative of the contribution (i.e. fair) were the peer assessment grades?



# 1. Fairness of Evaluation

## Student Comments:

- Since team members often think their own grade is affected by what they give someone else, they tend to give lower scores so their average is higher.
- The grading range is not wide enough a fair measure of the contribution
- The rather indirect approach/inconvenience of having us refer to the questions and then the grade might mean that some of us won't check the feedback at all.

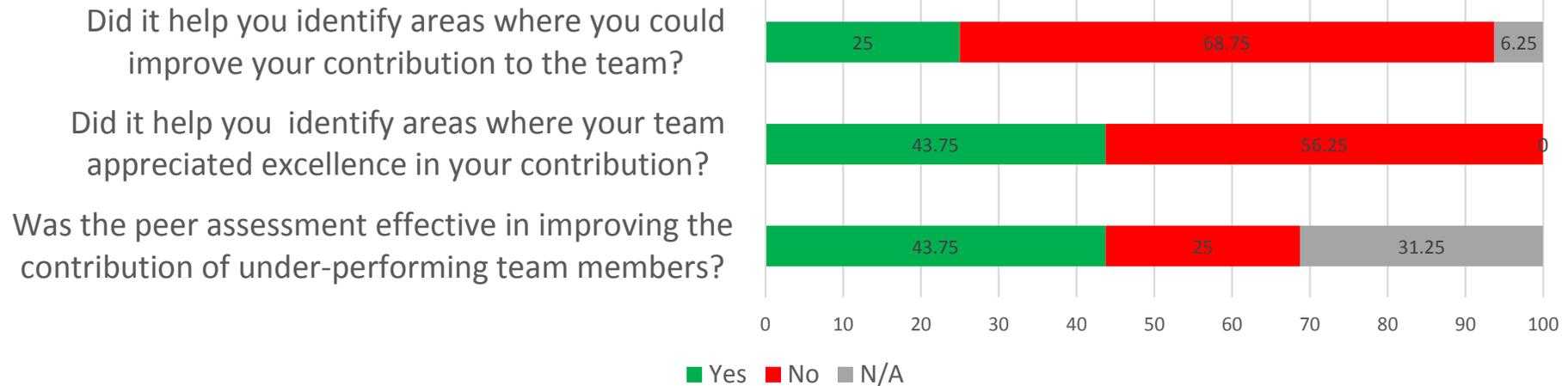
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## Supervisor Comments:

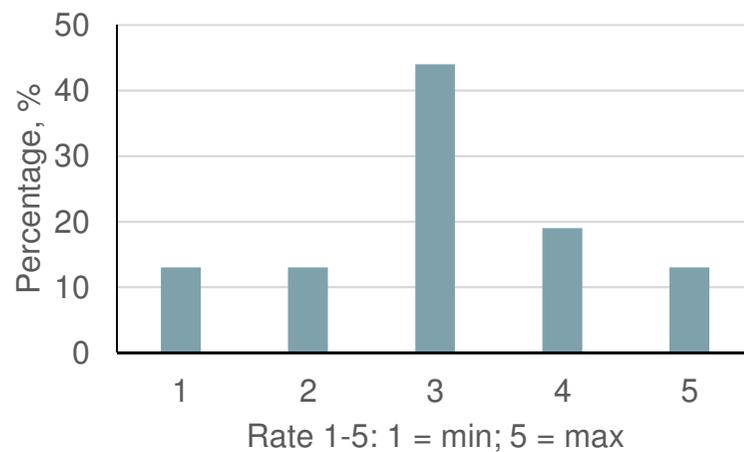
- The first peer assessment correctly identified one group member, who had not fully contributed, on the second assessment they decided 'to be nice to each other'
- It seems that some students hesitate to highlight a poor performance and mark their peers low. They may also feel betraying their peers.
- Inertial effects: I have one student who has contributed well this term but is still being marked down, whereas another put in a good performance last term, but lousy this term and still gets a good assessment

## 2. Effectiveness in Formative Assessment

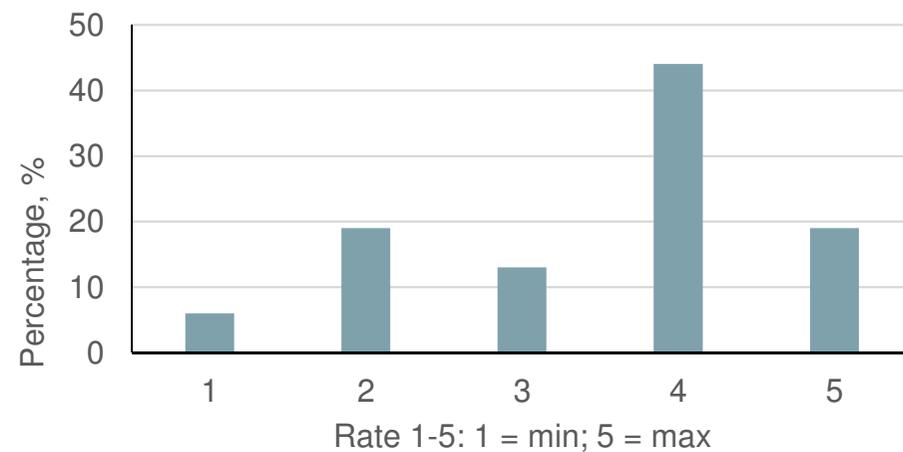
### Students



### Usefulness in improving your contribution



### Usefulness in improving accountability



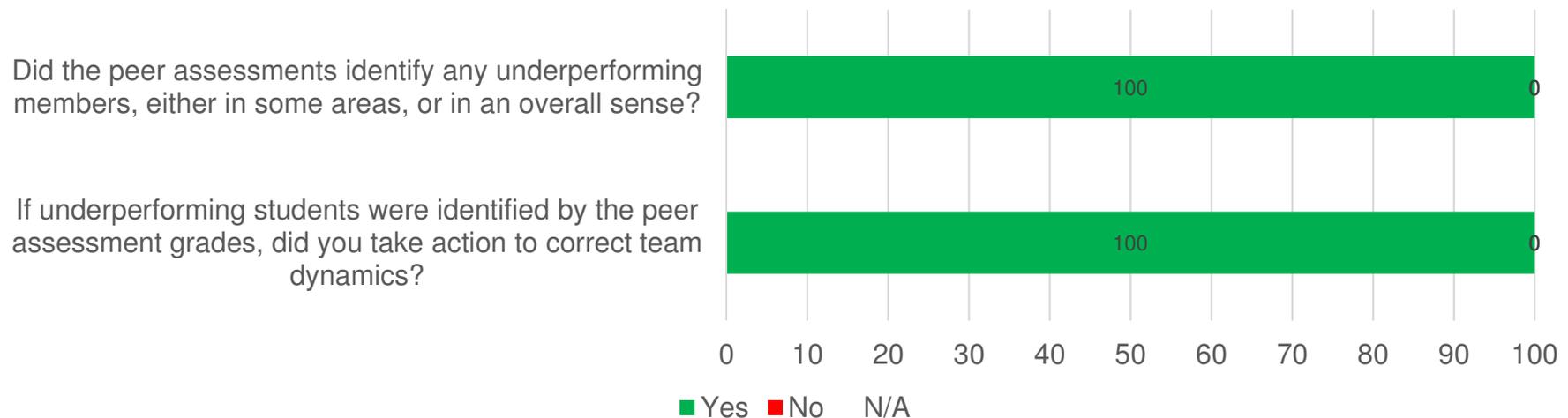
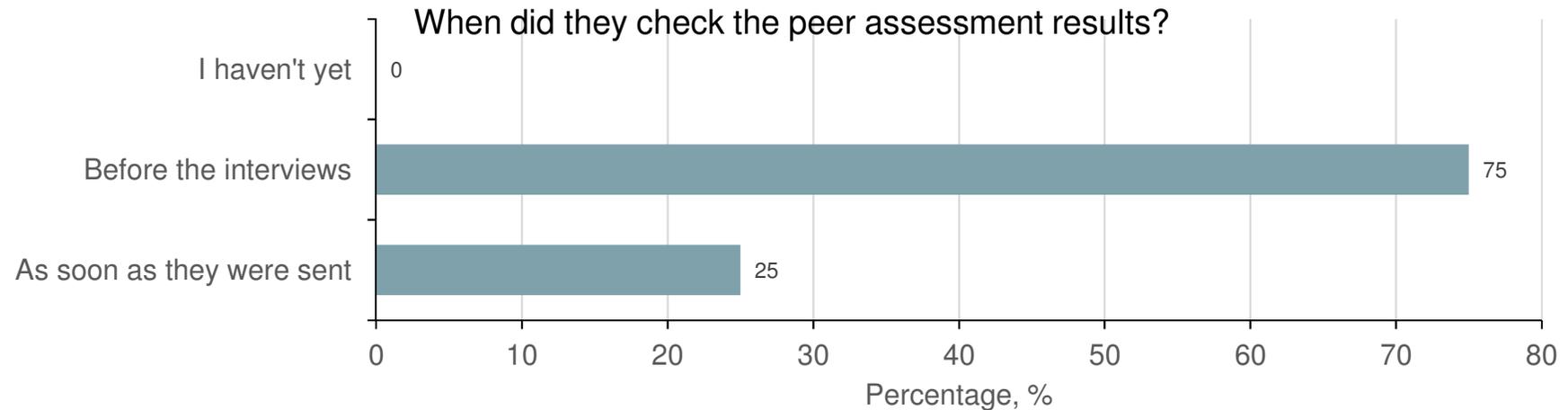
## 2. Effectiveness in Formative Assessment

### Student Comments:

- The lack of open feedback received from the peer reviews should be addressed to make the tool useful. This could be in the form of reading what other team mates comment or from meeting the supervisor to comment on the grade.
- It has allowed discussions between members to ensure those who are underperforming work harder
- It makes people accountable for the work they have done
- It is useful to tell you what the rest of the team think of your contribution or your role in the project
- When a team is divided into sub-teams, some members will be more informed of the work one are doing than others
- For our team, the peer assessment was a formality, as issues related to performance were discussed within the team. For other teams, it seemed that the peer review often came as a shock to team members who got low reviews, and in the short term ended up creating tension in the team

## 2. Effectiveness in Formative Assessment

### Supervisors



## 2. Effectiveness in Formative Assessment

### Supervisor Comments:

- One student was correctly identified as not sufficiently contributing in the first peer assessment, which was obvious to everyone anyways. I think it helped to spurn him on, but had a negative effect on team dynamics.
- I was aware of a situation with an underperforming student before the peer assessment, but it certainly helped the student become aware of issue.

### 3. Effectiveness in Summative Assessment

#### Supervisors

1. How much did the peer assessment results influence your assessments in interim interviews?
    - Evenly distributed responses, from “Not at all (1)” to “Moderately (4)”
  2. But: Do you plan to use the peer assessment results to help you decide the final weighting factors?
    - 75% “Yes”; 25% “No”
- 

#### Student Comments:

- The peer review definitely does contribute to the responsibility and accountability of the team members and I believe should have a bigger weightage in the marks distribution

#### Supervisor Comments:

- It helps me understand the team dynamics more clearly, it’s generally a good indicator of student contribution

## What Have We Learned?

1. Student comments have been specific, constructive, and truthful. Privacy to supervisors has not made them more truthful, so there is no reason not to share them with the students
2. It's clear that the perceived value for students is formative assessment, and for supervisors it is summative assessment – nothing wrong with this
3. Representation of results and fairness of assessment must be improved:
  - Student training on best practices at the outset
  - Clarification of calculation procedures. Engineering students are suspicious of anything that is not transparent
  - Dispelling of myths about some students “playing the system”
4. Non-moderated connection to grade or a portion of it?

## 9. Case study: What are the typical marks given by students to peers?



Testing



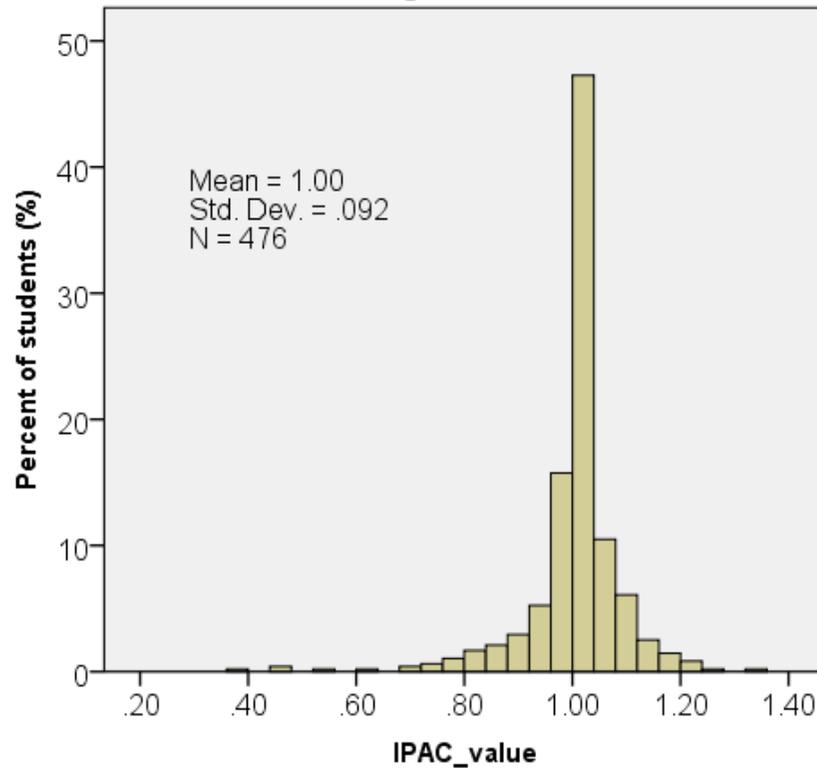
students

## Case studies analysed

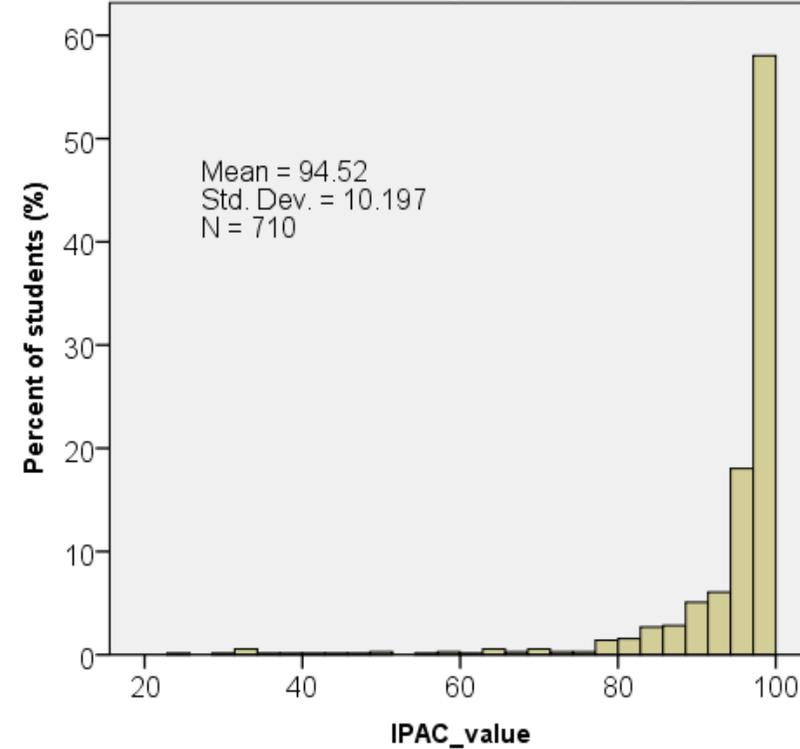
#	Lead	Department	N stud	Group size	Year	N weeks	IPAC method
1	Pilar Garcia Souto	Biomedical Eng	22	3-4	2	18	Normalized
2	Pilar Garcia Souto	Biomedical Eng	13	4-5	3	20	Normalized
3	Tristan Robinson	CEGE	80	8-9		1	Normalized
4	Tristan Robinson	CEGE	79	8-9		1	Normalized
5	Tristan Robinson	CEGE	79	3-4		1	Normalized
6	Kate Roach	Engineering Fac	714		1	5	Out of 100
7	Yuhong Zhou	Biochemical Eng	20	3-4	1	6	Normalized
8	Thomas Kador	UCL Culture	41	5-6			Normalized
9	Cloda Jenkins	Economics	67	5-4			Normalized
10	Cloda Jenkins	Economics	59	5-4			Normalized
11	Dean Barratt	Biomedical Eng	21	4-5	2	1	Normalized

# Typical IPAC values obtained by students

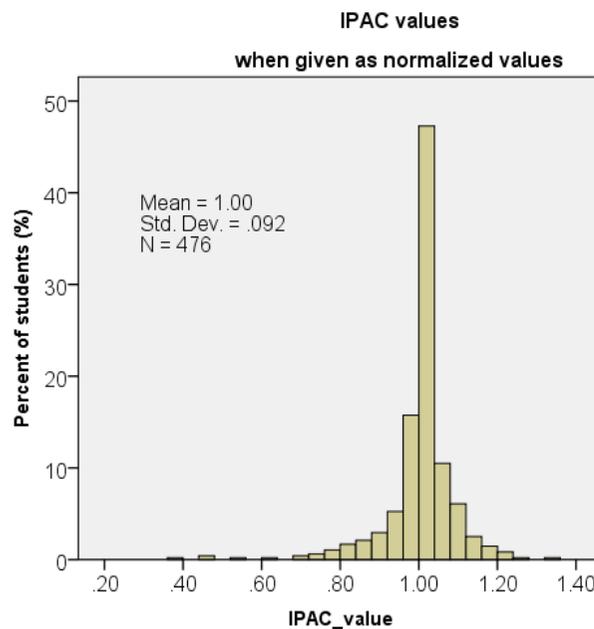
IPAC values  
when given as normalized values



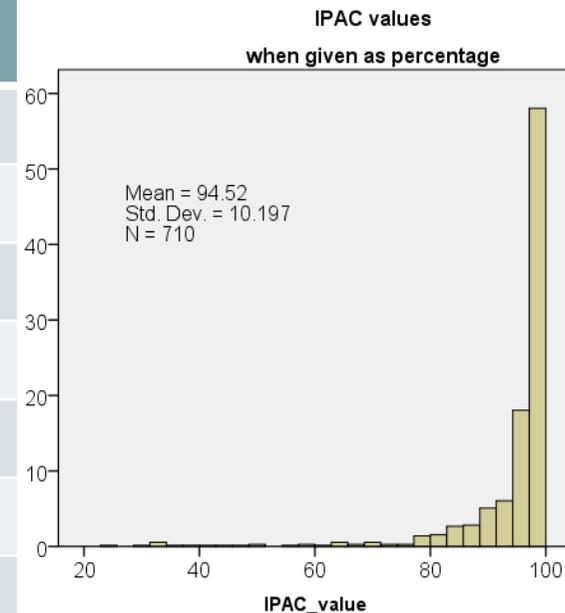
IPAC values  
when given as percentage



# Typical IPAC values obtained by students

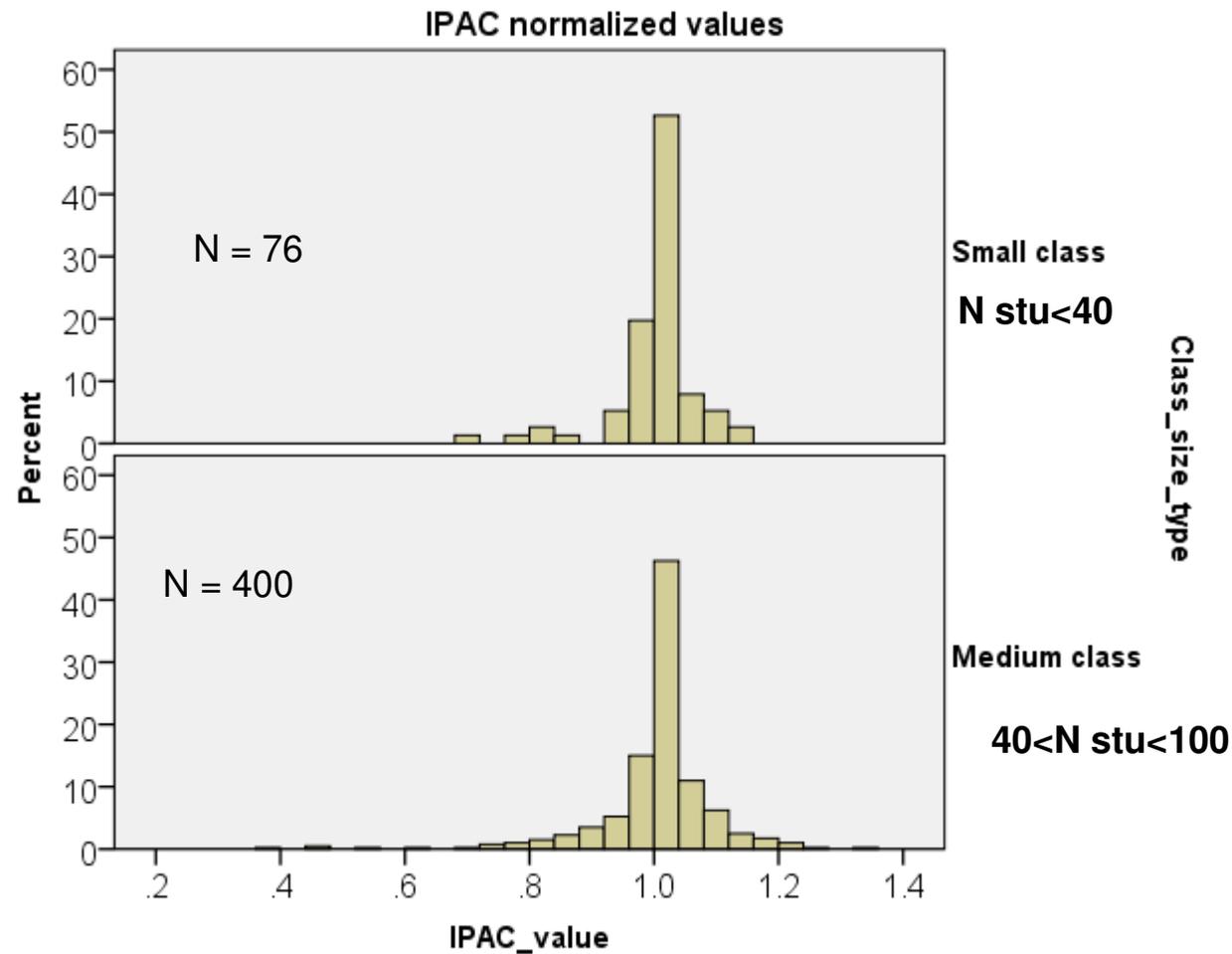


Percentile	Normalized	Out of 100%
2	0.74	56.5
5	0.84	78.2
10	0.92	85.1
20	0.98	92.4
50	1.00	97.9
80	1.05	100
90	1.09	100
95	1.14	100
98	1.19	100



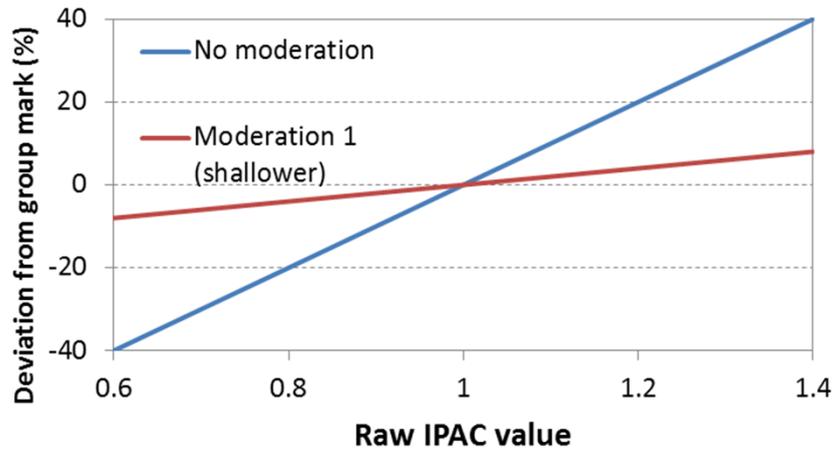
# Effect of class size

No statistical difference at  $p = 0.01$

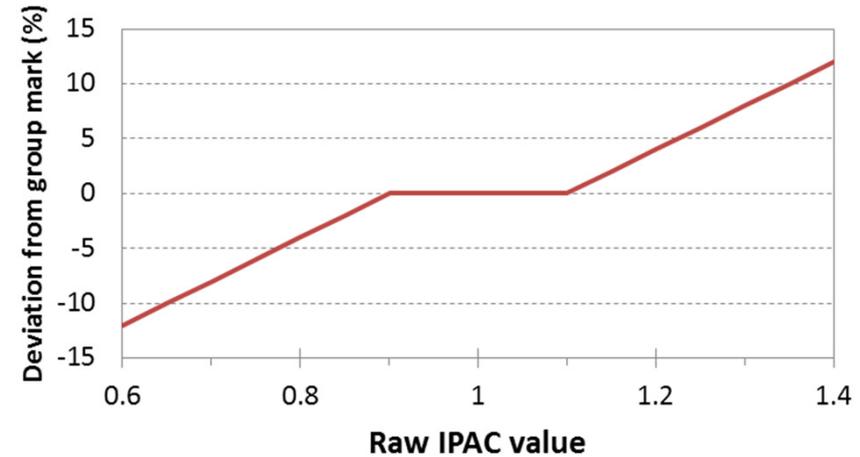


# Staff marks moderation

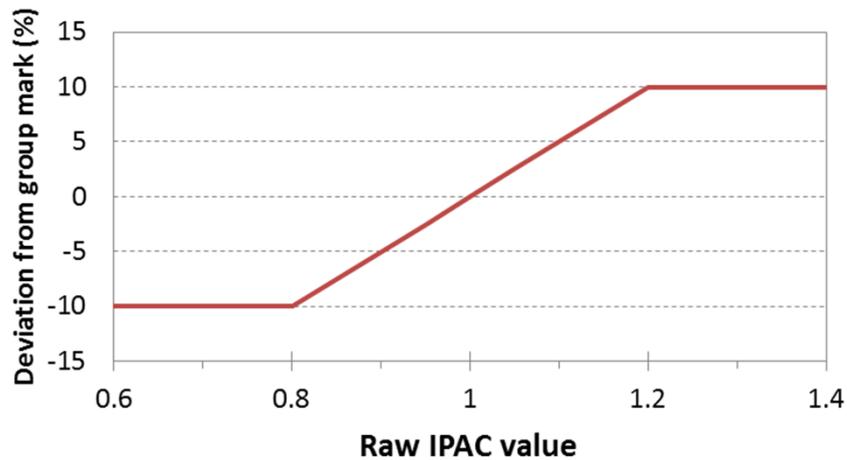
### Types of moderation



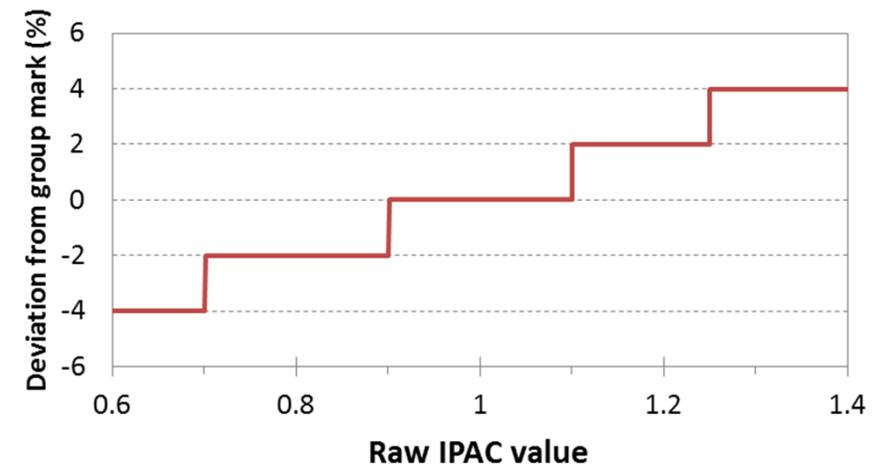
### Moderation 2 (only extremes)



### Moderation 3 (capping extremes)



### Moderation 4 (stages)



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# Credits

**Pilar Garcia Souto** – Medical Physics and Biomed Eng Dept

**Ryan Grammenos** – Electronic and Electrical Eng Dept

**Cicely Striolo** – Chemical Eng Dept

**Mira Vogel** – LTMS Digital Education

**Cloda Jenkins** - Economics Dept

**Will Newton** – Mechanical Eng Dept

**Eral Bele** – Mechanical Eng Dept

**Do you want to know more?**

**Interested on the outcomes?**

**Be involved with this research and consortium?**

**Test method and tool?**

**E-mail Pilar Garcia Souto**

**[p.garciasouto@ucl.ac.uk](mailto:p.garciasouto@ucl.ac.uk)**

# ROUNDTABLE

## Feedback / questions from participants?

- Priority areas for further work in the IPAC Consortium?
- Priority requirements for the IPAC tool?
- What training can we to provide to students?
- Would you use IPAC in your activities? How?