# **Group work as Assessments: Perspectives from UK Educators**

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### Students' quotes

- "The project enabled me to learn how to effectively work in a team, where all members have different schedules and commitments. I was also able to learn new, more effective ways of approaching tasks / problems."
- "... I worked with three other people who were all really engaged and I saw the value in group work."
- "Free riding throughout this project was a lot. Members of my group did not communicate and
  produced low standard work for their sections . . . I spent majority of the days until submission
  rewriting 90% of the content and formatting in order to have a decent assignment to submit."

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## Why group work?

#### Advantages:

- Enhances cooperation and/or collaboration [Herrmann, 2013]
- Inculcates transferable skills of communication and negotiation (employability skills)
   [Hammar Chiriac, 2014]
- Promotes problem-based learning [Biggs et al., 2022]

#### Challenges:

- Issues of free riding and social loafing [Vita, 2001; Mellor, 2012; Tosuntaş, 2020]
- Pandemic and distance learning [Wildman et al., 2021]
- Type of tasks [Davies, 2009]

## Group work as assessment?

- Useful assessment tool [Race, 2001]
- Extrinsic motivation [Watkins, 2004]
  - → "Have it part of the final grade assessment. Like a project work component so everyone will have the incentive to contribute. Having it in the exam (summer) is not sufficient to incentivise some to contribute." (student's comment) [Jenkins and Chaudhury, 2015]
- · Al and alternative methods of assessment
  - → "... limit [ChatGPT's] effectiveness in supporting group work, discussions, and other collaborative activities that are crucial for a well-rounded educational experience." [Michel-Villarreal et al., 2023]

## **Pre vs Post pandemic**

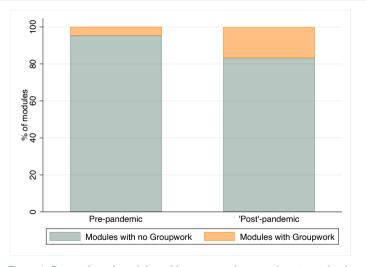


Figure 1: Proportion of modules with group work pre and post pandemic

## Distribution of group work across modules

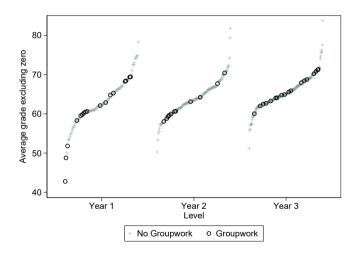


Figure 2: Modules with and without group work across levels of study

## Instructors' perspectives

Are economics academics willing to implement group work assessments; in what extend and type of courses?

- Why may instructors not be willing to implement group work?
  - · lack of information
  - · workload: time investment
  - experience
  - · class size
  - ...

## **Survey Design**

- Anonymous survey aimed to understand the use of group work as summative assessment in undergraduate economics courses
- 145 Respondents: UK based academics (including PhD students)
- Incentives to participate: random draw of 20 respondents each of whom received a £50 amazon voucher (funded by WIHEA, University of Warwick and University of Bristol)
- The survey is pre-registered and was ran in Qualtrics.

## Survey design

- Hypothetical scenario: teaching in two different large UG courses; one quantitative and one mixed
- Participants were randomly allocated into three groups seeing the same questions, but for different levels of study (first, second, third year courses)
- Between comparison: level of study, within comparison: type of course
- Main questions on willingness to implement group work as summative assessment and if yes, what percentage of the total assessment
- Salience of benefits of group work
- Questions on the ideal group size, the allocation between oral and written group work, peer assessment, attitudes towards group work, workload perceptions, student skills, and personal characteristics

#### Details on data

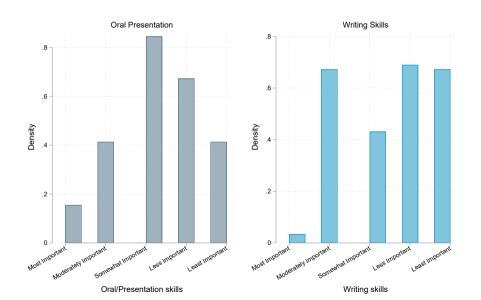
- 290 observations: each instructor answered for two courses
- Research focused versus teaching focused (69 vs. 66 participants)
- 77 males, 59 females Details
- Majority of respondents teaches large and small group classes, primarily mixed and quantitative courses

# Introduction of group work

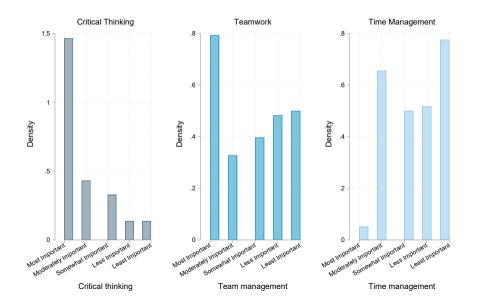


	(1)	(2)	(3)	(4)	(5)
Level of study (base: Year 1)					
Year 2	0.18**	0.18**	-0.05	-0.06	-0.08
	(0.08)	(0.08)	(0.09)	(0.09)	(0.09)
Year 3	-0.09	-0.09	-0.08	-0.07	-0.08
	(0.07)	(0.07)	(0.09)	(0.09)	(0.09)
Quantitative module		-0.30***	-0.44***	-0.44***	-0.44***
		(0.05)	(0.07)	(0.07)	(0.07)
Year 2 × Quantitative module			0.46***	0.46***	0.46***
			(0.10)	(0.10)	(0.11)
Year 3 × Quantitative module			-0.03	-0.03	-0.02
Female			(0.10)	(0.10)	(0.10)
remaie				0.06	(0.06)
Specific module experience				(0.00)	0.05
Specific module experience					(0.06)
Workload increase perception					-0.01
Trontaga maradaa paraapitan					(0.07)
Career track (base: E&R)					(0.07)
E&S					0.07
200					(0.06)
No distinction					-0.04
					(0.12)
Experience (base: up to 3 years)					()
3-7 years					-0.06
					(0.12)
7 years & above					-0.18
					(0.11)
Weekly teaching hours (base: up to 3 hours)					
3-5 hours					-0.24***
					(0.09)
6-8 hours					0.09
					(0.09)
Above 8 hours					-0.17*
					(0.10)
$\alpha$	0.52***	0.67***	0.74***	0.71***	0.90***
	(0.05)	(0.06)	(0.06)	(0.07)	(0.12)
Observations	290	290	290	290	290
R-squared	0.05	0.14	0.19	0.19	0.29
Adjusted R-squared	0.04	0.13	0.18	0.18	0.25

#### **Oral and Written Skills**



#### **Other Skills**



## Do skills affect introduction of group work?

	(1)	(2)	(3)	(4)	(5)
Quantitative module	-0.22***	-0.33***	-0.39***	-0.25***	-0.31***
Quantitative module	(0.07)	(0.06)	(0.09)	(0.05)	(0.05)
Female	0.08	0.07	0.07	0.03)	0.07
remae	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Specific module experience	0.04	0.05	0.04	0.05	0.06
opecine mousie expensivos	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Workload increase perception	0.00	-0.01	-0.01	-0.01	-0.01
Torrida incident per deputer.	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
	(0.00)	(0.01)		(0.01)	(0.01)
E&S	0.03	0.07	0.07	0.07	0.05
	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)
No distinction	-0.07	-0.02	-0.06	-0.04	-0.07
	(0.12)	(0.12)	(0.12)	(0.12)	(0.13)
Experience (base: up to 3 years)					
3-7 years	-0.04	-0.05	-0.05	-0.06	-0.05
,	(0.11)	(0.12)	(0.12)	(0.12)	(0.11)
7 years & above	-0.17	-0.17	-0.18	-0.18	-0.17
	(0.10)	(0.11)	(0.11)	(0.11)	(0.11)
Weekly teaching hours (base: up to 3 hours)					
3-5 hours	-0.23***	-0.24***	-0.24***	-0.25***	-0.24***
	(0.08)	(0.09)	(0.09)	(0.08)	(0.08)
6-8 hours	0.08	0.10	0.09	0.09	0.08
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Above 8 hours	-0.17*	-0.17*	-0.18*	-0.17°	-0.18°
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Team Skill: High	0.27***				
	(0.07)				
Team Skill: High × Quantitative module	-0.16*				
	(0.09)				
Time Skill: High		-0.14			
		(0.09)			
Time Skill: High × Quantitative module		0.15			
		(0.10)			
Critical Skill: High			-0.11		
			(0.09)		
Critical Skill: High × Quantitative module			0.13		
			(0.10)		
Oral Skill: High				0.06	
				(0.09)	
Oral Skill: High × Quantitative module				-0.17	
Writing Skill: High				(0.11)	-0.13
					(0.10)
Writing Skill: High × Quantitative module					0.08
					(0.11)
α	0.70***	0.85***	0.91***	0.81***	0.86***
	(0.12)	(0.12)	(0.15)	(0.12)	(0.12)
Observations	290	290	290	290	290
B-squared	0.28	0.25	0.24	0.25	0.25
Adjusted R-squared	0.24	0.21	0.20	0.20	0.21

# Percentage of group work



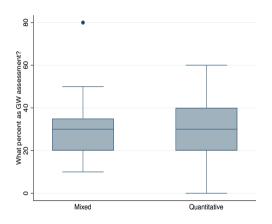


Figure 3: Across types of courses

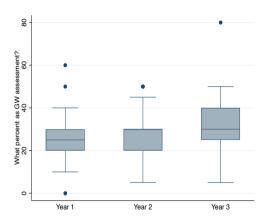


Figure 4: Across years of study

#### Oral or written?

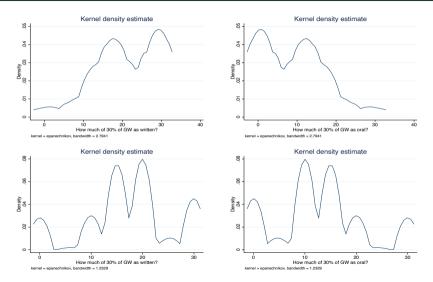


Figure 5: Quantitative (upper panels) and Mixed modules (lower panels): percentage of written and oral components

## **Benefits of group work**

- · "Introduces collective responsibility, collaboration, working with unknown people."
- "To help students develop teamwork skills and diversify their assessment experience."
- "Efficiency gains. If group work minimises my marking time per student, while delivering what it is supposed to deliver, then I would be in it.



# Benefits of group work contd.

Skills & Employability	Team work			
Presentation	Peer learning			
Creativity	Collaboration			
Critical thinking	Peer exchanging			
Communication, Leadership	Work together/Coordinate			
Time management	Learning from each other			
Technical, Interpersonal, Writing	Collective responsibility, Cohesion, Diversity			
Assessment	Student Experience			
In-depth	Student-centred			
Complex issues/Research	Deep-learning			
Challenging	Learning experience			
Authenticity	Active learning			
Complementarity to individual assessments	Sense of belonging, common ground			
	Engagement, fun (maybe not in Maths)			

### Concerns about group work

- "Unless designed carefully, group assignments may lead to large-scale collusion. Another concern is unequal contribution of group members."
- "Workload for administration and free riding."
- "Some students really dislike it and having part of their mark depending on the effort (or lack thereof) of students. Some students also have social anxiety issues. Potential for one student who cares the most doing most of the work...."



# Concerns regarding group work contd.

Instructor experience	Student experience
Fairness & Accountability	Free-riding
Complaints	Group conflicts
Workload (time, admin)	Student frustration
ILOs (less creativity, less cohesion)	Incentives
Assessment (limited re-assessment, allocation issues)	Reliance on others
Misconduct, AI	Feedback issues
Marking criteria, Masking low ability	

#### Summary

- Attempt to systematically explore and provide evidence on (Economics) instructors' perspectives about group work
- Propensity to introduce group work is lower in quantitative courses contrary to the ones combining economic reasoning with mathematical skills.
- Need to have course-type specific structured guidance for group work assessments to enhance student employability skills, and help deliver course learning outcomes
- Sample likely (definitely?) includes selected educators, who are interested and enthusiastic about teaching.

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# Gender and track of survey respondents

	Track								
Gender	E&R		Е	& S	Does	not exist	To	otal	
	No.	%	No.	%	No.	%	No.	%	
Female	25	36.2	30	45.5	4	40.0	59	40.7	
Male	42	60.9	32	48.5	3	30.0	77	53.1	
Non-binary	0	0.0	1	1.5	0	0.0	1	0.7	
Prefer not to say	2	2.9	3	4.5	3	30.0	8	5.5	
Total	69	100.0	66	100.0	10	100.0	145	100.0	
			'		1		1		

Table 1: Respondents across gender and track

# Type of courses and classes of survey respondents

	Type of classes							
Type of courses	Both		Both Lectures		Ser	ninars	Total	
	No.	%	No.	%	No.	%	No.	%
Discursive	6	5.5	0	0.0	0	0.0	6	4.1
Mixed	64	58.2	14	73.7	8	50.0	86	59.3
Quantitative	33	30.0	5	26.3	7	43.8	45	31.0
Other	7	6.4	0	0.0	1	6.2	8	5.5
Total	110	100.0	19	100.0	16	100.0	145	100.0
			'		'		1	

Table 2: Respondents according to the type of courses and teaching responsibilities

## **Experience and hours of work of survey respondents**

	How many years of teaching experience do you have?							
Hours	3-7	3-7 years		7 years and above		than 3 years	Total	
	No.	%	No.	%	No.	%	No.	%
Less than 3 hours	8	18.2	19	21.6	4	30.8	31	21.4
3-5 hours	14	31.8	28	31.8	6	46.2	48	33.1
6-8 hours	10	22.7	19	21.6	2	15.4	31	21.4
Above 8 hours	12	27.3	22	25.0	1	7.7	35	24.1
Total	44	100.0	88 100.0		13	100.0	145	100.0
			'		'		'	

Table 3: Respondents according to experience and hours of work

#### Scenario

Suppose you are teaching two large first year undergraduate modules (one in each term with approximately 150 students in each): Introductory Economics and Mathematics for Economists.

The University is encouraging the use of group work as part of summative assessments starting next academic year. Currently, there are no definitive guidelines on the amount or structure of group work. You are solely responsible for deciding the module assessment structure.

#### Salience

"Groupwork is [...] claimed to be an authentic form of assessment in terms of a student's later employability, as working in groups is an essential part of an individual's career, and recruiters often ask students about their experience working in group settings."

(Davies, W. M., 2009. Groupwork as a form of assessment: Common problems and recommended solutions. Higher Education, 58, 563-584.)

# No module grouping



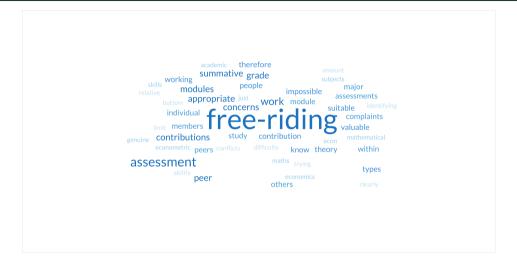
	(1)	(2)
Types of courses (base: Econometrics (UG2))		
Advanced Maths (UG3)	-0.52***	-0.53***
(,	(0.09)	(0.09)
Advanced topic in Micro/Macro (UG3)	-0.05	-0.06
	(0.10)	(0.10)
Intermediate Micro/Macro (UG2)	-0.02	-0.06
	(0.08)	(0.08)
Economics (UG1)	0.03	0.01
	(0.09)	(0.09)
Maths for Economics (UG1)	-0.41***	-0.42***
	(0.09)	(0.09)
Female		0.08
		(0.06)
Specific module experience		0.08
		(0.06)
Workload increase perception		-0.01
		(0.06)
Career track (base: E&R)		
E&S		
E&S		0.04
No distinction		(0.06)
No distinction		(0.11)
Experience (base: up to 3 years)		(0.11)
Experience (base, up to 3 years)		
3-7 years		0.05
o i yours		(0.11)
7 years & above		-0.08
7 Julius di diboro		(0.10)
Weekly teaching hours (base: up to 3 hours)		(=)
,,,		
3-5 hours		-0.24***
		(0.09)
6-8 hours		0.10
		(0.09)
Above 8 hours		-0.19*
		(0.10)
$\alpha$	0.71***	0.77***
	(0.07)	(0.13)
Observations	290	272
R-squared	0.19	0.31
Adjusted R-squared	0.18	0.27

### Benefits of group work





## Concerns about group work



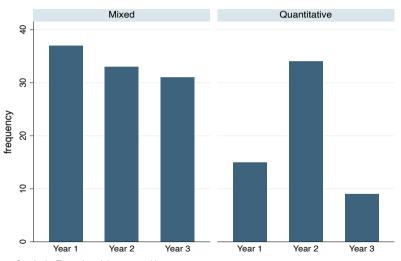


## Group work and grades

	(1)	(2)	(3)
Group work	-1.7969*	-1.6238*	-1.6473*
	(0.9273)	(0.8621)	(0.8725)
Year 2		0.5230	0.5327
		(0.8302)	(0.8334)
Year 3		2.4632***	2.5298***
		(0.7763)	(0.7912)
Mixed			-1.0814
			(1.3763)
Quantitative			-0.8205
			(1.5261)
Constant	64.5312***	63.2952***	64.2126***
	(0.3147)	(0.6698)	(1.4406)
Key Variable	Groupwork	Groupwork	Groupwork
Controls	No	Yes	Yes
Adjusted R-squared	0.01	0.05	0.05
Observations	279	279	279

Table 4: Overall average grades: Module level data

# Introduction of group work



Graphs by Type of module answered in survey

# Percentage of group work



	(1)	(2)	(3)	(4)	(5)
Level of study (base: Year 1)					
Year 2	1.44	1.68	-0.06	0.05	-0.21
rear 2	(2.43)	(2.58)	(2.29)	(2.28)	(2.19)
Year 3	5.01	4.94	4.18	4.40	3.90
	(3.09)	(3.07)	(2.94)	(2.93)	(2.77)
Quantitative module		-1.12	-3.91	-4.11	-2.84
Year 2 × Quantitative module		(1.56)	(3.45)	(3.40)	(3.13)
Total E × Qualitative module			(3.77)	(3.77)	(3.47)
Year 3 × Quantitative module			2.60	3.22	2.98
			(5.47)	(5.37)	(4.84)
Female				1.74 (2.08)	2.83
Specific module experience				(2.08)	-1.04
openio module esperiore					(1.87)
Workload increase perception					-7.17***
					(2.34)
Career track (base: E&R)					
E&S					-1.40
					(2.45)
No distinction					13.13**
					(5.23)
Experience (base: up to 3 years)					(4.40)
Experience (outset up to a years)					
3-7 years					-0.29
					(4.03)
7 years & above					-0.60 (3.45)
Weekly teaching hours (base: up to 3 hours)					(3.45)
, , , , , , , , , , , , , , , , , , , ,					
3-5 hours					-1.18
C D house					(3.31)
6-8 hours					-0.34 (3.09)
Above 8 hours					-0.20
					(3.51)
$\alpha$	27.12***	27.44***	28.24***	27.40***	30.38***
	(1.86)	(1.70)	(1.41)	(1.74)	(3.62)
Observations	159	159	159	159	159
R-squared	0.03	0.03	0.04	0.04	0.22
Adjusted R-squared	0.02	0.01	0.01	0.00	0.14