

# Peaks and Throughs in the Q-Step Year: A Longitudinal Evaluation of Innovative Quantitative Teaching in Practice

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## Research Questions

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### Question 1:

How can we design and run an evaluation to examine whether new modes of quantitative teaching in social science courses are successful?

### Question 2:

What are the implications of the Q-Step initiative on overall student performance?



# Hello!

*I am **Gianna Maria  
Eick***

I am a PhD Candidate and Teaching Assistant at Kent.

You can find me at **@giannaeick**

# Kent Counts

Showcasing the best of Kent's Q-Step Centre

Save the Date!

We're celebrating 5 years of the Q-Step initiative by showcasing the very best of Kent's Q-Step Centre!



Q-Step

A step-change in quantitative social science skills

Funded by the Nuffield Foundation, ESRC and HEFCE



Q-Step at Kent





## Four main **Goals**

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1. New degree pathways across four participating schools (SSPSSR, Pol/Int, Law, Business)
2. Integrate quants methods into mandatory modules
3. Enhance way quants methods are taught, e.g. IT initiative
4. Focus application on both academic and workplace context

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# Kent Self-Study

Evaluating Quantitative Teaching at Q-Step Kent

*“I feel confident about learning  
statistics”*





## Kent Self-Study

- Initiated with Q-Step teaching in 2015
- Responses from yearly about 4,000 students across all years and departments at Kent
- Longitudinal aspects allows to study individual-level dynamics over time
- Links to admin data: performance and background data, non-response weights
- Compatible with national evaluation
- Serves quants teaching and evaluation beyond Q-Step

Do you *agree or disagree* with the following statements?

	Agree	Disagree	Not sure
I found school maths easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my university work I would rather write an essay than use statistics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
On the whole you can't trust statistics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident about learning statistics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good numeric skills will help me get a job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoyed maths at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the reasons I chose this degree is because I don't like maths	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





## The Self-Study in the Q-Step Year

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Autumn

Spring

Summer

2

# Student Performance

Tentative Findings from the Kent Self-Study



## Methods

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### First

Our sample consists of student within Q-Step Schools. We study the effect of having at least one optional Q-Step module among the mandatory ones.

### Second

We used matching to create balance on a series of covariates (including gender, age, parents' education level and nationality).

### Third

We undertook a placebo test to ensure that students taking Q-Step modules were not doing better in their studies prior to the Q-Step modules

# 68,5

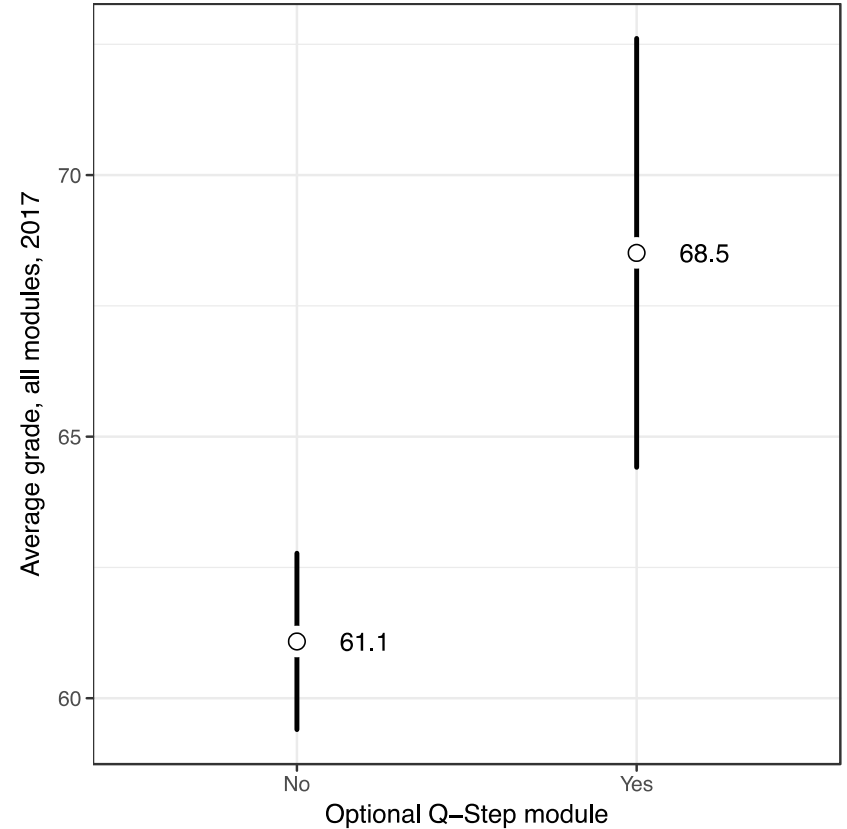
Optional Q-Step Module

# 61,1

No Optional Q-Step Module

# 7,4

Enhancement of Average  
Grade!





## Discussion and **Conclusion**

- Kent Self-Study proves itself to be a valid instrument for evaluating the Q-Step initiative
- Further empirical work to fully understand the impact of Q-Step in greater detail
- Longitudinal analysis, focus groups, comparisons amongst other Q-Step Centres
- Was it all worth it?



## Credits

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***Special thanks to Tina Haux*** who is the Director of the Q-Step Centre at Kent and the other authors who helped me with this presentation.

You can find Tina at

- @UniKentQStep
- @HauxTina
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# Thanks!

***Any questions ?***

You can find me at

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Presentation template by [SlidesCarnival](#)

## References



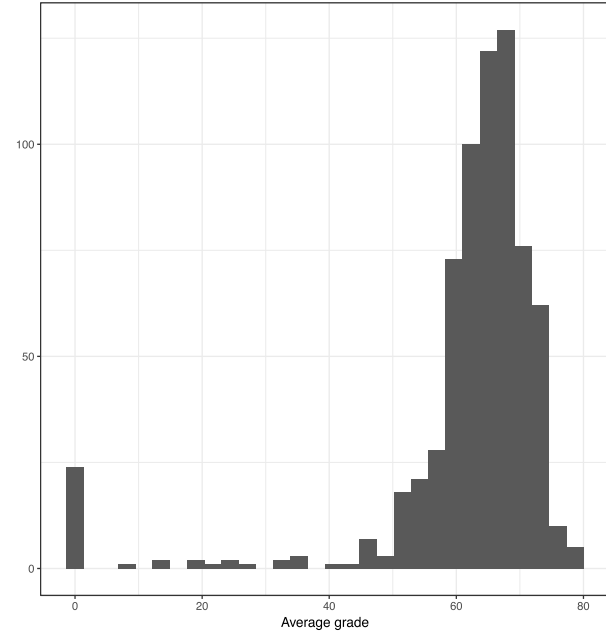


Programme:	BA Sociology with Quantitative Research BA Social Policy with Quantitative Research BA Criminology with Quantitative Research BA Politics and International Relations with Quantitative Research LLB Law with Quantitative Research	BBA Business Administration with Business Analytics
Year 1:	<a href="#">Quant GROUP Summer School</a>	
Year 2:	<a href="#">How to Win Arguments with Numbers</a>  AND  <a href="#">The Power and Limits of Causal Analysis</a>	<a href="#">How to Win Arguments with Numbers</a>  AND a choice of:  <a href="#">The Power and Limits of Causal Analysis</a> OR <a href="#">Introduction to Big Data</a>
Year 3:	Advanced Quantitative Dissertation (30 credits) OR Quantitative Placement Module (30 credits)	

## Q-Step Structure at Kent



<u>Statistic</u>	N	Mean	St. Dev.	Min	Max
Average grade	692	61.795	14.358	0	78.66
Optional Q-Step <u>module</u>	700	0.079	0.269	0	1
Male	700	0.369	0.483	0	1
Age	700	20.427	1.956	18	30
Parent, HE	632	0.581	0.494	0	1
British <u>nationality</u>	700	0.733	0.443	0	1



## Summary Statistics



	Model 1	Model 2	Model 3	Model 4
<u>Optional Q-Step module</u>	7.1*** (2.0)	7.0*** (2.1)	7.4*** (2.3)	8.3*** (2.3)
Male		-4.1*** (1.1)		-6.6*** (1.8)
Age		-0.3 (0.3)		-1.1 (1.3)
Parent, HE		-1.7 (1.2)		-2.3 (1.7)
<u>British nationality</u>		-0.2 (1.3)		-1.0 (2.1)
Constant	61.2*** (0.6)	63.9*** (1.0)	61.1*** (0.9)	63.5*** (1.5)
<u>Observations</u>	692	625	346	346
R <sup>2</sup>	0.02	0.04	0.03	0.1
<u>Adjusted R<sup>2</sup></u>	0.02	0.04	0.03	0.1

*Note:* Unstandardized regression coefficients with standard errors in parentheses. \* p < 0.1, \* p < 0.05, \* p < 0.01.

## Effect of Optional Q-Step Module on Average Grade, OLS Regressions

