

Group writing tutorials: Do they improve student writing?



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Background

Several studies of undergraduate writing in the disciplines suggest that the greatest improvements in student writing occur when students engage in content-specific, peer-group writing collaboration.

Working with students in non-writing focused university courses, this study examined the effects of in-class instruction and group tutorials on student writing outcomes on a specific writing assignment

Two main questions

Did students who attended the group tutorials record higher grades than students who did not attend?

Which characteristics might be associated with tutorial attendees that achieved higher grades?



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Results from this study will help us to predict which students are likely to benefit from group tutoring.

This diagnostic technique will enable us to tailor scarce writing resources to student needs by having students fill out a survey form that will match their profile against the results for other students who attend group tutoring.





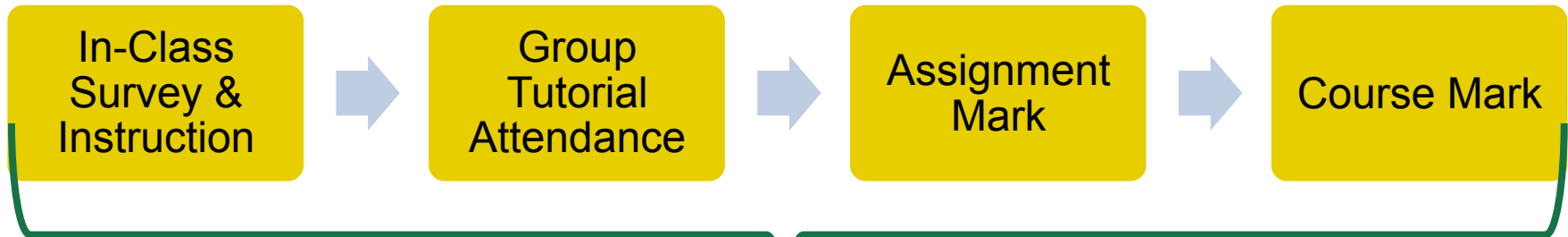
WID lecture + group tutoring

- **All students in courses received in-class instruction about a specific writing assignment; all offered the opportunity to participate in research**
- **49 lectures were offered in 2012-13 to students in 24 disciplines**
- **The sessions involved exercises to help students understand the assignment and begin brainstorming, outlining, and drafting**
- **Slides available at**
<http://www.ualberta.ca/~graves1/presentations.htm>

Group tutorials

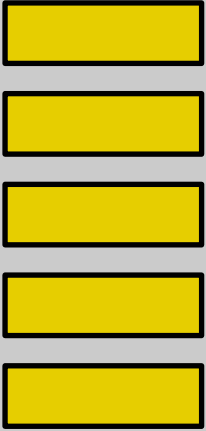
- **Small group (averaging 10 students) tutorials**
- **Linked to the class lectures**
- **Attendance was limited to students in that class and course**
- **The tutorials were optional and free**
- **The graduate teaching assistant who led them was part of the writing across the curriculum team, attended the class lecture and was familiar with the assignment**

Undergraduate Courses

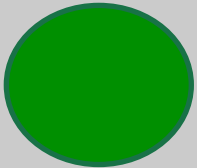


- Describe the students who attended the group tutorial
- Describe the students who got better marks in the assignment and the course
- Identify what factors impacted student assignment marks

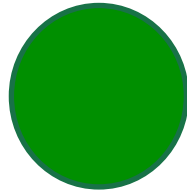
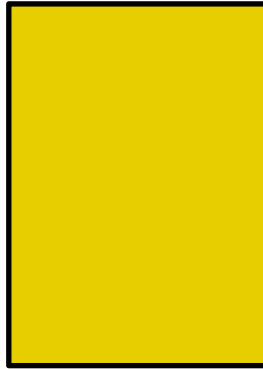
Course Data



Outcome of Interest

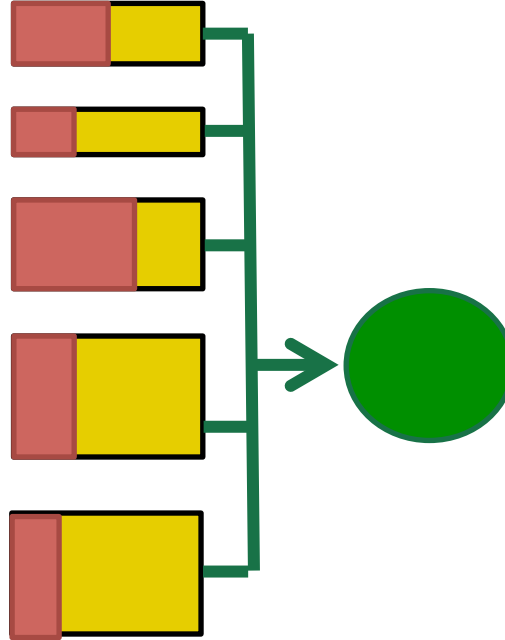


Descriptive Analyses



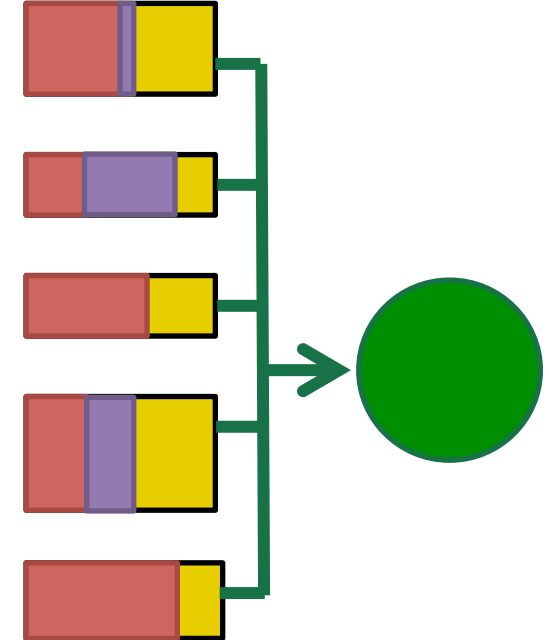
Describe patterns in the pooled data

Single Variable Analyses



Identify statistically important associations with outcome (does red influence green)

Multivariate Analyses



Identify relative size of associations with outcome (how much do red and purple contribute to green)



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Methodology Plan

- 1. Data was pooled to increase sample size**
- 2. Assignment marks were grouped into letter grades for the outcome**
- 3. Multinomial logistic regression was used to model the associations between factors and outcome**
- 4. Associations between single factors and assignment mark were identified**
- 5. Differences in association between those who attended the tutorial and those who did not were identified**
- 6. Determined the relative contribution of each significant factor to student outcome**

- **857 students were recruited into the study in the first year; they all attended the class lecture and filled in the survey form**
- **We were able to collect grade records for a study sample size of 553; our analysis is based on this number**
- **Of those 553 students, 165 students attended group tutorial sections. We compared the 388 who did not attend with the 165 who did attend.**

What is an 'odds ratio'?

Odds ratios are used to compare the relative odds of the occurrence of the outcome of interest (e.g. disease or disorder), given exposure to the variable of interest (e.g. health characteristic, aspect of medical history). The odds ratio can also be used to determine whether a particular exposure is a risk factor for a particular outcome, and to compare the magnitude of various risk factors for that outcome.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2938757/>

OR > 1	Odds of getting this mark (D/F, C, or B) higher than odds of getting an A
OR = 1	Odds of getting this mark (D/F, C, or B) higher than odds of getting an A
OR < 1	Odds of getting this mark (D/F, C, or B) lower than odds of getting an A

For this analysis, an 'A' was used as the reference category

What does an 'increased odds' mean?

Students are more likely to get a D/F than to get an A

p-values < 0.05 are significant

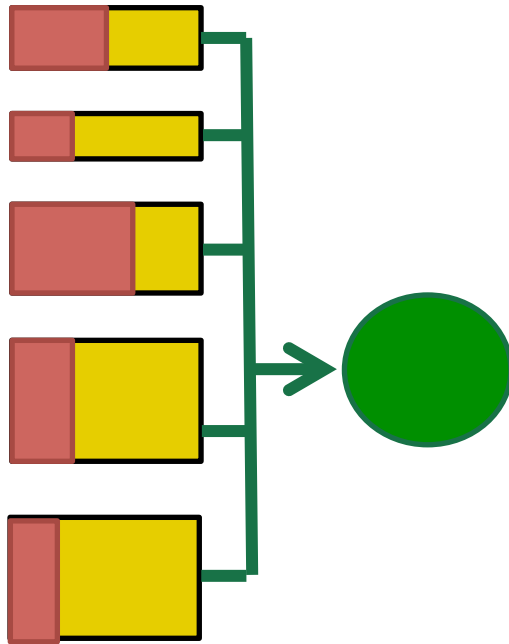
	Odds Ratio (OR)	p-value
D/F	2.56	0.004
C	1.23	0.123
B	0.12	0.453

Students are less likely to get a B than an A (i.e. students are more likely to get an A than a B)

p-values $0.05 >$ 0.20 are borderline significant

Single Variable Analyses

Single Variable Analyses



The unadjusted trends between our measured factors and student assignment mark.

Identify statistically important associations with outcome (does red influence green)

1. Group Tutorial Attendance

Students who attended group tutorials had fewer low grades on their assignments than students who did not.

There is a definite benefit to attending the group tutorial in that it decreases the odds of attaining an assignment mark in the lowest category.

	Odds Ratio	p-value
D or F ($\leq 62\%$)	0.545	0.1604
C (63%-71%)	1.376	0.2697
B (72%-82%)	1.172	0.5498

Odds of getting these marks vs. odds of getting an 'A'

2. Association between Students' Major and Familiarity with Assignment Type

In courses that were part of their major program of study, **students who did not attend a tutorial did more poorly** than those who attended the tutorials.

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio*	p-value	Odds Ratio*	p-value	Odds Ratio*	p-value
D or F ($\leq 62\%$)	0.913	0.8505	Small Cell Size	--	1.356	0.556
C (63%-71%)	1.566	0.1829	1.006816	0.9909	1.923	0.1102
B (72%-82%)	1.257	0.4647	0.563897	0.3395	1.717	0.1471

Students who had **familiarity with the type of assignment** written in the course **and did not attend the tutorials did more poorly** than those who did attend the tutorials.

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio*	p-value	Odds Ratio*	p-value	Odds Ratio*	p-value
D or F ($\leq 62\%$)	4.084	0.0021	2.645	0.3168	4.683	0.0029
C (63%-71%)	2.697	0.0012	5.13	0.0129	2.092	0.0363
B (72%-82%)	1.227	0.4169	1.888	0.2101	1.02	0.9468

*Odds of getting these marks vs. odds of getting an 'A'

3. Taking a writing course earlier in their academic career.

Having taken a writing course impacted student mark most significantly in this category: highest-achieving students who did not attend group tutorials.

Students who had previously taken a writing course and did not attend the tutorials were more likely to get an A than a B. In similar students who attended the tutorial, the same effect was not seen.

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
D or F ($\leq 62\%$)	1.613	0.4273	1.851	0.6346	1.497	0.5557
C (63%-71%)	0.873	0.7327	0.916	0.8958	0.873	0.7836
B (72%-82%)	0.588	0.1216	0.984	0.98	0.475	0.0696

Odds of getting these marks vs. odds of getting an 'A'

4. Writing centre usage

Students who did not attend the group tutorials but who did use the writing centre did more poorly than students who did not use the writing centre.

Writing tutorials and the writing centers seem to reach different students. For students who attended the group tutorials and used the writing center, no appreciable effect was found on student mark.

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
D or F ($\leq 62\%$)	1.297	0.586	0.886	0.9039	1.473	0.4497
C (63%-71%)	2.246	0.0351	1.718	0.4428	2.456	0.0516
B (72%-82%)	1.589	0.146	0.632	0.4188	2.581	0.0187

Odds of getting these marks vs. odds of getting an 'A'

5. Work/Family responsibilities

Students who reported work/family responsibilities **did better** on their assignments if they **attended the group tutorial**.

However, students who reported work/family responsibilities had **twice the odds of doing poorly** on their assignments if they **did not attend the group tutorial**.

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
D or F ($\leq 62\%$)	1.415	0.3678	0.196	0.196	2.043	0.0957
C (63%-71%)	0.895	0.7229	0.657	0.4455	1.029	0.9404
B (72%-82%)	0.862	0.599	0.689	0.4617	0.948	0.8756

Odds of getting these marks vs. odds of getting an 'A'

6. Speaking English at home or with friends

Students who are **native English speakers were more likely to do poorly on their assignments** compared to their peers who reported speaking other languages at home with their family and friends.

The exception to this is that **high achieving native English speakers who attended tutorials were more likely to achieve the highest marks on their assignments.**

	Overall		Attended Tutorial		No Tutorial Attendance	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
D or F ($\leq 62\%$)	2.494	0.126	0.841	0.8957	4.161	0.0503
C (63%-71%)	2.299	0.0898	1.698	0.4627	2.726	0.139
B (72%-82%)	0.455	0.1943	0.242	0.1519	0.678	0.6206

Odds of getting these marks vs. odds of getting an 'A'

Associations we see in the data (univariates)

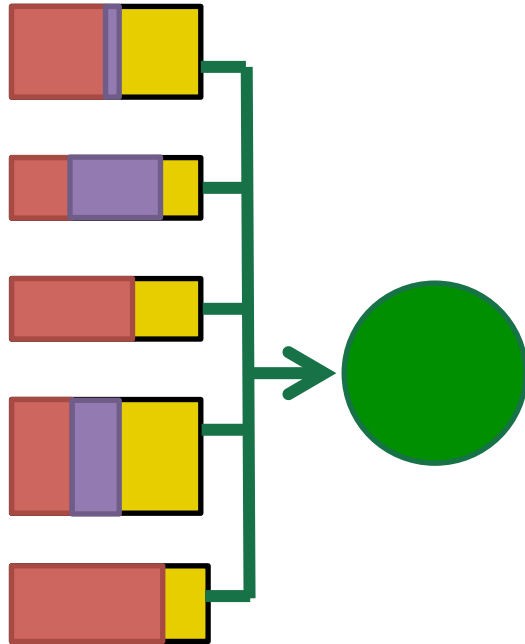
Group Tutorials:

1. Increase the odds of students not getting a D/F on their assignment
2. Seems to impact a different group of students than those who attend the Writing Centre
3. Have a marked positive impact for students with work/family responsibilities
4. Do not have an impact on marks for ESL students

Students:

1. Did not do more poorly on assignments in classes in their program of study
2. Did not do more poorly on assignments when they had written a similar type before

Multivariate Analyses



Identify relative size of associations with outcome (how much do red and purple contribute to green)

Multivariate Analyses

The independent effects, adjusted for all other factors we measured.

Taking everything into account: Multivariates

1. Handbooks

Students who consulted a writing handbook or textbook did better than students who didn't, independent of all other factors we measured.

	Odds Ratio	p-value
D or F ($\leq 62\%$)	0.3886	0.0281
C (63%-71%)	0.45248	0.0095
B (72%-82%)	0.74285	0.2616

Odds of getting these marks vs. odds of getting an 'A'

Taking everything into account: Multivariates

2. Genre

Students who were familiar with the assignment type did more poorly on the assignment, independent of all other factors measured.

	Odds Ratio	p-value
D or F ($\leq 62\%$)	2.83727	0.0439
C (63%-71%)	2.23769	0.0181
B (72%-82%)	1.01167	0.9666

Odds of getting these marks vs. odds of getting an 'A'

Taking everything into account: Multivariates

3. Course in major

Students who were in a course that was in their main program of study were more likely to get a C than an A, independent of all other factors measured.

	Odds Ratio	p-value
D or F ($\leq 62\%$)	0.94341	0.922
C (63%-71%)	2.25996	0.0335
B (72%-82%)	1.54703	0.2051

Odds of getting these marks vs. odds of getting an 'A'

Taking everything into account: Multivariates

4. University writing ability

Students are not getting grades that reflect their perception of their ability: students both over-rate and under-rate their ability.

Student Self-Rating		Odds Ratio	p-value
Poor vs. Excellent	D or F ($\leq 62\%$)	Small cell size	--
	C (63%-71%)	0.02703	0.0171
	B (72%-82%)	0.06627	0.0635

Student Self-Rating		Odds Ratio	p-value
Good vs. Excellent	D or F ($\leq 62\%$)	0.03542	0.1155
	C (63%-71%)	1.95839	0.3507
	B (72%-82%)	2.06205	0.2443

Odds of getting these marks vs. odds of getting an 'A'

We're currently in the second and final year of data collection and expect to double the numbers we have in the study.

More data will help us by obtaining significance levels for some of the univariate results.

More data will also clarify some of the results which seem counterintuitive.

