What makes a good teacher? A mixed methods project on student (by school context and gender) and teacher perceptions of good teaching.

1. Introduction/Rationale

- We all collectively decided to investigate student and teachers opinions on what makes a good teacher. The group decided to carry out this project as coming up to exams, there would be many conversations as to what teachers were good teachers. After these conversations we began to wonder what actually makes a good teacher and does opinion vary between teachers and students and students in varying types of schools
- We feel that carrying out this research will greatly help all involved in learning environments. Student opinions have not been considered in many past studies so our statistical analysis is cutting edge.
- We decided to take into account school context and gender, as we wanted to identify whether there is a difference in their perceptions. This research could inform teachers, students, parents and policy makers about how gender and school type/context may mediate the selected characteristics of good teachers/teaching.

2. Method

We put together a survey, with 25 questions, aimed at analysing student and teacher's perceptions as to what makes a good teacher. We took inspiration from many existing surveys on the topic such as the Tuckman Teacher Feedback Form (1976) and a survey by Mia Bullock (2015).

There were many variables we had to take into consideration, such as the school's context/background, (eg DEIS, non-DEIS, fee-paying etc.) and gender of the students. Therefore, we decided to administer surveys to a range of school types. We used the League Tables and the Department of Skills website in order to classify the 5 school types.

We conducted a pilot survey, and then sent a link to participating schools and asked that they distribute this link to as many Transition year students as possible. We used Google forms to collect the data, and this allowed us to export our results easily. We created two surveys, one for students and one for teachers. We had 259 student responses, and 204 teacher responses.

3. Survey + Tests completed

The survey was broken into 5 scales each containing 5 subscales, as seen below. Having amassed our responses, we carried out the following statistical tests:

Organisation	*Good Preparation for Class*
	Being on Time for Class
	Attendance in School and Class
	Timely Feedback/Return of Work
	Well Structured Lessons
Teaching Methods	*Creativity in Planning*
	Variety of teaching Approaches
	Checking for Understanding
	Encouraging Student Opinion
	Regular Testing/Assessment
Communication	*Engaging*
	Respectful interaction
	Clarity while teaching
	Sense of humour
	A good listener
Classroom Management	*Safe learning environment*
	Enforces class rules
	Being in control
	Making students work
	Being fair in dealings with students
Personality and Characteristics	*Caring for and understanding students*
	Passionate about teaching and learning
	Patience with struggling learners
	Having high expectations for all students
	Inspiring students to succeed

Name of Test	Rationale
General Statistics *Mean/ Median/ Mode*	**To determine average of responses To determine middle value in list of responses To determine most frequent response**
Cronbach Alpha	**To determine the internal consistency of the Likert scale**
Frequencies	**To determine the amount of times the item has been chosen**
Mann Whitney U Test	**Nonparametric test of the null hypothesis It compares two independent samples for significant statistical difference.** ***Used to compare gender in this project.***
Kruskal Wallis	**This is a nonparametric test of the null hypothesis. It compares more than two independent samples for significant statistical difference.** ***I used it to compare responses by school types/context***
Chi-Square (Pearsons)	**Test for independence. Test is applied when you have two categorical variables from a single population. It is used to determine whether there is a significant association between the two variables.**

4. Analysis

Our data filled 2 spreadsheet with 260 rows and 30 columns for the students, and over 200 rows for the teachers. While reading our data we discovered some dirty data e.g. data from the all-boys schools stating gender as 'Female'. Unfortunately, there were several cases of this, and each time their responses to the Likert scale did not seem to fit in with the rest of our data either. As we wanted the most accurate data possible, we removed this dirty data, as they clearly were not valid responses.

We then opened the excel spreadsheet in SPSS, and began data analysis.

The first test we did on both the student and teacher responses was the Cronbach Alpha reliability test. It works on a scale of 0-1, where anything over 0.7 is deemed reliable, and anything over 0.9 is considered highly reliable. The results to these tests are both over 0.9, as seen in the tables on the right.

We carried out the Kolmogorov-Smirnov test for normality. This told us whether our data was parametric or non-parametric.
This told us that we had to do Mann-Whitney U Tests, and Kruskal Wallis P tests on the data.

However first we wanted to get the means of each subscale to see the overall results of our survey!

Scale: ALL VARIABLES
Student data
Case Processing Summary

		N	%
Cases	Valid	242	93.4
	Excluded[a]	17	6.6
	Total	259	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.973	25

Scale: ALL VARIABLES
Teacher data
Case Processing Summary

		N	%
Cases	Valid	186	91.2
	Excluded[a]	18	8.8
	Total	204	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.940	.941	26

5. Results

Scales & Subscales		Overall Median	Overall Mean	Mean Elite male	Mean Elite-Female	Mean Fee paying Co-Ed	Mean DEIS Co-Ed	Mean Rural state Co-Ed	Significance Kruskal Wallis (school)	P Value-Mann Whitney (Gender)
Organisation	Prepared	1	1.63	1.80	1.45	1.63	1.69	1.57	.117	.149
	Punctual	1	1.72	1.81	1.67	1.53	1.83	1.74	.407	.519
	Attendance	2	1.78	1.99	1.63	1.58	2.00	1.65	.092	.361
	Return of work	2	1.93	2.09	1.65	2.13	2.06	1.83	.009	.043
	Structure	2	1.74	1.97	1.54	1.71	1.77	1.65	.059	.045
Teaching Methods	Creative	2	1.82	2.08	1.69	1.66	1.97	1.43	.125	.130
	Teaching Apr.	2	1.97	2.15	1.88	1.89	2.00	1.74	.723	.384
	Understanding	1	1.71	1.91	1.50	1.61	1.97	1.57	.046	.201
	Open to opinions	2	1.84	2.08	1.69	1.66	1.74	2.04	.087	.365
	Regular testing	2	2.63	2.76	2.50	2.56	3.17	2.30	.133	.555
Communication	Engaging	2	1.78	1.92	1.73	1.50	1.91	1.78	.179	.782
	Respectful	1	1.34	1.82	1.31	1.34	1.66	1.48	.014	.003
	Clear	1	1.53	1.77	1.40	1.34	1.56	1.43	.288	.018
	Humorous	2	1.94	2.18	1.90	1.82	1.83	1.65	.418	.137
	Listener	2	1.70	1.99	1.45	1.55	1.89	1.61	.001	.006
Classroom Management	Safe environment	2	1.79	1.97	1.71	1.47	1.86	1.82	.240	.137
	Enforces rules	2	2.32	2.48	2.17	1.97	2.65	2.43	.037	.169
	In control	2	1.96	2.01	1.92	1.79	2.14	1.91	.458	.838
	Makes student wk.	2	2.01	2.27	1.92	1.79	1.91	1.96	.287	.005
	Fair	1	1.59	1.82	1.4	1.53	1.60	1.52	.059	.013
Personality And Characteristics	Caring	2	1.81	2.10	1.6	1.71	1.74	1.87	.013	.001
	Passionate	2	1.73	1.85	1.62	1.55	1.91	1.74	.101	.414
	Patient	2	1.83	2.23	1.51	1.66	1.85	1.91	.000	.000
	High expectations	2	2.51	2.68	2.58	2.42	1.97	2.83	.007	.275
	Inspiring	2	1.89	2.13	1.73	1.87	1.94	1.57	.092	.007

Ranked Subscale Means Students

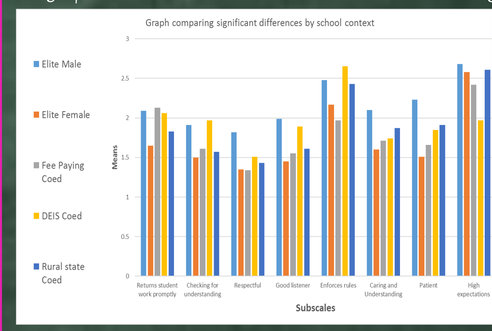
Individual subscales

Means for Scale Category *combining Subscales*	Student	RANKED MEAN	Teacher	RANKED MEAN
Organisation	1.76	2	1.518	1
Teaching Methods	1.85	5	1.74	5
Communication	1.69	1	1.524	2
Management of Class	1.95	4	1.58	3
Personality and Characteristics	1.93	3	1.60	4

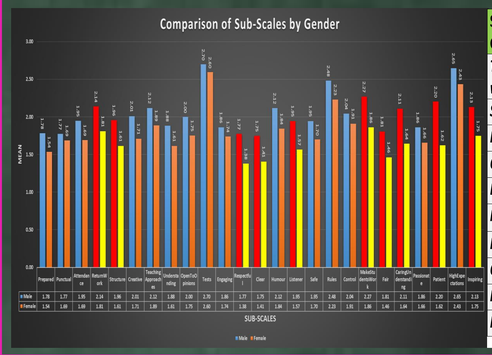
Ranked subscale means teachers

6. Results continued

The graph and table below show the results which showed significant statistical difference



Subscale School Context Variable	Kruskal Wallis P Value
Returns student work promptly	0.009
Checking for understanding	0.046
Respectful	0.014
Good listener	0.001
Enforces rules	0.037
Caring and Understanding	0.013
Patient	0.000
High expectations	0.007



Subscale Gender Variable	Mann Whitney U
Timely return of student work	0.043
Structure	0.045
Respectful	0.003
Clear	0.018
Listener	0.006
Makes students work	0.005
Fair	0.013
Caring/ Understanding	0.001
Patient	0.000
Inspiring	0.007

7. Qualitative data

1. ***What do you think makes a good teacher?***
2. ***Do you think respect is an important trend for a teacher? Why?***
3. ***How do you feel about regular assessment and testing?***
4. ***Do you think there may be differences between girls' perceptions of good teaching and boys? What could they be?***
5. ***Do you think the school context affects perceptions of good teaching? E.g. schools dealing with disadvantage***
6. ***What characteristic(s) are least important to be a good teacher?***

They should not be afraid to push students to do their best, but also be aware that not all students are "A" students

Yes, girls tend to be more studious and serious about exams. It's important for males to have a teacher who has humour

Tests help me, but I feel I lose interest in the actual subject because of testing.

Well when you are not worrying about whether your students have had breakfast or slept safely the night before, more time can be spent on science teaching.

8. Conclusions and Recommendations

- First of all, student voice provides important insights into teaching and learning.
- Respect is an important trait sought after by both teachers and students.
- The relational and affective aspects seemed to be more important to students than teachers, with teachers putting more of an emphasis on organisational traits.
- School context does affect student perceptions of what makes good teaching.
- There is a need for discussion of privilege in schools as students in the qualitative data demonstrated a lack of appreciation towards DEIS environments.
- There was a difference noted in the teaching perceptions from male and female however it was not as significant as school context.