Online Research @ Cardiff

information services
gwasanaethau gwybodaeth

What are the attributes of good pharmacy faculty (lecturers)? An international comparison of the views of pharmacy undergraduate students from universities in Australia and Wales, UK

M. Joy Spark [a]

Rawan Tawil[a]

Breannan O'Brien [a]

Zelda Sutherland-Plozza [a]

Sarah Charles [a]

Dai N. John [b]

[a] School of Pharmacy and Applied Science, La Trobe Institute for Molecular Science (LIMS), La Trobe University, Bendigo, Victoria 3552, Australia

[b] School of Pharmacy and Pharmaceutical Sciences, Cardiff University, Wales, UK

Corresponding Author:

M. Joy Spark

School of Pharmacy and Applied Science

La Trobe University

PO Box 199, Bendigo Victoria 3552, Australia

Telephone number: 613 5444 7551

Facsimile number: 613 5444 7878

Email: j.spark@latrobe.edu.au

Abstract

This study aimed to investigate what La Trobe pharmacy students (Australia) considered to be the attributes of a good lecturer (faculty member) and to compare the findings to pharmacy undergraduates at Cardiff University, Wales, UK. A 22 item questionnaire, developed at Cardiff, was administered to students at La Trobe University. Data were analysed using descriptive statistics, and Mann-Whitney U Test or Kruskal-Wallis Test were used to compare groups. Ethics approval was obtained. Pharmacy students believed good lecturers (faculty) provided clear instruction and assessment criteria, were enthusiastic, inspired students to do their best, motivated students to learn, were accessible for support and started the teaching sessions on time. They also provided timely feedback and illustrated the relevance of material to pharmacy. Australian and UK pharmacy undergraduates in this study shared the same opinions on most aspects of the positive attributes of faculty (lecturers).

Keywords: assessment, feedback, learning, interaction, motivation, student support

INTRODUCTION

Although the lecture is no longer considered as best practice in higher education it is still used across the globe for a number of reasons including faculty/lecturer contact time and the ability to teach a large number of students together (Morton 2009). Although it is a format that is still used in many countries and subjects, the lecture is a poor method of teaching and is outdated, in that people learn most effectively by interacting. Even with the disadvantages of lecturing, there remains a reliance on this method of teaching tertiary students in some contexts (Schwerdt & Wuppermann, 2011). Therefore, in such contexts effective lecturing skills are required in order to increase student motivation, engagement and understanding. Faculty, together with other elements of an appropriate learning environment (Wong et al., 2015) can enhance the student experience.

Qualities of a good lecturer from both students' and lecturers' perspectives have been described under several categories; knowledge, communication skills, interactive lecturing, approachability and friendliness, enthusiasm, context, teaching skills and methods. Students reported having sufficient knowledge in the subject they teach was the most important quality a lecturer must possess (Voss & Gruber, 2006). Communication skills are also important; lecturers should have good listening and speaking skills in order to encourage active participation in the lecture, which allows the students to stay focused and exhibit maximum concentration (Voss & Gruber, 2006; Ernst & Colthorpe, 2007; Sutkin et al., 2008). Interactive lecturing is an effective means of keeping students interested and motivated to learn. Ernst and colleagues discovered that if the lecturer allows a great deal of interaction with the students throughout the class, the student feels they are more actively learning and involved in the learning process

(Ernst & Colthorpe, 2007). Approachability and friendliness of a lecturer is another quality desired by students. Lecturers who conduct themselves in an open, friendly manner, through the use of non-verbal cues such as smiling, open body posture and forward body lean and recognising that each student has individual needs and learns in different ways, are seen as having desirable attributes (Voss & Gruber, 2006; Kember & Kwan, 2000). Those lecturers who are perceived as inspiring have been found to incidentally instigate a sense of enthusiasm and motivation in students to work hard at that particular subject (Voss & Gruber, 2006; Ernst & Colthorpe, 2007; Sutkin et al., 2008; Parpala & Sari, 2007). Another desirable quality is to be able to demonstrate the utility and/or applicability of the content to a wider context. Using real life situations and relating the subject to their world allows students to understand why the subject is being taught (Kember & Kwan, 2000; Parpala & Sari, 2007; Hill et al., 2003). Students have described that they learnt most effectively when learning outcomes, activities and assessments were aligned, and adequate time was given to complete engaging tasks (Smith et al., 2007). They also appreciated lecturers who use a variety of appropriate methods to facilitate learning (Voss & Gruber, 2006; Hill et al., 2003). These attributes apply to teaching sessions other than lectures, for example, interactive, problem-solving workshops or seminars.

Cardiff University, in Wales UK, investigated pharmacy undergraduate students' views of university lecturers (faculty) who contributed to a positive learning environment, in a variety of contexts, including large group teaching sessions and seminars, with varying degrees of interaction. Some sessions involve pharmacy students and those studying other subjects (Shelvey et al., 2016). After a literature review and exploratory qualitative

interviews, a questionnaire was created consisting of statements relating to 'what makes a good pharmacy lecturer?' The anonymous questionnaire was distributed to all MPharm students at Cardiff University, receiving a 72% response rate. The results highlighted that these pharmacy students acknowledged the value of both classroom interaction and learning outside formal teaching contact (Hussain et al., 2011).

This study aimed to use the instrument developed for pharmacy students at Cardiff University (UK) to identify positive attributes in faculty at a school of pharmacy in Australia (La Trobe). A secondary aim was to compare the responses of the student cohort in Australia with and responses from the UK.

METHODS

A cross-sectional approach was used for this study. A questionnaire, developed by Cardiff University faculty (UK), had been successfully used, following university ethics committee approval, to determine what pharmacy students believed were positive attributes of a lecturer (faculty member) at Cardiff University with an 85% response rate. (Hughes et al., 2010; Hussain et al., 2011) The undergraduate pharmacy programmes at Cardiff and La Trobe each consisted of a combination of workshops, tutorials, practicals, placements and large group seminars and lectures. English is the official language at both institutions.

To avoid any ambiguities for Australian students very minor modifications were made to the Cardiff questionnaire prior to its administration to pharmacy students enrolled at La Trobe University in Australia. Researchers at Cardiff and La Trobe agreed the form of

wording so that meaning was the same for both cohorts. The questionnaire consisted of 22 questions with statements about the attributes of a good lecturer (faculty member), whereby the participant was asked to indicate their level of agreement or disagreement for each question using a 5 point Likert scale. The questions are provided in Appendix I. Participants were also asked five additional questions to gather information regarding their gender, fee-paying status, language, age and any prior education undertaken. Students undertaking the Bachelor of Pharmacy degree in La Trobe University, Bendigo from 1st through to 4th year were invited to take part in the study.

All questionnaires were administered by a non-academic staff member who had no involvement in the study, avoiding bias and any peer pressure to complete the questionnaire. Completion of a questionnaire was taken as implied consented. All completed and blank questionnaires were collected by the staff member and placed in a sealed envelope and passed to the research team. Different coloured questionnaires were used to identify each year level. The questionnaire did not ask for identifying information, which ensured anonymity. Data were analysed using SPSS version 20 for Windows and data relating to 20% of questionnaires were independently checked. Ethics approval was granted from La Trobe University, Faculty of Science Technology and Engineering Human Ethics Committee.

Medians were used as a measure of central tendency as the data were not continuous (Buckingham & Saundera, 2004). Within this paper data are reported according to response on the Likert scale; agree strongly (AS), agree (A), no opinion (NO), disagree (D), and disagree strongly (DS). For each variable if the median difference of interest was a

value of 1 or more then the Mann Whitney U Test was used determine if the difference was statistically significant (Pallant, 2011). A Bonferroni adjustment was used to set a more stringent alpha value across multiple tests, to reduce type I error when assessing significance (Pallant, 2014). Effect sizes were calculated to determine the degree to which the two variables are associated with one another. To check the internal consistency of the data, cross tabulation was used to compare the two pairs of questions with reverse scoring.

RESULTS

La Trobe students (Australian cohort)

Of the 241 students enrolled, 183 (76%) students completed the questionnaire and handed it back to the non-academic staff member. The response rates for each year level were: 46 (79%) first year students, 43 (54%) second year students, 52 (93%) third year students and 41 (85%) fourth year students. Most of the students were female (69%), aged 21 years or older (55%), spoke English as their first language (76%), and had government assisted places, that is, were not full fee paying (80%). Pharmacy students from each year level shared the same view on 16 out of the 22 questions (Figure 1).

Please insert Figure 1 around here

The group medians for each question for La Trobe students were compared for age, year of course, first language, source of educational support and gender and a Mann-Whitney U test was conducted for each question with a median difference of 1 unit or more (Table 1). Year level (Table 1:A), age (Table 1:B), and source of educational support (Table 1:D)

were not found to influence perceptions of lecturing. Analysis revealed a significant difference in two questions (Q3 and Q20) when comparing those with or without English as a first language (Table 1:C) and one question (Q4) based on gender (Table 1:E).

Please insert Table 1 around here

The Mann-Whitney U test revealed a significant difference in whether a good lecturer (faculty member) was one who finished late if they started late (U=2071.5, z=-3.36, p=0.001, r=0.25) between students who spoke English as a first language (Median=Disagree, n= 101) and those who did not (Median=No Opinion, n=81) and whether a good lecturer responded to feedback from students' comments made on quality assurance (QA) questionnaires (U=2196, z=-3.06, p=0.002, r=0.23) between students who spoke English as a first language (Median=Agree, n= 101) and those who did not (Median=Agree Strongly, n=81). Thirty-four (77%) students who did not speak English as a first language agreed more strongly that a good lecturer responded to feedback from students' comments made on QA questionnaires, compared to 80 (58%) students who spoke English as a first language.

The Mann-Whitney U Test with a Bonferroni adjustment alpha value of 0.0167, revealed a significant difference (U=2788, z=-2.55, p=0.011, r=0.23) in whether a good lecturer should be ready to start on time between male students (Median=A, n=56) and female students (Median=Agree Strongly, n=126). Females expressed a stronger level of agreement about a lecturer starting on time than males.

Four questions were used to assess the internal consistency of the study. A cross-tabulation indicated there was a significant association between reverse question 1 (n=183) and question 21 (n=183) p=0.008, Kendall's tau-c=0.14, as well as reverse question 2 (n=183) and question 22 (n=183) p<0.005, Kendall's tau-c= 0.29.

Comparison of Australian and UK cohorts

The findings of both La Trobe and Cardiff students, expressed as the median (interquartile range, IQR) are presented in Table 2. The questions are sorted and presented in ranked order from La Trobe students' highest level of agreement to their lowest level of agreement (most disagreement). For example, the first statement, question 7 'A good lecturer should provide clear instructions and assessment criteria for work they set' had the greatest level of agreement from La Trobe students. The median response was 'Agree Strongly' (AS) and AS lay and both ends of the IQR. For the Cardiff students, their median response for question 7 was also AS although the IQR was Agree Strongly-Agree (AS,A). This means that La Trobe students had a higher overall level of agreement with question 7 compared to students in Cardiff.

Please insert Table 2 around here

From examining the medians to all the questions for both the La Trobe and the Cardiff pharmacy students, 5 differences of 1 unit (Q2, Q4, Q12, Q19 and Q22) were found (Table 2). The Bonferroni adjustment was applied and the new alpha value was determined to be 0.01. A Mann U Whitney test was used to compare the responses from La Trobe and Cardiff pharmacy students for these questions (Table 3)

Please insert Table 3 around here

Pharmacy students from Cardiff University were more likely to agree that a good lecturer should provide a break or breaks in a 50 minute teaching session (Median=Agree) than La Trobe pharmacy students (Median=No Opinion), $p < 0.0005$. Conversely the Cardiff pharmacy students disagreed more strongly that a good lecturer lectured for 50 minutes without giving a break at all (Median=Disagree) while La Trobe students having a more neutral opinion (Median=No Opinion), $p < 0.0005$. Students from La Trobe were less likely to disagree that lecturers should communicate to students when they are stressed (Median=No Opinion), $p < 0.0005$ than students from Cardiff (Median=Disagree). Students from La Trobe believed it was more important that a lecturer provided appropriate feedback in a timely manner (Median=Agree Strongly) than Cardiff students (Median=Agree), $p = 0.01$.

Overall, students from both universities agreed strongly overall (Table 2) that faculty (lecturers): demonstrated relevance to pharmacy (Q5), provided clear instructions and assessment criteria for work set (Q7), were enthusiastic (Q8), inspiring (Q15), motivating (Q14) and were accessible outside class (Q17). Both cohorts disagreed overall that faculty should not provide information without interaction (Q1), finish teaching late if they started late (Q3), did not appear confident (Q11) or exhibited signs of stress (Q12).

DISCUSSION

This study provides an insightful look into an area that has very little published literature available, what pharmacy students perceive to be attributes of a good lecturer (faculty member). Specifically, it examines the characteristics and practices that pharmacy students valued in faculty (lecturers). It can be seen that students answered thoughtfully throughout the questionnaire through the positive correlation of the internal consistency questions, adding validity to the results.

Previous studies have shown that students appreciate lecturers relating the information presented in lectures with real life examples and personal experiences, and feel that this demonstrates the lecturer's knowledge in the subject (Ernst & Colthorpe, 2007). The findings from the study reflect this desire among pharmacy students at La Trobe University. Across the four year levels, students either agreed or strongly agreed that a good lecturer puts their material into the pharmacy context. It has also been found that providing a larger context for a subject gives meaning to the subject and its importance within the course (Ernst & Colthorpe, 2007; Kember & Kwan, 2000; Hill et al., 2003).

Overall, La Trobe pharmacy students believed inspiring students to perform to the best of their ability was a desirable quality for a lecturer. Students also indicated that it was valuable for lecturers to show enthusiasm for their subject and to motivate students. It has been previously shown that interactive lecturing was an effective method to keep students interested in the material and motivated them to learn. La Trobe pharmacy students preferred lecturers to be interactive rather than presenting information one way in line with others who have identified the importance and value of active learning (Sutkin et al., 2008).

A lecturer's ability to use a variety of teaching methods was also valued by La Trobe pharmacy students. Having flexibility in the subject delivery allowed lecturers to tailor teaching methods to students' needs, and hence optimise their learning (Voss & Gruber, 2006; Hill et al., 2003).

Students who spoke English as a first language were expected to have differing opinions to those who did not. It was believed that language (culture) may influence students' perceptions on what characteristics define a good lecturer. A significant difference with a small effect size was found for 2 of the 22 questions. Those who did not speak English as a first language placed more importance on finishing a lecture late if it is started late, and the lecturer responding to students' feedback on quality assurance questionnaires. It is assumed that the majority of those who speak English as their first language were raised in an Australian culture, and have a more casual attitude to learning than those who did not speak English as a first language.

The perceptions of good lecturing were expected to differ between full fee paying students, and those with government assistance. Students having to pay upfront for their education were expected to behave as astute consumers, and hence expect higher quality from their lecturers. However, the results from the study showed no significant difference between the two groups of students. Hence, it appears that regardless of whether students are paying full-fees or are financially assisted by the government, they had similar views and expectations of lecturers.

The last comparison between participant groups examined the differing opinions of males and females. It was predicted that gender may influence students' perceptions on good lecturing. Females agreed more strongly that a good lecturer should be ready to start on time, with a small effect size. There were no other statistically significant differences.

Australian and UK students

The similar opinions of pharmacy students from Cardiff and La Trobe were highlighted by the findings. It was found, with a small effect size, that La Trobe students placed more importance on receiving appropriate feedback in a timely manner from teaching staff. Cardiff University students felt more strongly that they should receive a break within a formal lecture (large group teaching session), with a medium effect size. It is expected that different lecturing practices between the two universities may have brought students to value different qualities in their lecturers. This may be due to a number of academics at Cardiff who provide mini-breaks as short as 2-3 minutes in their sessions and, during which, students do not leave the room. Pharmacy students from Cardiff also disagreed more, with a small effect size, that lecturers should communicate to students that they are stressed. These were the only significant differences, showing that overall, pharmacy students from the two universities had very similar opinions on most aspects that contribute to good lecturing.

Strengths and limitations

The overall response rate for the survey of La Trobe students was 76% and at Cardiff was 85%, was one of the strengths of the study. Furthermore, this is the first time that a

comparison of pharmacy undergraduate students' views on lecturer (faculty) attributes between countries has been reported. Many of the statements would also apply to non-lecture teaching sessions and so the findings may be useful to those institutions that do not include formal lectures in their curricula. Limitations included the views of students from one Australian school of pharmacy at one time point and a comparison with a students from one UK school of pharmacy. This study focused on what student perceived as the attributes of a good lecturer (faculty members) and did not ask about learning, future studies could investigate how students perceive they learn best and whether students learn more from faculty they perceived as good lecturers.

CONCLUSION

La Trobe pharmacy students shared similar opinions between year levels on what they considered to be positive attributes of a good lecturer (faculty member). The comparison between La Trobe students and Cardiff students found small significant differences with regard to timely provision of feedback and the provision of breaks in teaching session with large groups but for all other questions there were no significant differences, indicating that, overall, they shared similar opinions on positive attributes of a good lecturers (faculty). Further international research would be needed to identify if these views may be more generalisable.

REFERENCES

Buckingham, A. & Saundera, P. (2004). The Survey Methods Workbook. 1st ed., Cambridge: Polity Press.

Ernst, H. & Colthorpe, K. (2007). The efficacy of interactive lecturing for students with diverse science backgrounds. Advanced Physiological Education. 31: 41-44.

Hill, Y. et al. (2003). Students' perceptions of quality in higher education. Quality Assurance in Education. 11(1): 15-20.

Hughes, ML. et al. (2010). What makes a good lecturer? MPharm students' views. International Journal of Pharmacy Practice 18:29-30.

Hussain, S. et al. (2011). MPharm students' views o what they consider to be the attributes of a good lecturer School of Pharmacy. School of Pharmacy Research Abstracts 2011, (ed. R Price-Davies) Cardiff: STS Publishing p35. ISBN:9780948917431

Kember, D. & Kwan, K.-P. (2000). Lecturers' approaches to teaching and their relationship to conceptions of good teaching. Instructional Science. 28: 469-490.

Morton, A. Lecturing to large groups. In: Fry, H., Ketteridge, S. & Marshall, S. (2009). Handbook for Teaching and Learning in Higher Education. 3rd ed. London: Kogan Page Limited.

Pallant, J. (2013). SPSS Survival Manual. 5th ed.Crows Nest: Allen & Unwin.

Parpala, A. & Sari, L.-Y. (2007). University teachers' conceptions of good teaching In the units of high quality education. Studies in Educational Evaluation. 33: 355-370.

Schwerdt, G. & Wuppermann, A. (2011). Sage on the stage: Is lecturing really all that bad? Education Next, 11(3). Available at: http://educationnext.org/sage-on-the-stage [Last accessed July 2016]

Shelvey BM et al. (2016). Evaluating an undergraduate interprofessional education (IPE) session for medical and pharmacy undergraduates on therapeutics and prescribing: the medical student perspective. Advances in Medical Education and Practice 7: 661-670.

Smith, L. et al. (2007). Pharmacy students' approaches to learning in an Australian university. American Journal of Pharmaceutical Education. 71(6): 1-8.

Sutkin, G. et al., (2008). What makes a good clinical teacher in medicine? A review of the literature. Academic Medicine. 83(5): 452-466.

Voss, R. & Gruber, T. (2006). The desired teaching qualities of lecturers in higher Education: A means end analysis. Quality Assurance in Education. 14(3): 217-242.

Wong PN et al. (2015). Same syllabus, different country – using DREEM to compare the educational environments at two pharmacy schools. Pharmacy Education 15(1): 87-92

Figure 1: La Trobe University pharmacy undergraduate median responses to questions were consistent for 16 of the 22 questions across all 4 year levels
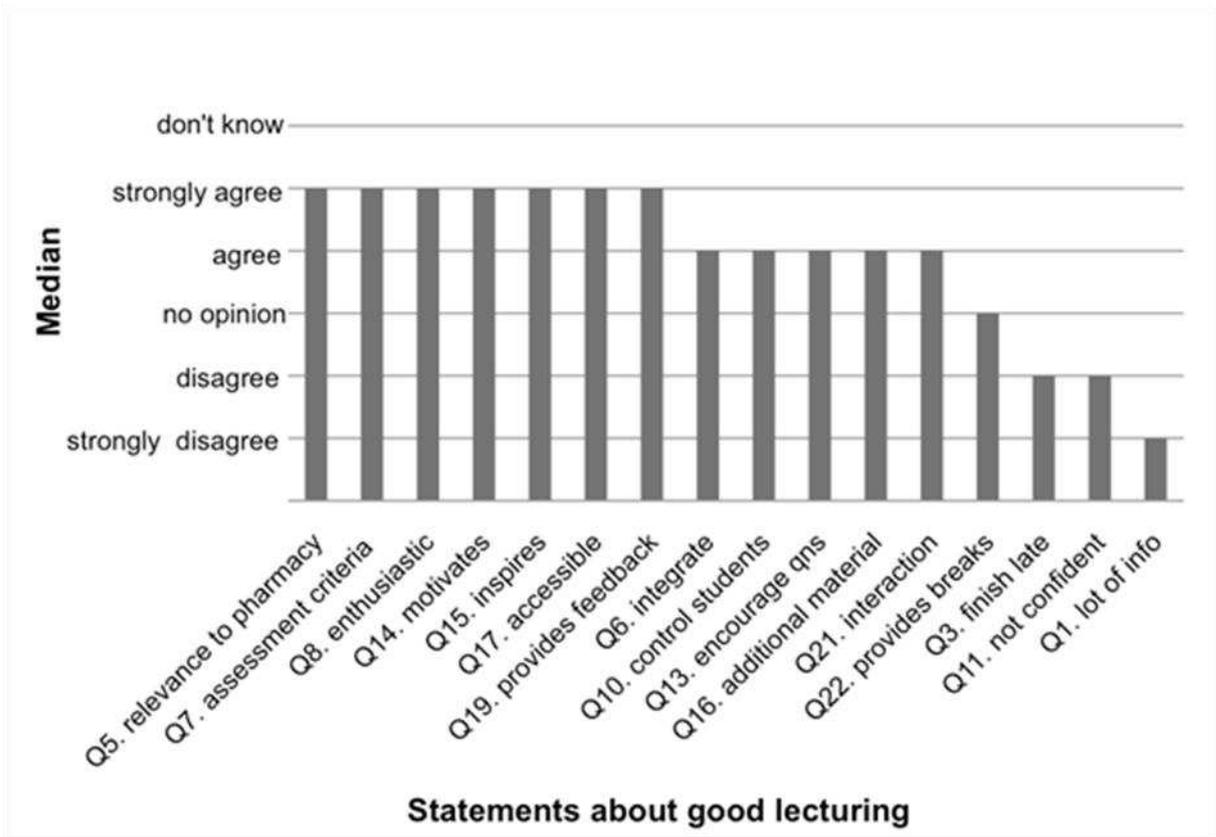
Table 1: Mann U Whitney Test results for La Trobe students (Australia)

(A) 1st years vs. 4th years[a] (4 questions with median difference of at least 1)							
		Median (Md)[b]	Number (n)	U	Z value	Significance level (p)	r[c]
Starts on time (Q4)	1st years	A	47	913.5	-0.48	0.64	0.05
	4th years	AS	41				
Stressed (Q12)	1st years	NO	47	761	-1.76	0.08	0.19
	4th years	D	41				
Variety of methods (Q18)	1st years	AS	47	934	-0.28	0.78	0.03
	4th years	A	41				
Respond to feedback from QA (Q20)	1st years	A	47	849.5	-1.05	0.29	0.11
	4th years	AS	41				
(B) Over 21 vs. under 21 (2 questions with median difference of at least 1, Bonferroni adjusted α = 0.025)							
		Median (Md)[b]	Number (n)	U	Z value	Significance level (p)	r[c]
Starts on time (Q4)	Over21	AS	101	3759	-1.06	0.29	0.08
	Under 21	A	81				
Stressed (Q12)	Over21	D	101	3946	-0.43	0.67	0.03
	Under 21	NO	81				

(C) English 1st language vs English not as first language (9 questions with median difference of at least 1, Bonferroni adjusted α = 0.0056)

		Median (Md) [b]	Number (n)	U	Z value	Significance level (p)	r [c]
Finish late (Q3)	English 1st	D	101	2071.5	-3.36	0.001	0.25
	Non English	NO	81				
Starts on time (Q4)	English 1st	A	101	2757	-1.04	0.30	0.08
	Non English	AS	81				
Integrate (Q6)	English 1st	A	101	2699.5	-0.84	0.40	0.06
	Non English	AS	81				
Pharmacy context (Q9)	English 1st	A	101	2256	-2.65	0.008	0.20
	Non English	AS	81				
Can control Students (Q10)	English 1st	A	101	2574	-1.68	0.094	0.12
	Non English	AS	81				
Stressed (Q12)	English 1st	D	101	2702	-1.14	0.26	0.08
	Non English	NO	81				
Variety of methods (Q18)	English 1st	A	101	2786	-0.90	0.37	0.07
	Non English	AS	81				
Respond to feedback from QA (Q20)	English 1st	A	101	2196	-3.06	0.002	0.23
	Non English	AS	81				

		Median (Md)[b]	Number (n)	U	Z value	Significance level (p)	r[c]
Interaction (Q21)	English 1st	A	101	2506	-1.93	0.053	0.14
	Non English	AS	81				

(D) Full-fee vs. Government-assisted (5 questions with median difference of at least 1, Bonferroni adjusted α = 0.01)

		Median (Md)[b]	Number (n)	U	Z value	Significance level (p)	r[c]
Finish late (Q3)	Government	D	145	2003	-2.29	0.022	0.17
	Full-fee	NO	36				
Pharmacy context (Q9)	Government	A	144	2506	-0.34	0.73	0.02
	Full-fee	AS	36				
Stressed (Q12)	Government	D	145	1935	-2.49	0.013	0.18
	Full-fee	NO	36				
Variety of methods (Q18)	Government	A	145	2012	-2.33	0.02	0.17
	Full-fee	AS	36				
Interaction (Q21)	Government	A	145	2264	-1.36	0.17	0.10
	Full-fee	AS	36				

(E) Female vs. Male (3 questions with median difference of at least 1, Bonferroni adjusted α = 0.0167)

		Median (Md)[b]	Number (n)	U	Z value	Significance level (p)	r[c]
	Male	A	56	2788	-2.55	0.011	0.19

Starts on time (Q3)	Female	AS	126				
Pharmacy context (Q9)	Male	AS	56	3290	-0.72	0.47	0.05
	Female	A	126				
Stressed (Q12)	Male	NO	56	3240	-0.91	0.36	0.07
	Female	D	126				

[a] Bonferroni adjusted α = 0.0125

[b] AS = agree strongly, A = agree, NO = no opinion, D = disagree, DS = disagree strongly

[c] 0.1 = small effect size, 0.3 = medium effect size, 0.5 = large effect size

Table 2: Responses from pharmacy students studying at La Trobe University and Cardiff University, ranked according to the level of agreement for La Trobe students

Question	University	
	Cardiff median (IQR)	La Trobe median (IQR)
7. **A good lecturer should provide clear instructions and assessment criteria for work they set**	AS (AS,A)	AS (AS,AS)
8. **A good lecturer is one who is enthusiastic about their subject**	AS (AS,A)	AS (AS,A)
15. **A good lecturer inspires students to do as well as they can**	AS (AS,A)	AS (AS,A)
5. **A good lecturer is one who demonstrates how their subject is relevant to pharmacy**	AS (AS,A)	AS (AS,A)
19. **A good lecturer provides appropriate feedback in a timely manner**	A (AS,A)	AS (AS,A)
14. **A good lecturer motivates students to learn**	AS (AS,A)	AS (AS,A)
17. **A good lecturer is easily accessible for academic support outside the classroom**	AS (AS,A)	AS (AS,A)
4. **A good lecturer should be ready to start on time**	AS (AS,A)	A (AS,A)
9. **A good lecturer is one who puts their material into a pharmacy context**	A (AS,A)	A (AS,A)

20.	A good lecturer responds to feedback from students' comments made on quality assurance (QA) questionnaire	A (AS,A)	A (AS,A)
18.	A good lecturer uses a variety of teaching methods	A (AS,A)	A (AS,A)
21.	A good lecturer interacts with students during teaching sessions	A (AS,A)	A (AS,A)
6.	A good lecturer should integrate their material with other parts of the course	A (A,A)	A (AS,A)
13.	A good lecturer encourages students to ask questions	A (AS,A)	A (AS,A)
16.	A good lecturer provides additional learning resources for students in addition to class materials they provide	A (AS,A)	A (AS,A)
10.	A good lecturer can control students in the lecture theatre	A (AS,A)	A (AS,A)
22.	A good lecturer provides a break or breaks within a 50 minute lecture	A (A,NO)	NO (A,D)
2.	A good lecturer is one who lectures for 50 minutes without giving a break at all	D (NO,D)	NO (A,D)
3.	A good lecturer should finish the lecture late if they start late	D (NO,D)	D (NO,D)

12. **If under stress, a good lecturer communicates/demonstrates to students that they are stressed**	D (NO,DS)	NO (NO,D)
11. **A good lecturer does NOT need to appear confident**	D (D,DS)	D (NO,DS)
1. **A good lecturer provides a lot of information 'one way' with no interaction from students**	D (D,DS)	D (D,DS)

A: Agree, AS: Agree strongly, D: Disagree, DS: Disagree strongly, NO: No opinion, IQR: interquartile

range

Table 3: Mann U Whitney Test results comparing La Trobe and Cardiff pharmacy students for questions where the students' responses had a different median.

La Trobe vs. Cardiff (Bonferroni adjusted α = 0.01)							
		Median (Md)[a]	Number (n)	U	Z value	Significance level (p)	r[b]
No break (Q2)	La Trobe	NO	182	21355	-5.63	<0.0005	0.25
	Cardiff	D	329				
Starts on time (Q4)	La Trobe	A	183	28478	-1.28	0.20	0.06
	Cardiff	SA	331				
Stressed (Q12)	La Trobe	NO	174	20802	-4.99	<0.0005	0.22
	Cardiff	D	323				
Timely feedback (Q19)	La Trobe	AS	183	26536	-2.57	0.010	0.11
	Cardiff	A	329				
Provides breaks (Q22)	La Trobe	NO	182	18324	-7.68	<0.0005	0.34
	Cardiff	A	330				

[a] SA = strongly agree, A = agree, NO = no opinion, D = disagree, SD = strongly disagree

[b] 0.1 = small effect size, 0.3 = medium effect size, 0.5 = large effect size

Appendix I: Questionnaire Statements

Likert scale options: Agree Strongly, Agree, No opinion, Disagree, Disagree Strongly

1. A good lecturer* provides a lot of information 'one way' with no interaction from students

2. A good lecturer is one who lectures for 50 minutes without giving a break at all

3. A good lecturer should finish the lecture late if they start late

4. A good lecturer should be ready to start on time

5. A good lecturer is one who demonstrates how their subject is relevant to pharmacy

6. A good lecturer should integrate their material with other parts of the course

7. A good lecturer should provide clear instructions and assessment criteria for work they set

8. A good lecturer is one who is enthusiastic about their subject

9. A good lecturer is one who puts their material into a pharmacy context

10. A good lecturer can control students in the lecture theatre

11. A good lecturer does NOT need to appear confident

12. If under stress, a good lecturer communicates/demonstrates to students that they are stressed

13. A good lecturer encourages students to ask questions

14. A good lecturer motivates students to learn

15. A good lecturer inspires students to do as well as they can

16. A good lecturer provides additional learning resources for students in addition to class materials they provide

17. A good lecturer is easily accessible for academic support outside the classroom

18. A good lecturer uses a variety of teaching methods

19. A good lecturer provides appropriate feedback in a timely manner

20. A good lecturer responds to feedback from students' comments made on quality assurance (QA) questionnaire

21. A good lecturer interacts with students during teaching sessions

22. A good lecturer provides a break or breaks within a 50 minute lecture

*Lecturer in the context of this study is a generic term used to denote a member of academic staff who contributes to a pharmacy teaching programme. Academic staff member and faculty are alternative descriptions used in different countries.