

Project title: what factors influence lecture attendance?

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Section 1. Executive Summary:

Our project was based around our research question, 'what factors influence lecture attendance?' As a team we discussed how we would go about the research during meetings with our academic partner. We brainstormed possible ideas that could be carried out to get to the bottom of our research question. In order to find answers, we decided to hold a session where students were welcome to answer a questionnaire whilst helping themselves to food.

The questionnaire was a key component for the project as it enabled us to receive information on what students thought about lectures, which tools helped them and more importantly what else could be done to improve their experience at university.

The main reason as to why we carried out this project was so that we could utilise the outcome and feedback to make necessary improvements and changes that would increase the number of students attending lectures both current and prospective. The results showed that majority of students felt that lectures were the most helpful tool that assisted with their learning. Therefore, we wanted to find out the reasoning behind what it was making students want to attend the lectures and what was preventing the students from wanting to attend the lectures.

Section 2. Background and Aims:

Increase use of technology has expanded the options available for learning in higher education. The increased use of lecture recordings in academic institutions has sometimes resulted in the use of recordings as an alternative to lecture attendance (Bos et al., 2016). A study by Alghamdi et al., (2016) found numerous reasons for medical student non-lecture attendance and also found an association between attendance and grade point average. These studies may not extrapolate to all courses and higher education institutions. It is therefore appropriate to establish local reasons for non-attendance with the aim of implementing strategies that maximise attainment using all available resources; as there was a sense of believe that there was correlation between study methods and lecture attends.

The aim of the study was to find out what factors affect students from attending lectures. Furthermore, to find out what style of studying is best suited for the participants.

Aims were met through gathering information for the study using questionnaires. The questionnaires consisted of two sections, the first meeting the aims of finding out the factors that influence students. The second section meeting the aim of finding out the studying technique that is best suited for the participants using Visual Audio Read/Write Kinaesthetic (VARK).

The research conducted has impact on both academics and students. The reason for this being that students were the one who took part in the research, the finding could be then looked and applied by academics and use it to accommodate to students overall teaching experience but also improve on their teaching style and for the students to also look to improve their learning style. It also could be fresh perspective for academics to get inside view of student's point of views. Lastly it can be used by other members of staff such as course leaders and director of learning and teaching to improve module content, teaching or materials used.

Section 3. Methods:

The questionnaires (see Appendix A) were given out with consent form and participant information sheet (See Appendix B). The questionnaire included specific questions asking the participants why they choose to attend lecture and why they may choose to not attend lectures. We looked deeper into the study by finding out what type of studying methods participants prefer and what helps them to learn. This was done by presenting the participants with a questionnaire (see Appendix A) consisting of questions that link into VARK.

30 participants took part in the research there were 17 from first year, 9 second years and 4 third years. All years were included for wide range of results; also participants from Biochemistry, Biological Sciences, Biomedical Sciences, Herbal Medicine, Pharmacology and Physiology were included.

Ethical issues that were taking into account were participants remind anonymous to hide their identities, Consent form was given before starting the questionnaire with a participant information sheet informing them and answering any possible questions that they might have before starting the questionnaire.

Data was collected using a questionnaire (see Appendix A), the questionnaire was then collected, and all put together into one excel spreadsheet to be analysed (see Appendix C). Feedback was grouped using key words to make it easier to analyse the data and represent as pie charts.

Section 4. Results:

Below are two figures that represent the data collected (see Appendix A and B). We extracted the important results from the questionnaires (see Appendix A) and categorised them using Excel spreadsheet (see Appendix C) in order to be analysed and to identify trends. The main areas of the projects were put into pie charts, these being the factors that influence lecture attendance and VARK.

The most popular factor that influenced students' attendance was lecturers according to figure 1. This links with the recurring theme under suggestions for improving lecture experience which was that students wanted lectures to be more interactive and for lecturers to be more enthusiastic when teaching content. This linking into the learning style of students as the VARK results found that kinaesthetic had the highest percentage when it came to students learning styles.

The second most popular factor that influenced students' attendance was the time of the lecture. Majority of the students preferred a later start.

The Visual Audio Read/Write Kinaesthetic (VARK) test results varied across both tables which were predicted as every student's learning style is bound to be different. The two common results were Kinaesthetic and audio. This reflects the three top tools students found to be useful which were lectures, lecture recording seeing as both tools are audio-based (we take in the information through listening) and lastly Practical sessions, which is learning by physically getting involved.

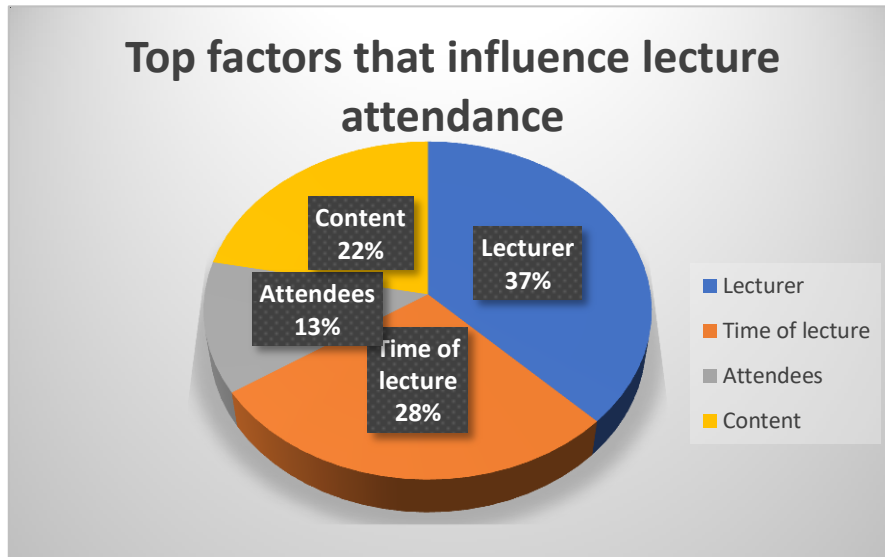


Figure 1. Pie chart used to analyse the data collected from 20 students across years 1, 2 and 3 studying various life sciences courses. The Pie chart shows the percentage of student's top picks for factors that influence lecture attendance. Lecturer having the highest percentage. Results gathered from questionnaire (see Appendix A) analysed in excel (Appendix C).

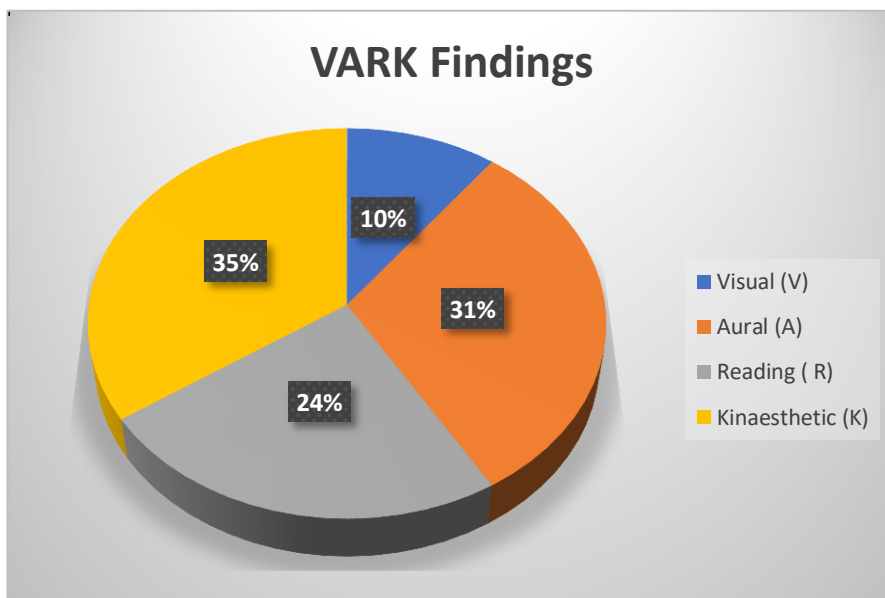


Figure 2. Pie chart used to analyse the data collected from 20 students across years 1, 2 and 3 studying various life sciences courses. The Pie chart shows the percentage of students VARK results with kinaesthetic having the highest percentage. Results gathered from questionnaire analysed in excel (Appendix C).

Section 5. Discussion:

One of the limitations that were faced during the data gathering phase was an unequal distribution of participants from each of the academic years. There were a higher number of participants from year 1

students, whereas there were a significantly lower number of participants from year 3. Another limitation was that few of the students who have filled in the questionnaire had not filled in the entire required field. One of the questions required the participant to write down five suggestions for improving lecture experience, however some of the participants had not written all five. This has resulted in an incomplete analysis of the aim as there not all data needed was given. Also, the sample size was much smaller than actual class size so it can be assumed that the results obtained is a rough knowledge of what students depict about their lectures and teaching methods.

The data has shown that 50% of the students have stated the lecturers of the classes influence attendance. However, 55% of the students have said that lectures and lecture recordings are the most useful tool used to assist with learning. The least useful tool most commonly stated by the students is the drop-in sessions. From the VARK questions, it is shown that K (kinaesthetic study strategies) is the top picked followed by A (aural study strategies) being the second highest are the top most learning styles that the students prefer to use. The third most common is R (read/write study strategies). The least common learning style was V (visual study strategies).

The aim of the research was to find factors that affect influence attendance and what are the best learning styles for students. The data obtained has given a clear indication for our aim. What went well was the understanding of the most common learning style which can be implemented into lectures, as lectures were an important tool for students use to learn. The methods used to obtain information from the questionnaire were VARK questions, questions asking for suggestions, and questions on ranking what the students feel is the most important for assisting in lectures.

Section 6. Conclusions and Recommendations:

In conclusion the questionnaires (see Appendix A) were able to gather information required to achieve the aim. The VARK questions were helpful to understand what the students need in order for better improvement in teaching/learning style. By doing so the attendance rate can increase as the students would want to attend more for the lectures. Any research that may be conducted in the future, there are a few recommendations to take into account. It is important to make sure that the participants know how to answer the questions. Due to empty spaces and improper way of answering questions there was not a clear structure when it came to interpret the data. It is crucial that all the VARK questions are filled out, so the results give a good indication of what the learning style is for each of the student. For any future research one method of interacting with the participants, a video can give questions with aural and visual aids. All the students would have to write down a letter that is linked to an answer. Few of the students did not read the questions properly hence some incomplete answers. This method is supported by the findings from our data. Getting more 3rd year students would help more as those students have studied for two and more years. The experience from those students would give specific answers compared to 1st year students. That is something that can be looked into in further research.

Section 7. Dissemination:

As a team we agreed that the report should be circulated to everybody and anybody interested in the project should they find the information and results useful. This would include academic staff and students also if they wanted to find out more information about any changes they could make to have a positive effect during their time at university.

Staff would have the opportunity to find out more on factors that influence lecture attendance with the hope of learning something from our research or making any improvements in their own lectures to increase the number of students that attend. Even if they do not take anything from the work carried out, it could simply provide perspective.

Students, especially those that took part would have an idea of what other students think, perhaps relate with one another or see any patterns. Together it could influence them to take part in a similar project or be part of a completely different but share the ultimate goal of improving student experience or bridge the gap between students and staff.

Beside students and teaching academics the report could be circulated to course leaders who could then distribute it across to everybody interested in wanting to read the report via email. The students as co-creators team will also be available to help with the dissemination of the project.

Section 8. Reflection:

What was good about the research experience was that as a team we were able to collect useful information from students whilst also gaining an insight into the importance of research and the impact it has on projects.

The research experience was carried out in a relaxed environment where the students could sit, eat and communicate with their peers during the session where they filled out their questionnaires. This approach proved to be pretty effective as we gathered a fair amount of information that would help us to understand which factors affected lecture attendance.

Problems involved trying to finalise a date for the session to take place as the team had mixed availabilities. It was also difficult to find a date where we could get majority of the subjects required to participate in the research as we wanted a balanced ratio of students from across the three years. For instance, some students were in labs carrying out practicals, others may have had lectures and some did not have any teaching taking place on the day. Therefore, it was a little bit tricky trying to fix a date that was suitable for everyone.

Another minor issue we had was that we did not receive a large enough response as anticipated. This meant that our research was more qualitative than it was quantitative, and it would've been interesting to evaluate and compare a wide range of data.

The main reason that we had the problem of finding an appropriate date was because everybody's university timetable is different. It would be impossible to plan the perfect date. To overcome the problem, we contacted our academic partner as we ourselves could not view the timetables for the second and third years in order to find a date where feedback could be maximised. What could be done differently next time is that instead of having one session, perhaps to run the session over three days (either one each week for three weeks or three in one week). As a result, it could potentially increase the number and variety of participants.

The lessons we learned were that deadlines are key when trying to get things done on time. Communication is equally significant as without it nothing would get done.

To conclude on our project, we did a good job in identifying the factors that influenced lecture attendance (our main research question). We achieved a smooth operation when carrying out our research and did our best in trying to extract feedback from the participants with the limited time that we had. Overall if the information is useful to staff and academics then we would have achieved the goal of our project which was to benefit both the student and staff community.

References:

Bos, N., Groeneveld, C., Van Bruggen, J. and Brand-Gruwel, S., 2016. The use of recorded lectures in education and the impact on lecture attendance and exam performance. *British Journal of Educational Technology*, 47(5), pp.906-917.

Alghamdi, A., Yamani, A., Khalil, A., Albarkati, B., Alrehili, O. and Salih, M., 2016. Prevalence, causes and impacts of absenteeism among medical students at UQU. *Education*, 6(1), pp.9-12.

Appendix A: Questionnaire used to collect data:

What factors influence students' attendance in lectures?

Thank you for participating in our research, please complete the following questions and VARK questionnaire. Once complete return to the researchers in the room.

1. What is your year of study?

- a. Year 1 []
- b. Year 2 []
- c. Year 3 []

2. What is your course?

- a. Biochemistry
- b. Biological Sciences
- c. Biomedical Sciences
- d. Herbal Medicine
- e. Pharmacology and Physiology

3. Please rank the following with 1 being highest preference prior to completing the VARK assessment below:

- a. I learn best by reading []
- b. I learn best by listening []
- c. I learn best using illustrated examples []
- d. I learn best by problem solving or practical work []

4. In order of importance, please state three factors that influence whether you attend a lecture or not.

- 1.
- 2.
- 3.

Additional comments:

5. In order of importance please provide five suggestions for improving your lecture experience.

- 1.
- 2.
- 3.

Additional comments:

6. With respect to Panopto lecture recordings, please select all that apply numbering them from 1 to 5, with 1 being most applicable.

- I use lecture recordings to supplement attended lectures []
- I use lecture recordings as a substitute for attending lectures []
- I use lecture recordings when I am unable to attend a lecture []
- I rarely listen to recordings preferring to read textbooks []
- I never list to the lecture recordings []

Additional comments:

7. Please rank the following from 1 being most useful with respect to assisting with learning:

- Drop-in sessions []
- iPads []
- Kortex/Wiley/Raven resources []
- LearnSmart Labs []
- Lectures []
- Lecture recordings []
- Practical sessions []
- Reading lists []
- Tutorials []

LEARNING STYLES QUESTIONNAIRE (<http://vark-learn.com/the-vark-questionnaire/>)

This questionnaire aims to find out something about how you learn best. The follow up materials will then give you tips on how to use your preferred style for maximum benefit.

Choose the answer which best explains your preference and circle the letter next to it. Please circle more than one if a single answer does not match your perception. By the way, there are no 'right' or 'wrong' answers! No further information can be given as it may prejudice your responses.

When you have completed the questionnaire, use the marking guide to find your score for each of the categories, Visual, Aural, Read/Write and Kinaesthetic.

- 1. How many syllables are in your first name?**
 - (a) one
 - (b) two
 - (c) three
 - (d) more than three

- 2. You are about to give directions to a person who is standing with you. They are staying in a hotel in town and want to visit your house later. They have a rental car. You would:**
 - (a) draw a map on paper
 - (b) tell them the directions
 - (c) write down the directions (without a map)
 - (d) collect them from the hotel in my car

- 3. You are not sure whether a word should be spelled 'dependent' or 'dependant'. I would:**
 - (a) look it up in the dictionary
 - (b) see the word in my mind and choose the way it looks
 - (c) sound it out in my mind
 - (d) write both versions down on paper and choose one

4. **You have just received the latest copy of a magazine with an itinerary for a conference, this is of interest to someone else. You would:**
- (a) phone them immediately
 - (b) send them a copy of the printed itinerary
 - (c) show them on a map of the world
 - (d) share what I plan to do at each place I visit
5. **You are going to cook something as a special treat for your family. You would:**
- (a) cook something familiar without the need for instructions
 - (b) thumb through the cookbook looking for ideas from the pictures
 - (c) refer to a specific cookbook where there is a good recipe
6. **A group of students from another school has been assigned to you to find out about the geology of your local area. You would:**
- (a) drive them to a wildlife reserve or park
 - (b) show them slides and photographs
 - (c) give them pamphlets or a book on wildlife reserves or parks
 - (d) give them a talk on wildlife reserves or parks
7. **You are about to purchase a new compass clinometer. Other than price, what would most influence your decision?**
- (a) the salesperson telling you what you want to know
 - (b) reading the details about it in a journal
 - (c) playing with the controls and listening to it (road testing it)
 - (d) it looks really smart and fashionable
8. **Recall a time in your life when you learned how to do something like playing a new board game. Try to avoid choosing a very physical skill, eg. riding a bike. You learned best by:**
- (a) visual clues - pictures, diagrams, charts
 - (b) written instructions
 - (c) listening to somebody explaining it

- (d) doing it or trying it
9. **You have an eye problem. You would prefer the doctor to:**
- (a) tell me what is wrong
 - (b) show me a diagram of what is wrong
 - (c) use a model to show what is wrong
10. **You are about to learn to use a new program on a computer. You would:**
- (a) sit down at the keyboard and begin to experiment with the program features
 - (b) read the manual which comes with the program
 - (c) telephone a friend and ask questions about it
11. **You are staying in a hotel and have a rental car. You would like to visit friends whose address/location you do not know. You would like them to:**
- (a) draw a map on paper
 - (b) tell directions
 - (c) write down the directions (without a map)
 - (d) collect me from the hotel in their car
12. **Apart from the price, what would most influence your decision to buy a particular textbook?**
- (a) I have used a copy before
 - (b) a friend talking about it
 - (c) quickly reading parts of it
 - (d) the way it looks is appealing
13. **A new movie has arrived in town. What would most influence your decision to go (or not go)?**
- (a) I heard a radio review of it
 - (b) I read a review of it
 - (c) I saw a preview of it

14. Do you prefer a lecturer who likes to use:

- (a) a textbook, handouts, readings
- (b) flow diagrams, charts, graphs
- (c) field trips, labs, practical sessions
- (d) discussion, guest speakers

15. Ignore question 1.

THE VARK QUESTIONNAIRE SCORING CHART

Use the following scoring chart to find the VARK category that each of your answers corresponds to. Circle the letters that correspond to your answers.

Eg. if you answered b and c for question 4, circle R and V in the question 4 row

Question	a category	b category	c category	d category
4	A	R	V	K

Scoring chart

Question	a category	b category	c category	d category
1				
2	V	A	R	K
3	R	V	A	K
4	A	R	V	K
5	K	V	R	
6	K	V	R	A
7	A	R	K	V
8	V	R	A	K
9	A	V	K	
10	K	R	A	
11	V	A	R	K
12	K	A	R	V
13	A	R	V	
14	R	V	K	A
15				

Calculating your scores:

Count the number of each of the VARK letters you have circled to get your score for each VARK category

Total number of V's circled =	<input type="text"/>
Total number of A's circled =	<input type="text"/>
Total number of R's circled =	<input type="text"/>
Total number of K's circled =	<input type="text"/>

Your scores will give an indication of your preference for some of the different ways of learning

- ie:
- V - by Visual Study Strategies
 - A - by Aural Study Strategies
 - R - by Read/Write Study Strategies
 - K - by Kinesthetic Study Strategies

More information available at <http://vark-learn.com/introduction-to-vark/>

Appendix B: Participation sheet used to guide and inform students:

Participant information sheet

We are Tahmina, Nishat and Basma from the School of Life Sciences and are conducting research as part of the Students as Co-creators initiative.

1.1 Research project title: What factors influence students' attendance in lectures?

What is the purpose of the study?

To determine the factors including learning style preferences which influence undergraduate lecture attendance in life sciences.

Why have I been chosen?

We are asking for voluntary participants for this study.

Do I have to take part?

No it's up to you to decide whether or not to take part.

What will I be asked to do if I take part?

Over lunch on one of the given dates you will be given some background information about the VARK learning styles and then asked to complete a questionnaire.

Will my data be identifiable?

No all questionnaires will be completed anonymously. In addition all the information you provide during the course of the research will be kept strictly confidential stored securely.

What will happen to the results?

The result will be reported in a dissertation/ thesis and maybe published in an academic journal.

Are there any risks?

There is no risk involved in participating the study but if you feel any distress you are advised to contact the researcher. You will be able to withdraw from the study at any point and your responses will not be used for analysis.

Are there any benefits to taking part?

There are no direct benefits; you may find participating interesting however.

Where can I obtain further information about the study if I need it?

If you have any questions about the study please contact the academic partner.

Name: Chrystalla Ferrier

Email: c.ferrier@westminster.ac.uk

Appendix C: Excel spreadsheet used to analyse data collected from questionnaire:

Subject	Year	Course	Factors that influence attendance	Suggestions for improving lecture experience	Additional comments	Panopto scoring	Most helpful tool to assist with learning	Least helpful tool	Predicted VARK	VARK score	VARK result analysis
1	1	Biomedical Science	Content Lecturer Punctuality	Lecturer - student interactions Shorter lectures with relevant content No irrelevant content unless necessary as examples		2 5 1 3 4	Lectures	Drop-in sessions	A	V3 A4 R2 K4	A+K
2	1	Biomedical Science	Lecturer Content (knowledge) Time of lecture	Lecturer being passionate Teaching quality Working equipment (i.e. projectors, mic, sound)		4 3 1 2 5	Practical sessions	Reading lists	K	V4 A4 R4 K4	A+K
3	1	Biomedical Science	Time of lecture Lecturer Attendees (who's going)	Quality of lecture hall Longer breaks		4 5 2 1 3	Lectures	Drop-in sessions	A	V3 A3 R3 K3	V+A+R+K
4	1	Biomedical Science	Laziness Attendees (friends) Hunger	Have marks associated with lectures Have more information on slides, fewer pictures Friendlier staff/ students' (people) Different course rep		1 4 2 5 3	Lectures	Practical sessions	K	V4 A4 R2 K2	V+A
5	1	Biochemistry	Content (knowledge) Time of lecture Lecturer	Longer breaks Interaction Different lecturers		4 2 3 1 5	iPads	Reading lists	A	V1 A6 R4 K1	A
6	2	Biomedical Science	Time of lecture content (importance) Lecturer	Don't leave long gaps between lectures Later starts More 5pm starts Free travel Hour long lectures		4 3 1 2 5	Lectures	Kortex/ Wiley/ Raven resources	R	V2 A4 R1 K6	K
7	2	Biomedical Science	Anxiety Attendees (population) Lecturer	Better sound quality of recordings The option to live stream from a less crowded room Students not talking/ being thrown out for talking Leaving back 2 rows empty for latecomers Later starts		2 3 1 4 5	Practical sessions	iPads	K	V1 A1 R4 K7	K
8	2	Biomedical Science	Time of lecture Weather Personal issues	Record all lectures as some are not Provide important books More seminars		2 3 1 4 5	Lecture recordings	Kortex/ Wiley/ Raven resources	V	V2 A5 R3 K3	A
9	2	Biological Sciences	Punctuality Lecturer Attendees	Lecturers speaking slower More enthusiastic lecturers Longer breaks	Prefer listening to Panopto (hard to focus in lectures and lecturers go too fast so reduced time to make notes)	1 1 1 5 5	Lecture recordings	Everything but lecture recordings + tutorials	V + K	V3 A6 R6 K0	A+R
10	3	Biomedical Sciences	Time of lecture Lecturer	More engagement between lecturers and students Longer breaks More feedback for exams and coursework More exercise questions to discuss in groups		1 4 2 3 5	Lectures	iPads	V	V6 A7 R7 K8	K
11	1	Biomedical Science		Record all the lectures Change the seat (opening in the middle) Airson		5 1 5 1 1	Tutorials	Lecture recordings	R+A+V	V2 A5 R4 K2	V
12	1	Herbal Medicine	lecturer Content (relevance) Tutor	Define structure Learn in context to degree subject Advance info on lecture Adapting subject to fit learners		1 2 3 4 5	Practical sessions	iPads	K	V2 A3 R0 K8	K
13	1	Biomedical Science	Parent Future Lecturer	Recordings of all lectures to listen back to Larger lecture breaks Good lecture notes Easy to understand lecture slides Interaction with the lecturer		5 3 4 1 2	Lecture recordings	Kortex/Wiley/Raven resources	R	V2 A4 R3 K4	A+K
14	1	Biomedical Science	My future - motivation Parents Lecturer	Questions at the end of lectures Good lecture notes Provide more study materials Having more breaks		2 3 1 4 5	LearnSmart labs	Drop-in sessions	K	V1 A1 R5 K6	K
15	1	Biomedical Science	Parents Future Friends	Make it more interactive More information on the slide explaining Explain key terms used in the lecture first Can tap in your ID throughout the lecture		1 2 4 3 5	Lectures	Drop-in sessions	R	V1 A2 R6 K5	R
16	1	Biomedical Science	Time of lecture Length of lecture Lecturer	Engaging lectures Recorded lectures Upload slides early No 5ams No longer than 2 hours		5 4 1 2 3	Lectures	Drop-in sessions	R	V3 A3 R4 K3	R
17	2	Herbal Medicine	Attendance Selfies What am I paying 27k for?	Panopto Make sure they know they're teaching Smile Have better banter		5 1 1 5 5	Lecture recordings	iPads	R+A	V1 A5 R5 K1	A+R
18	2	Biomedical Sciences	Weather Time of lecture How many lectures I have that day	All lectures recorded Presentations should be easy to read Clear explanation Comfortable seating 15 minutes break in between		2 1 3 4 5	Lecture recordings	Drop-in sessions	K	V1 A3 R4 K5	K
19	2	Biomedical Sciences	Laziness (When I wake up) content (importance) Travel options	More interactive sessions Lecturers and students engaging more Less content		2 1 3 4 5	iPads	Tutorials	R	V1 A4 R5 K3	R
20	3	Biomedical Sciences	lecturer content Time of lecture	Different rooms every month Interactions with the students Mini exam/test every month		1 5 1 3 4	LearnSmart Labs	Reading lists	V	V4 A6 R8 K5	R
Analysis	number of students / overall students		Factors that influence attendance (Top 4)	Top 3 recurring suggestions for improving lecture experience			Top helpful tool that assists with learning	Top least helpful tool	Top predicted		Top actual
			Lecturer (12/20)	Interactive and enthusiastic/passionate (8/20)			Lectures (7/20)	Drop in sessions (7/20)	R (6/20)		K (10/20)
			Time of lecture (9/20)	longer breaks (5/20)			Lecture recordings (5/20)	Reading list (3/20)			A (9/20)
			Content (7/20)	Record lectures (4/20)			Practical sessions (3/20)	Kortex/Wiley/Raven resources (3/20)			R (7/20)
			Attendees (4/20)								V (3/20)