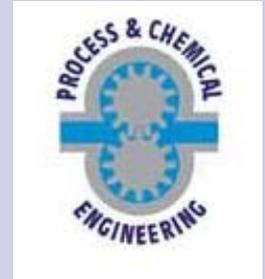




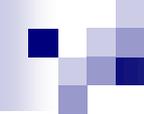
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Is attending lectures relevant anymore in engineering education?

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1. Introduction & Motivation

- Most lecturers would state that students should attend lectures in order to successfully progress and gain the most out of a course.
 - **However, some students frequently miss lectures or rarely attend them at all.**
- Motivation for this study originated from the large variation in student attendance.
- **This led to wondering if lectures were relevant anymore and postulating reasons why students attend and don't attend.**

So, why not ask the students?



2. Methodology

A questionnaire-type survey was used to ascertain both quantitative and qualitative data from the students.

The Survey Questions

1. In what year are you registered? 1st 2nd 3rd 4th

2. I think lectures are very beneficial to my learning.

Strongly Agree Agree Not sure Disagree Strongly Disagree

3. If the lecturer provides a good module handbook, then there is no real need to attend lectures.

Strongly Agree Agree Not sure Disagree Strongly Disagree

4. Lectures are now an out-dated mode of education in the modern world of information technology, distance learning and self-directed learning.

Strongly Agree Agree Not sure Disagree Strongly Disagree

Please comment:

The Survey Questions

5. If you **DO NOT** attend lectures of certain modules regularly (i.e. every week), tick any of the following reasons below if they are **in-part** the reasons for your **non-attendance**

<u>Reasons for NOT attending lectures regularly</u>	Definitely	Sometimes
Do not gain much benefit from lectures		
Good lecture notes are more than sufficient		
More useful to use the lecture time to study module notes		
Lectures are boring and do not engage my attention		
Poor standard of teaching by the lecturer		
Projects and assignments take up a lot of time and there is not enough time to attend lectures		
9:00 lectures do not suit me		
13:00 – 14:00 lectures do not suit me		
Lectures after 14:00 do not suit me		
Part-time job makes it difficult to attend lectures		
Social life makes me too tired to attend lectures		
We have too many lectures and lab sessions and I cannot possibly attend most of them.		
Continuous assessment deadlines and in-class exams from other lecturers means I concentrate on these rather than the lectures		

The Survey Questions

6. If you **DO attend lectures of certain modules regularly** (i.e. every week), tick any of the following reasons below if they are **in-part** the **reasons** for your **attendance**

<u>Reasons for attending lectures regularly</u>	Definitely	Sometimes
Lecturer provides little or no module handout materials, thus I need to go to lectures to find out what is being covered		
To get the notes, as lecturer only hands out notes during each lecture		
Attending lectures helps me understand the course material a lot better than just reading through the module notes.		
Lectures are an alternative vehicle to the notes to help me do well in the module exam(s)		
Lectures are very interesting and engage my attention		
Lecturer gets the students to do things during the lectures, thus we are actively involved during the lecture		
Lecture area coincides with my interests		
Good standard of teaching by the lecturer		
Lecturer provides a good set of ancillary materials (PowerPoint, overhead slides, etc) in class which complement the lecture notes		
The lecturer keeps a record of attendance		
I want to a maintain good impression with the lecturer		

The Survey Questions

7. What in your opinion does a really good lecture consist of (format, delivery and/or style)?

Please comment:

8. In your opinion, how can lectures be made more worthwhile for you to attend more regularly?

Please comment:

Thank you for completing this questionnaire. Your help is very much appreciated.

Number of students surveyed and response rate

Students	Number in class	Number responded	Percentage response
Second years	23	10	44
Third years	22	16	73
Fourth years	22	13	59
TOTAL	67	39	58

This was a SMALL case-study

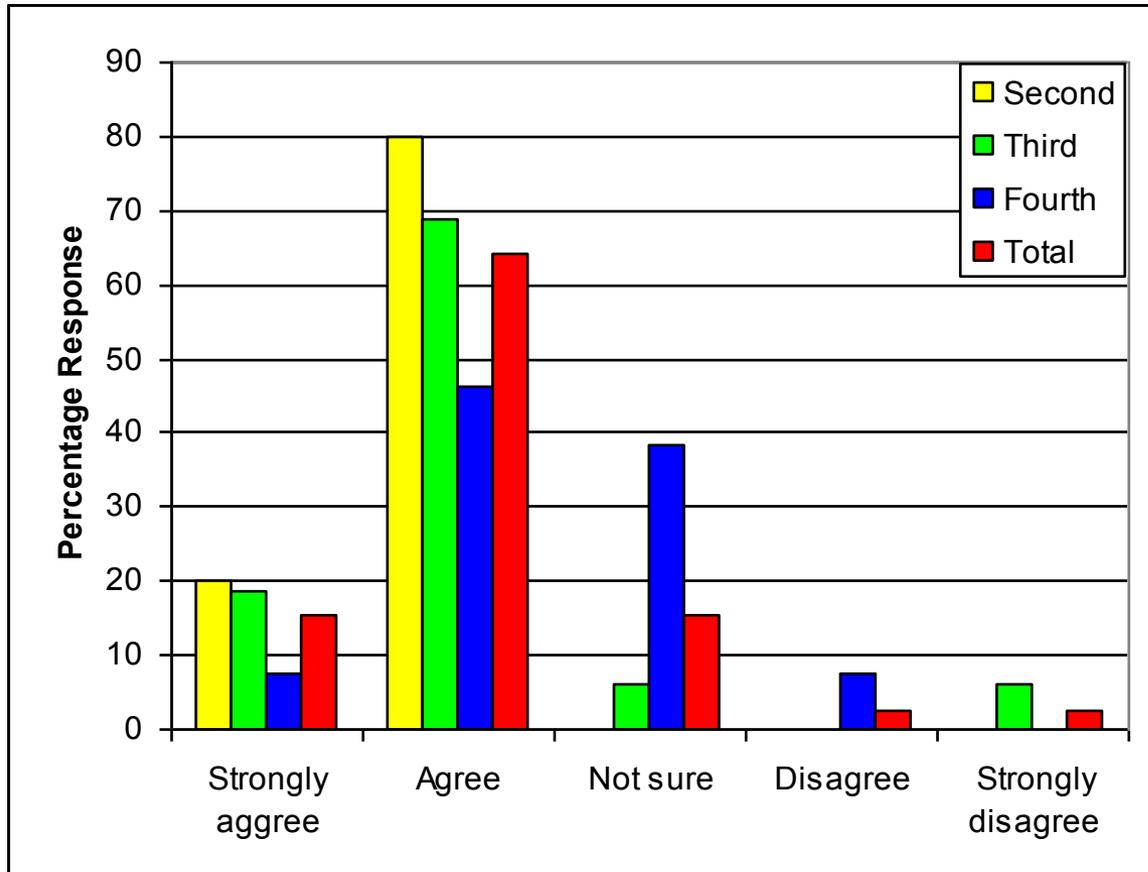


3. Results & Discussion

Are lectures relevant anymore?

2. I think lectures are very beneficial to my learning.

Strongly Agree Agree Not sure Disagree Strongly Disagree

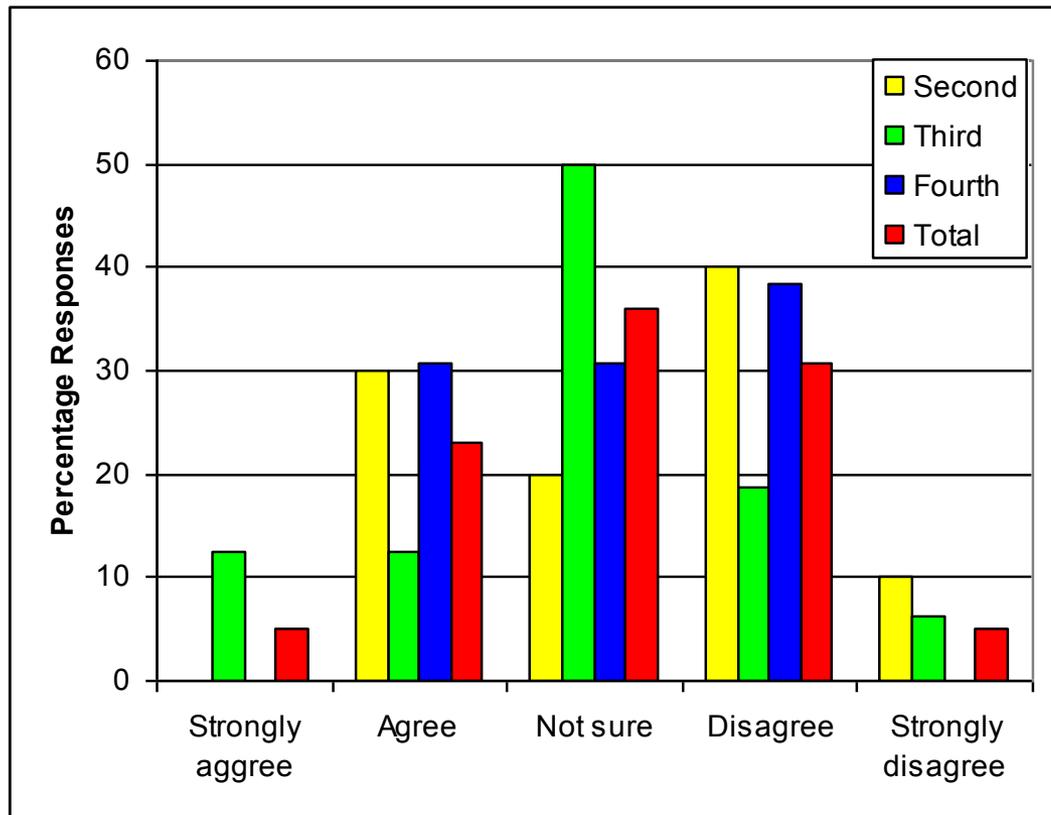


Overall, 79% either agree or strongly agree

Are lectures relevant anymore?

3. If the lecturer provides a good module handbook, then there is no real need to attend lectures.

Strongly Agree Agree Not sure Disagree Strongly Disagree

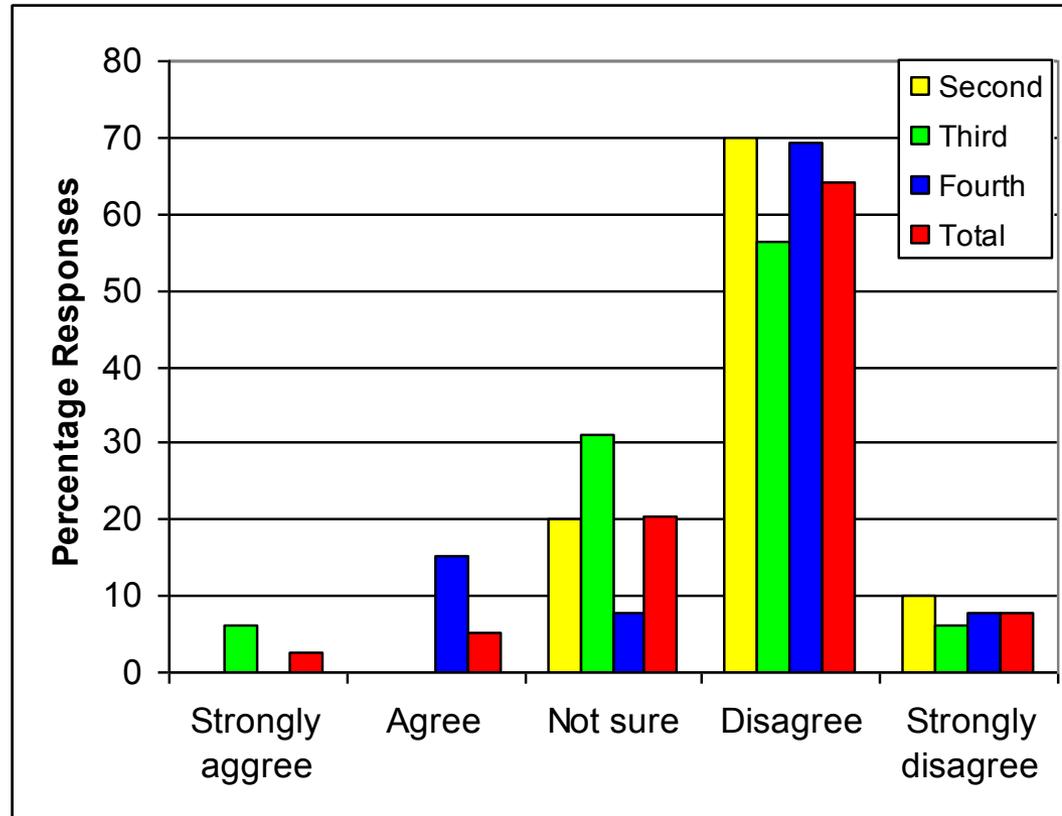


Responses are quite mixed, but 28% either agree or strongly agree, thus providing a good handbook may lead to non-attendance.

Are lectures relevant anymore?

4. Lectures are now an out-dated mode of education in the modern world of information technology, distance learning and self-directed learning.

Strongly Agree Agree Not sure Disagree Strongly Disagree



72% either disagree or strongly disagree, thus majority of students do NOT believe that lecturing is an out-of-date mode of education.

Reasons for NOT attending lectures

5. If you **DO NOT** attend lectures of certain modules regularly (i.e. every week), tick any of the following reasons below if they are **in-part** the reasons for your **non-attendance**

<u>Reasons for NOT attending lectures regularly</u>	Year 2	Year 3	Year 4	ALL
Continuous assessment deadlines and in-class exams from other lecturers means I concentrate on these rather than the lectures	10	31	77	41
Projects and assignments take up a lot of time and there is not enough time to attend lectures	0	31	77	38
Do not gain much benefit from lectures	30	6	38	23
We have too many lectures and lab sessions and I cannot possibly attend most of them.	20	19	31	23
9:00 lectures do not suit me	50	6	15	21
More useful to use the lecture time to study module notes	0	13	38	18
Poor standard of teaching by the lecturer	40	6	15	18
Good lecture notes are more than sufficient	0	19	23	15
Lectures are boring and do not engage my attention	30	0	8	10
I dislike the material covered in the module	10	13	0	8
I dislike the lecturer	10	0	8	5
13:00 – 14:00 lectures do not suit me	10	0	0	3
Lectures after 14:00 do not suit me	10	0	0	3
Part-time job makes it difficult to attend lectures	0	0	0	0
Social life makes me too tired to attend lectures	0	0	0	0

Major reasons for non-attendance at lectures can be summarised as:

1] Continuous assessment deadlines

Overall 41% as a definite reason; 26% stated it as sometimes.

2] Projects

Overall 38% as a definite reason; 21% stated it as sometimes.

3] Not gaining much benefit from lectures:

Overall 23% as a definite reason; 26% stated it as sometimes.

4] Too many lectures and labs:

Overall 23% as a definite reason; 21% stated it as sometimes.

In summary, the major reasons for non-attendance could be broadly categorised as:

- **Time conflict issues** due to continuous assessment deadlines, in-class exams, projects, assignments and laboratories. This was a particularly big issue for the 4th year students.
- **Lecture quality** in terms of not gaining much from the lecture, boring lectures and the quality of teaching being perceived as poor.

Reasons for attending lectures

6. If you **DO** attend lectures of certain modules regularly (i.e. every week), tick any of the following reasons below if they are **in-part** the reasons for your attendance

<u>Reasons for attending lectures regularly</u>	Year 2	Year 3	Year 4	ALL
Good standard of teaching by the lecturer	50	50	77	59
Attending lectures helps me understand the course material a lot better than just reading through the module notes.	70	44	46	51
I feel that I could miss out on something important if I miss lectures	30	50	46	44
Lectures are an alternative vehicle to the notes to help me do well in the module exam(s)	80	19	31	38
To get the notes, as lecturer only hands out notes during each lecture	50	25	31	33
The lecturer keeps a record of attendance	30	38	23	31
Lecturer provides little or no module handout materials, thus I need to go to lectures to find out what is being covered	50	13	31	28
Lectures are very interesting and engage my attention	40	13	31	26
Lecturer provides a good set of ancillary materials (PowerPoint, overhead slides, etc) in class which complement the lecture notes	30	25	23	26
Lecturer gets the students to do things during the lectures, thus we are actively involved during the lecture	10	38	15	23
Lecture area coincides with my interests	10	13	38	21
I want to maintain good impression with the lecturer	20	25	8	18

Major reasons for attendance at lectures can be summarised as:

1] Good standard of teaching

Overall 59% as a definite reason; 13% stated it as sometimes.

2] Lectures help the student understand the material better

Overall 51% as a definite reason; 31% stated it as sometimes.

3] Might miss something important if not attending lectures

Overall 44% as a definite reason; 31% stated it as sometimes.

4] Lectures are an alternative vehicle to the notes

Overall 38% as a definite reason; 28% stated it as sometimes.

- Unlike the reasons for non-attending, none of the reasons presented in the Table could be considered as insignificant.
- It is clear that good quality lecturing adds value to the notes and is an alternative vehicle which can help student understanding of the course material and thus encourage them to attend.

How to improve lectures?

7. What in your opinion does a really good lecture consist of (format, delivery and/or style)?
Please comment:

- Engagement/active learning environment**
- Good notes/presentation**
- Address all types of learners**
- Match material to assessment**
- Provide a safe/positive learning environment**
- Active learning environment through problem solving**
- Creating conditions for a deep learning experience**

“I attend most of my lectures if I find I benefit from them. Lecture notes can always be photocopied from other people/books; it’s the actual understanding of them that I find important. The reason I would skip a module regularly is because I find I’m wasting my time – I can easily pick up a book and teach myself the same material more clearly in the hour I’ve just wasted sitting down not learning anything.” [2nd year]

How to improve student attendance?

8. In your opinion, how can lectures be made more worthwhile for you to attend more regularly?
Please comment:

- **Lectures should incorporate the preparing of students for the exams**
- **Implementation of active learning during lectures**
- **Reward attendance**
- **Making the subject interesting**
- **An enthusiastic lecturer**

4. Reflection - 2 years later

Fitzpatrick, J.J., Cronin, K. and Byrne, E.P.; Is attending lectures still relevant in engineering education?
European Journal of Engineering Education, 36, 3, 301-312 (2011)

“Has the results of the survey had any influence on the way you teach your modules?”

One author stated that “it really did not have any effect”

The other two authors stated that “they haven’t made conscious changes to the way they teach their modules, but they have reflected more on how they could achieve and maintain strong student numbers in their classes”

Both believe that the lectures have to provide some form of “added-value” over the handout notes.

Adding value through Active Learning

Lectures need to offer more than just a good set of handout notes, PowerPoint presentation or inspired presentation.

They need to provide engagement with the students to create an active learning environment and provide enough space to allow for creative learning engagements.

For example:

- through peer-to-peer discussions on a topic
- tackling a short question or problem
- constructing a concept map
- reflecting on some aspect of the material, followed by some form of classroom discussion.

5. Major Conclusions from case-study

- Lectures are still very relevant to students today**
- Course Handbook / Notes can reduce attendance**
- Projects / assignments & other deadlines can reduce attendance**
- Adding value during lectures is important**
- Active learning can improve attendance**



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Thank you !

Questions / Comments ?

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