

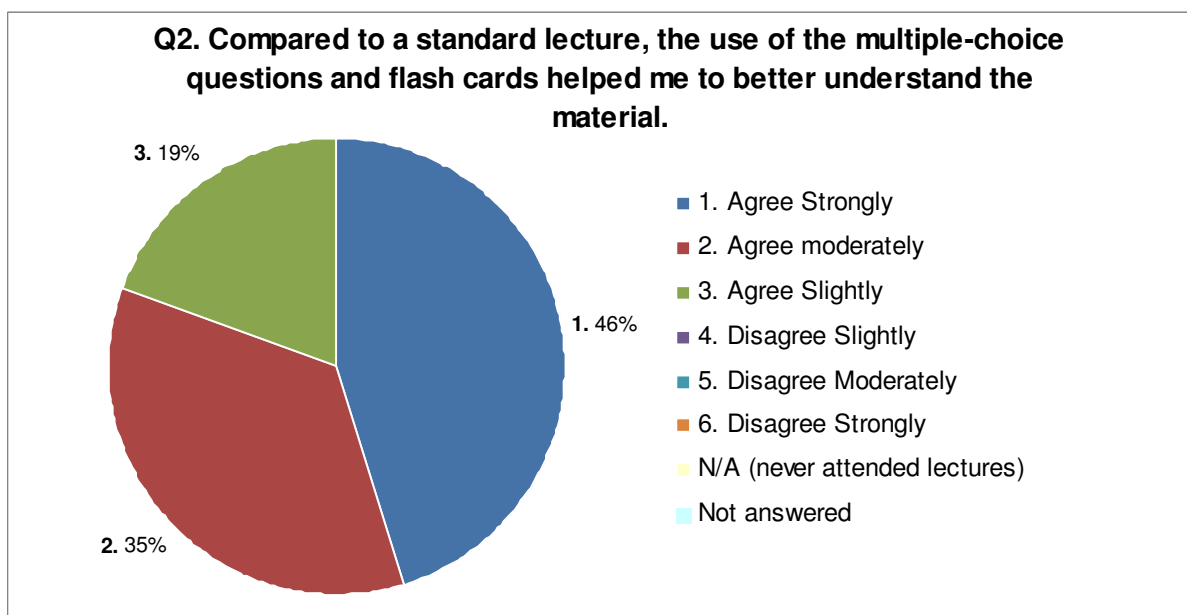
# PHL1030/2030: *Thinking: Analysing Arguments*. Monash University, School of Philosophy and Bioethics. Semester 2, 2007.

## Description

Peer Instruction was used in the lectures for a first and second year critical thinking course, *Thinking: Analyzing Arguments*. Approximately 3-5 questions were used per lecture. 31 students completed the questionnaire, representing 42% of the total enrolment of 73.

## Results

### Effect on understanding of lecture material



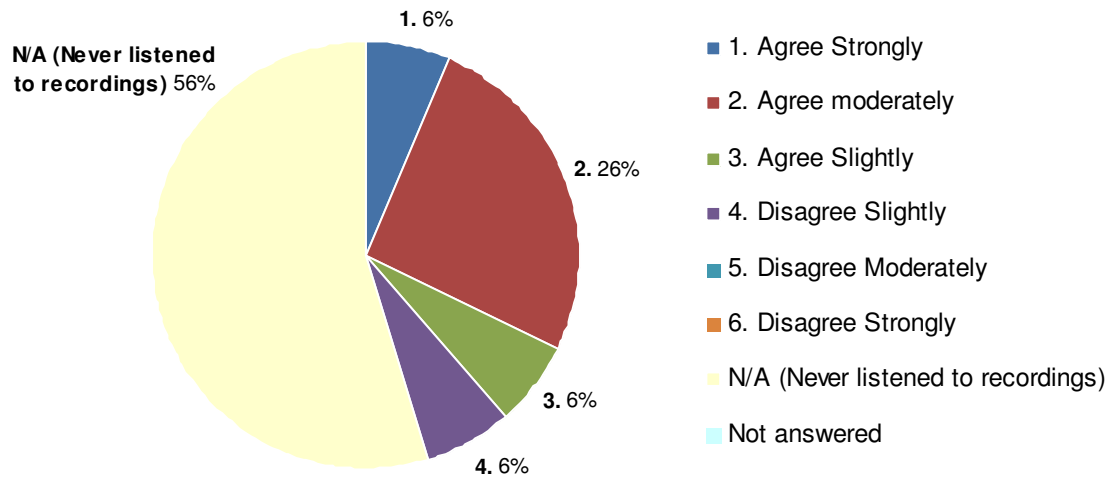
### Student comments

Helped me understand the topics better and discuss them when I was wrong.

Allowed understanding of lecture content. A good application of theory just learnt.

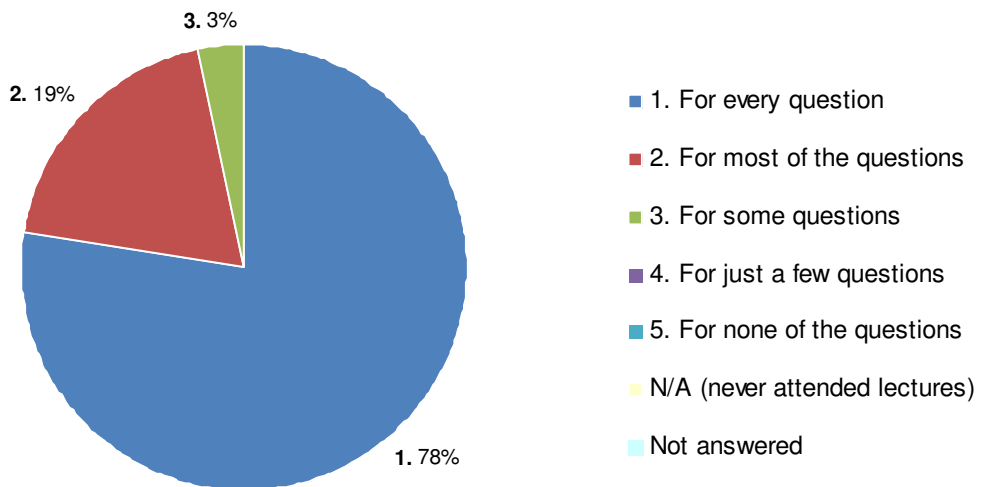
Allowed me to really consider the question and discuss with others how to answer it which assisted my learning.

**Q3. This aspect of the lectures helped me to understand the material when I listened to the lecture recordings.**

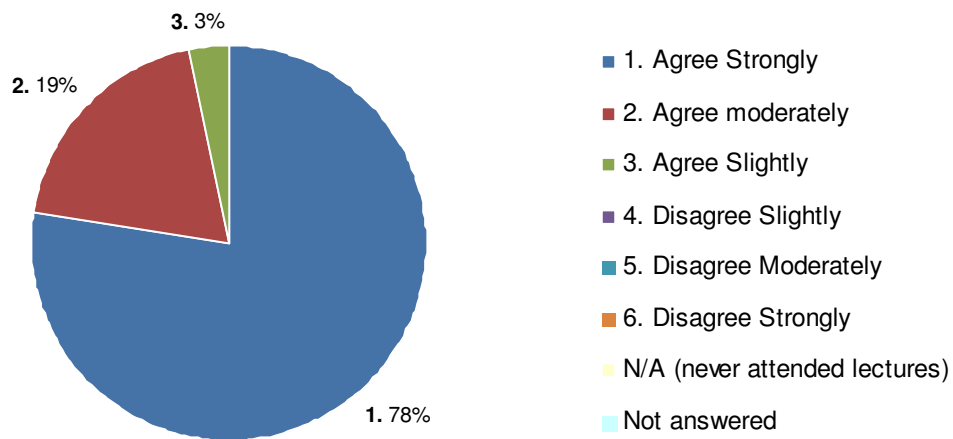


**Effect on participation and engagement**

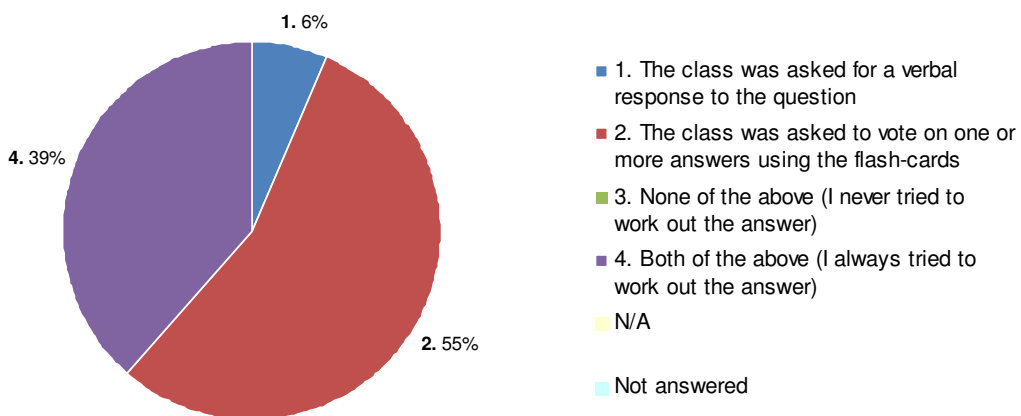
**Q1. When I attended lectures, I voted using the flash-cards:**



**Q4. Compared to a standard lecture, the use of the multiple-choice questions and flash-cards made the lectures more interesting.**



**Q14. When the lecturer asked a question, I was more likely to try to work out the answer if:**



**Student comments**

More active participation in class stimulated further analysis of issues.

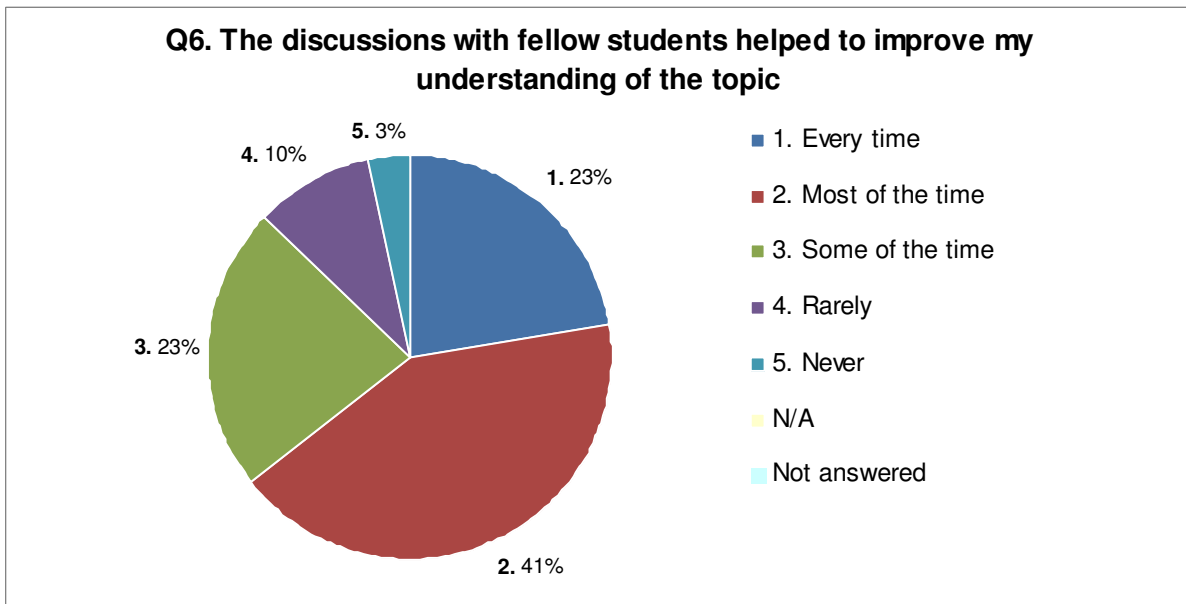
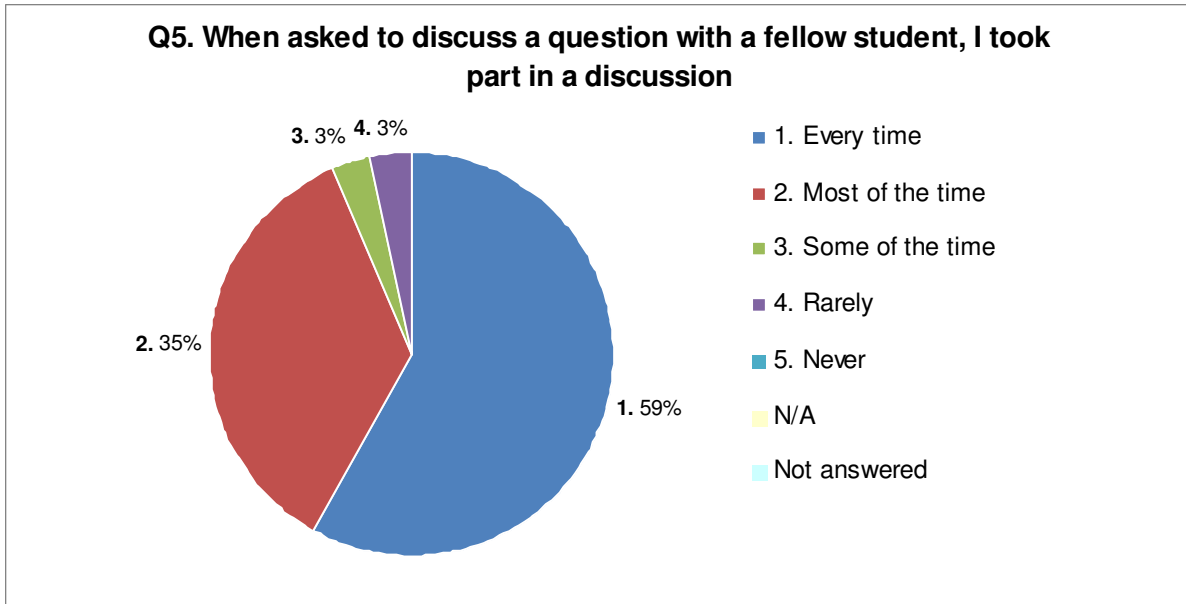
Able to participate more in lectures.

Helped engage with course material and forced to think about it :)

Helped me think about the material more carefully and forced me to engage with the lecture more.

More hands-on participation in the lecture.

## Effectiveness of discussions



### Student comments

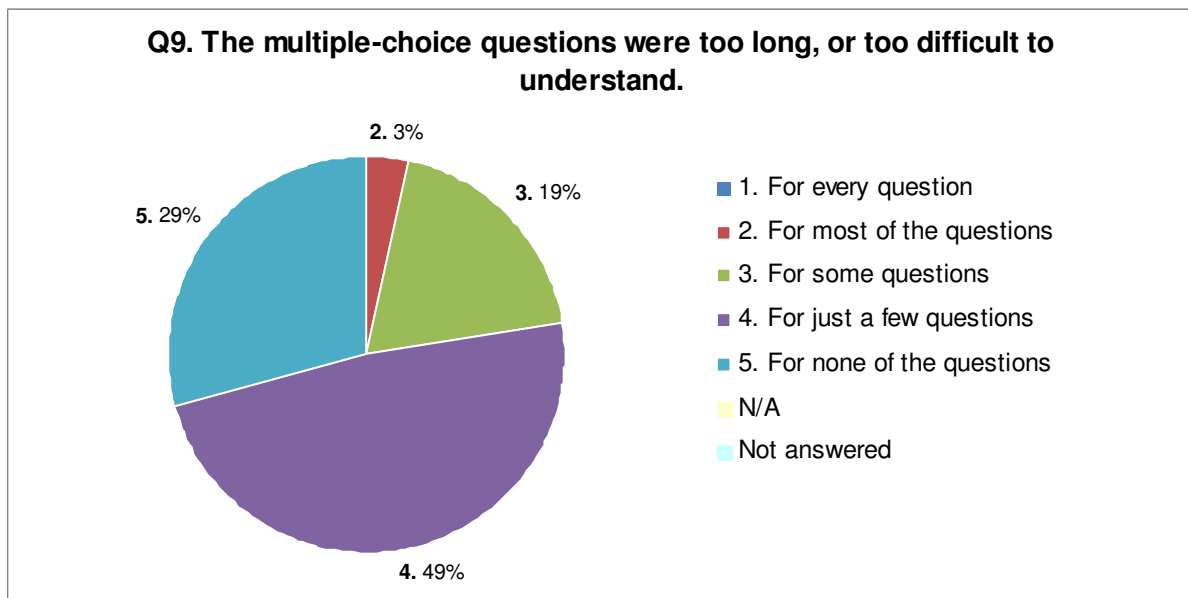
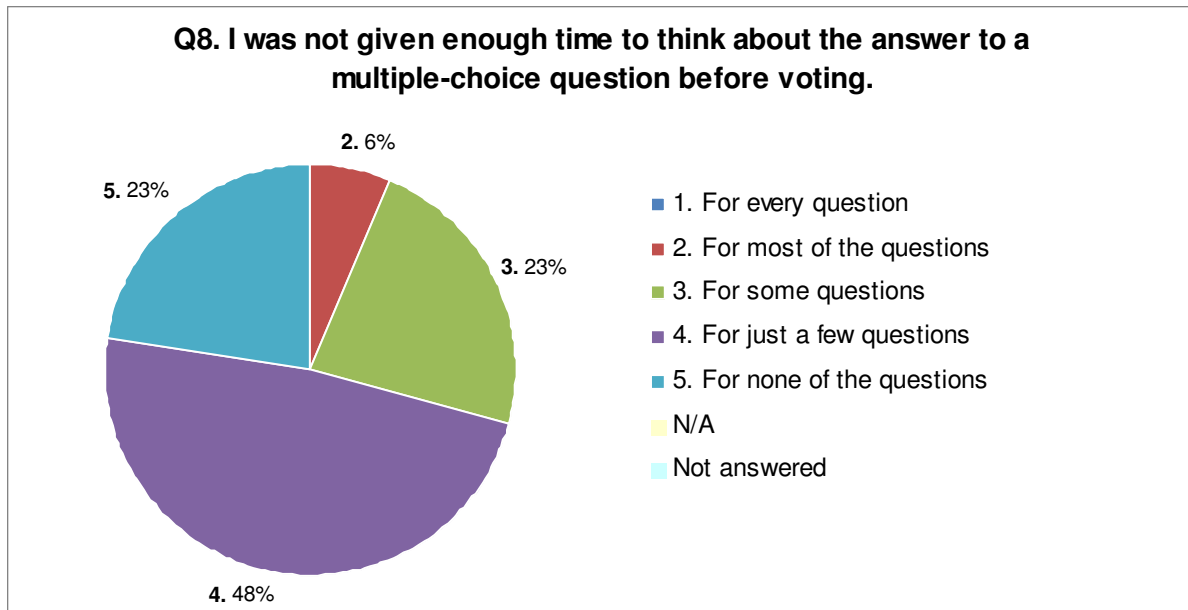
Chance to discuss with others. Chance to think thoroughly.

Helped me understand the topics better and discuss them when I was wrong.

Allowed me to really consider the question and discuss with others how to answer it which assisted my learning.

Trying to justify my answer through conversation, which I'm bad at.

## Problems with questions



### Student comments

Sometimes not provided with enough time to think about questions before answering them.

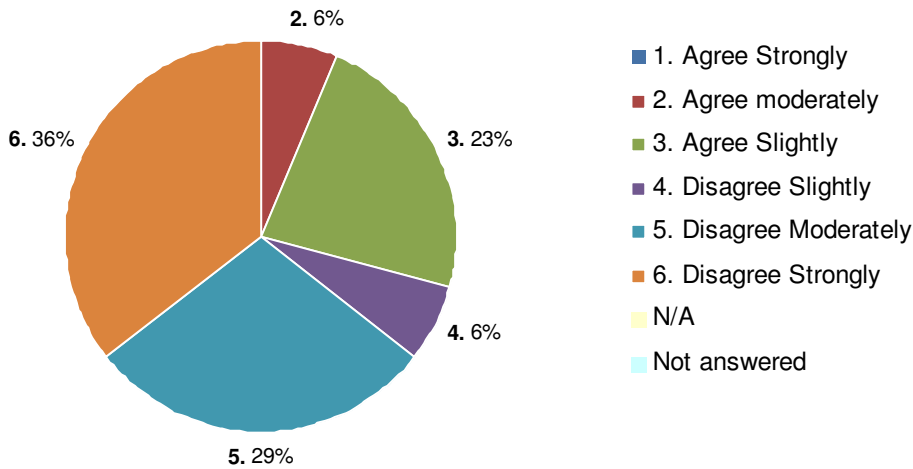
Embarrassment when I got the answer wrong.

Long multiple-choice questions sometimes are confusing and take time to comprehend the meaning since English isn't my 1st language.

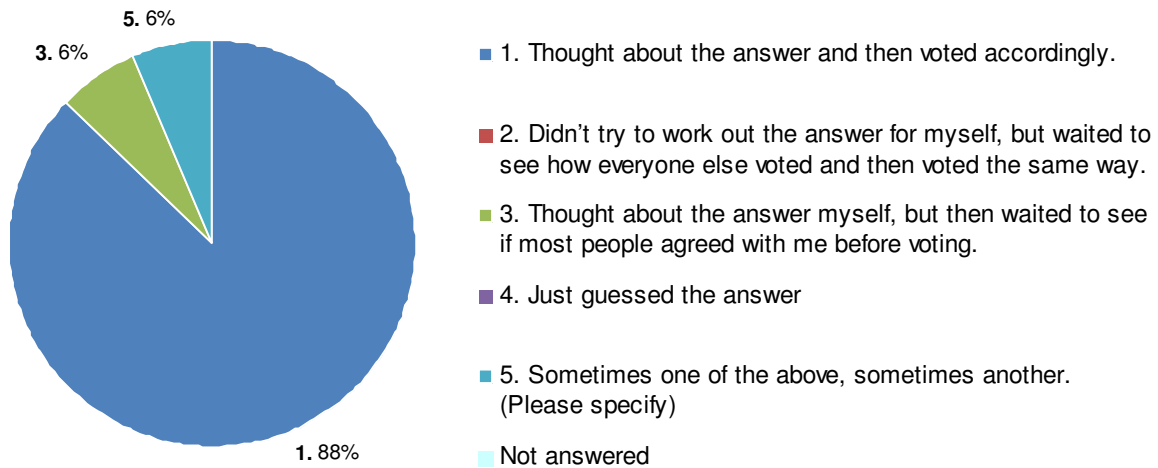
Multiple choice answers sometimes are easier to answer so I may feel like I understand the material even though I don't completely.

## Voting mechanism

**Q7. A disadvantage of using the flash-cards is that the lecturer and/or other students can see my response.**



**Q13. When I voted using the flash cards, I usually:**



**Q13. When I voted using the flash cards, I usually:**

1. Thought about the answer and then voted accordingly.	88%
2. Didn't try to work out the answer for myself, but waited to see how everyone else voted and then voted the same way.	0
3. Thought about the answer myself, but then waited to see if most people agreed with me before voting.	6%
4. Just guessed the answer.	0
5. Sometimes one of the above, sometimes another:	6%
1 and 3	3%
1 and 4	3%

6. Other. Please specify:	0
Not answered	0

### Student comments

Embarrassment when I got the answer wrong.

### Benefits

**Q10.** What were the benefits (for you) of the multiple-choice questions and flash-cards (if any)?

Number of students who answered: **25** (of 31)

Interaction and engagement	12 comments
Improved attention	7 comments
Useful feedback	5 comments
Improved understanding	3 comments

### Comments

#### Interaction and engagement

More active participation in class stimulated further analysis of issues.

Increased the interest of the lectures. [Kept me more alert].

Able to participate more in lectures.

Helped engage with course material and forced to think about it :)

Interesting. Practical use of principles learnt.

Kept lecture interesting.

Chance to discuss with others. Chance to think thoroughly.

Helped me think about the material more carefully and forced me to engage with the lecture more.

Broke up the flow of information, participation made it more interesting.

More hands-on participation in the lecture.

The flash-cards and multiple-choice questions entailed a deeper engagement with the material and exposure to thinking dimensions (and discussion) perhaps broader than one's own. Thank you.

Breaks up the lecture and makes them more interesting.

#### Improved attention

Helped me stay focused.

[Increased the interest of the lectures]. Kept me more alert.

Broke up the lecture a bit, kept me alert.

Helped me stay focused in lecture.

Not sure...keeps me awake?

Help me pay attention (for fear of being wrong! :)) and [help me determine which ideas I need to work on more to understand].

It breaks up the lecture so that students don't get bored.

### **Useful feedback**

They helped me a lot when I went to do the homework because I would think about how I answered and why my answer was right or wrong.

Helped me realize if what I was thinking was wrong.

Gave me time during class to apply what I had learned. It helped me to see if I understood the information.

Helped me to see if I was on the right track.

[Help me pay attention (for fear of being wrong! :))] and help me determine which ideas I need to work on more to understand.

### **Improved understanding**

Helped me understand the topics better and discuss them when I was wrong.

Allowed understanding of lecture content. A good application of theory just learnt.

Allowed me to really consider the question and discuss with others how to answer it which assisted my learning.

## Disadvantages

**Q11.** What were the disadvantages (for you) of the multiple-choice questions and flash-cards (if any)?

Number of students who answered: **15** (of 31)

No disadvantages	6 comments
Other	3 comments
Not enough time given to think	2 comments
Embarrassed when answered incorrectly	2 comments
Questions too long or too hard	1 comment
Discussions with peers not useful	1 comment
Takes up time	1 comment

## Comments

### No disadvantages

None

N/A

None

None

N/A

None

### Other

Sometimes led to discussions which strayed from the main point.

[Sometimes took too long]. Sometimes the answer wasn't clearly explained.

Multiple choice answers sometimes are easier to answer so I may feel like I understand the material even though I don't completely.

### Not enough time given to think

Sometimes not provided with enough time to think about questions before answering them.

That I did not have enough time to think about questions.

### Embarrassed when answered incorrectly

Stress that you would get the question wrong

Embarrassment when I got the answer wrong.

### Questions too long or too hard

Long multiple-choice questions sometimes are confusing and take time to comprehend the meaning since English isn't my 1st language.

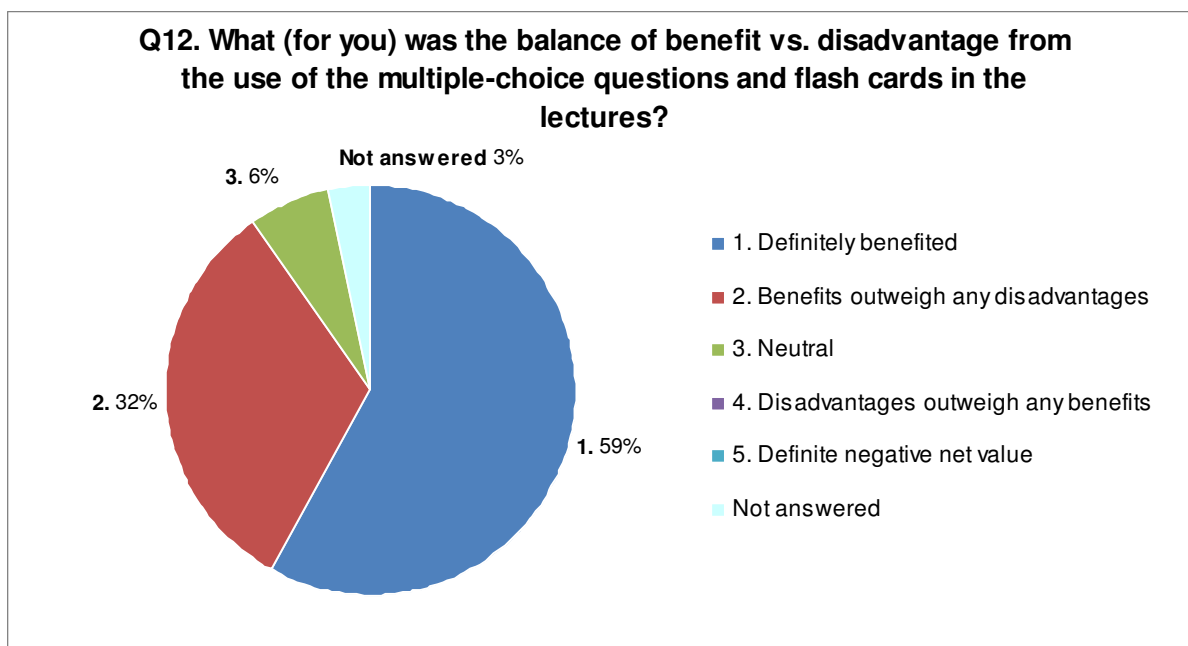
### Takes up time

Sometimes took too long. [Sometimes the answer wasn't clearly explained.]

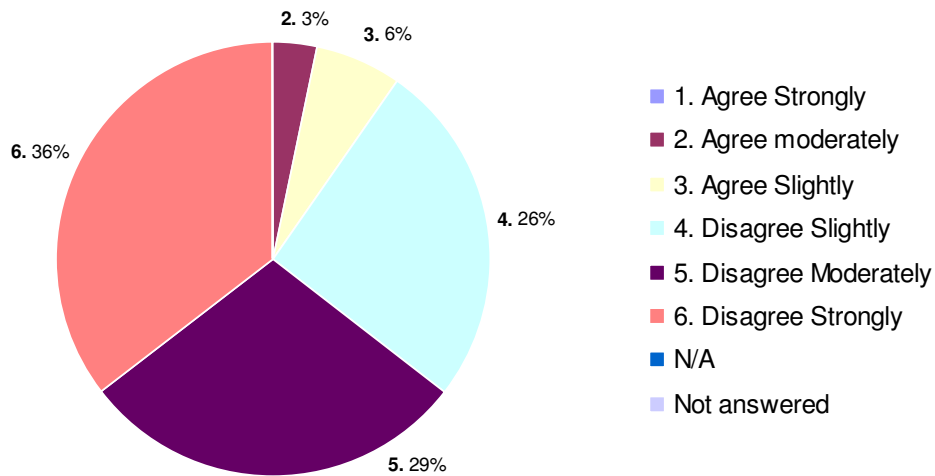
### Discussions with peers not useful

Trying to justify my answer through conversation, which I'm bad at.

### Overall benefit



**Q15. The time taken up in lectures with quiz questions and discussions would be just as well (or better) spent if the lecturer taught the material in the usual way.**



## Other comments

**Q16.** Any other comments on the use of the multiple-choice questions, flash-cards and discussions:

Number of students who answered: (9 of 31)

<b>Positive</b>	8
<b>Negative</b>	1
<b>Neutral</b>	0

## Comments

### Positive

It's the first course I've taken where we use them and I really like them.

I definitely think that the more relevant interaction the better, especially in terms of philosophy.

Personally it helped the material stick with me better.

I love the Flashcards! I will use them when I have a class of my own!

Brilliant idea. I'm from BusEco and I think this idea should be expanded to all other faculties. Both innovative and helpful to the students.

Loved them. :)

They're good.

Really good idea for this sort of material. Love 'em.

### Neutral

**Negative**

They do involve a lot of dead/waiting time, but I like them.

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