



Excellence in Teaching First Year Students

Supporting the transition in learning
from school to university

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Excellence in Teaching First Year Students

Student success (at university) is largely determined by student experiences in the first year.

Upcraft et al. (2005)

Excellence in Teaching First Year Students

- Lack of academic support is rated as an important issue for students who leave university after the first semester *May & Bousted (2004)*
- Improved retention and completion in first year has been observed in courses with an emphasis on formative assessment *Yorke & Thomas (2003)*
- Introduction of continuous assessment and feedback have long been recognised as the most powerful single influence that makes a difference to student achievement *J.A. Hattie (1987)*
- Relationship between student's acknowledging their personal responsibility for education and formative assessment leads to the greatest educational achievements *Brown & Hirschfeld (2008), Black & Wiliam (1998a)*

First year responses after their first set of university exams

- 72% are not adequately prepared for university

in school you were told exactly what to do and how to do it, in uni you have to figure out as you go along.

First year responses after their first set of university exams

- 72% are not adequately prepared for university
- 67% acknowledge their results are lower than those received at school

Q. 24 How do your examination and/or continuous assessment results this year compare to your standard in your last year of school?

alot lower than in school, in school
would be happy above 70-80% now am happy with 40%

First year responses after their first set of university exams

- 72% are not adequately prepared for university
- 67% acknowledge their results are lower than those received at school
- 47% describe the transition from school as difficult

Q. 25 What is the best piece of advice you can give to a student entering university for the first time?

Be prepared for long hours of class and background reading. Be prepared to put a lot of work in and don't expect to get amazing results.

First year responses after their first set of university exams

- 72% are not adequately prepared for university
- 67% acknowledge their results are lower than those received at school
- 47% describe the transition from school as difficult
- 83% acknowledge a huge difference in teaching styles

In school the topic was kind of "drilled" into you! It was always recapped and being in such a small class you could concentrate better because there was a possibility of being asked questions.

Teaching Philosophy

“It is within the first year curriculum that commencing students must be **ENGAGED, SUPPORTED, and REALISE THEIR SENSE OF BELONGING**”

Kift 2009

Difficulties Specific to First Year Teaching

(95 Biomedical Science students)

Student view

Not adequately prepared for University life

- Leaving home
- Passive learning
- Overwhelmed by class sizes
- Unfamiliar examinations
- Too much information
- Personal significance (is this the right course for me?)

Staff view

Traditional Taught Module

I ended up on a degree I did not want to do. I feel my school did not give me enough information about university at all.

- Didactic, remote teaching
- Low retention rates
- High failure rates
- Low average pass mark
- Low attendance

Supporting First Year: Action Plan

- I: Review Curricular Content
- II: Introduce Task Based Tutorials
- III: Review Assessment
- IV: Practice Exam Technique
- V: Introduce Innovative Technology (Rising Star Award)

How we support Students (I):

Reviewed Curricular Content (increasing interaction)

Year	Lectures	Practicals	Tutorials	Exam		
				Written	Practical	CA
04/05	82	23	3	✓	✓	-
07/08	70	27	9	✓	✓	-
09/10	70	27	14	✓	-	✓

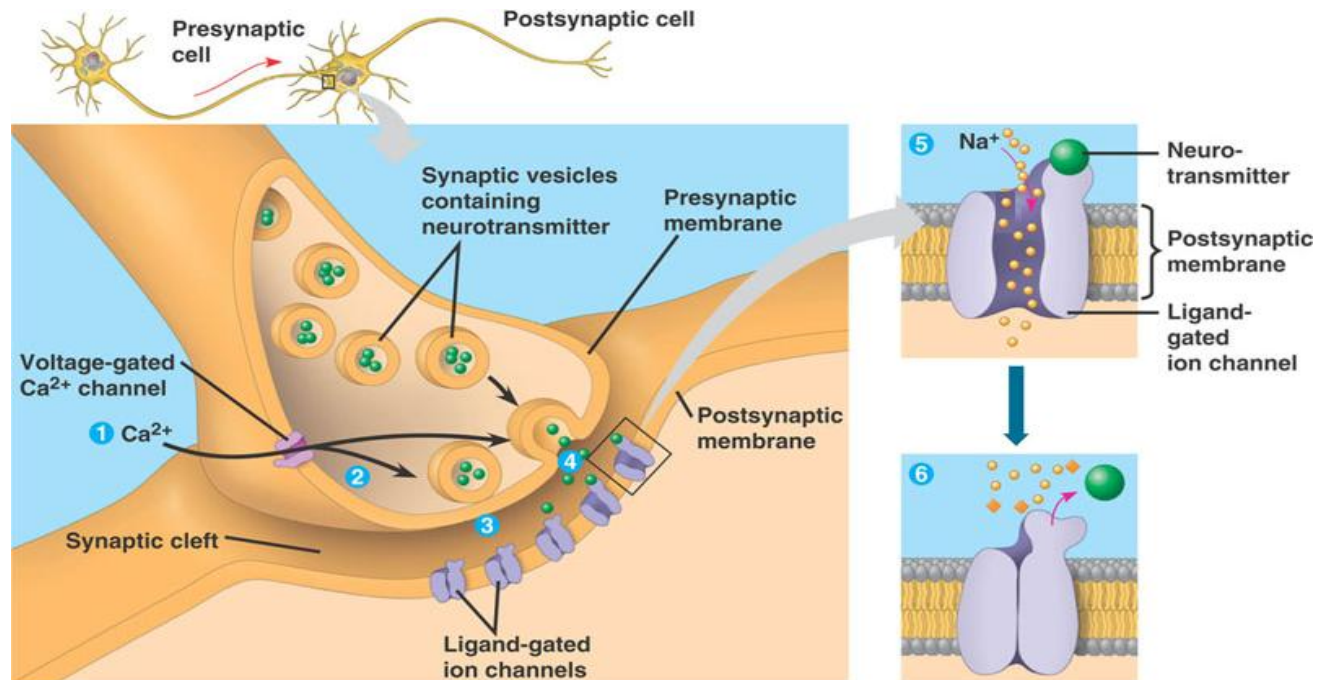
How we support our students (II):

Tutorials

⇒ more tutorials
⇒ Steins tutorial style was very helpful I think it would be beneficial to have more of them

Question (15 mins):

Using the diagram below as a guide, describe the normal sequence of events that occur during synaptic transmission.



How we support our students (III):

Continuous Assessment & Feedback (weekly practical)

“Compare and contrast the key histological differences between the SPLEEN and the THYMUS. Use diagrams to illustrate your answers”

THYMUS
Function of the Thymus

Answer: The function of the thymus is to educate immature T cells to ~~help~~ allow them to distinguish between self & non self. They are tested in the cortex against self antigens, only those which can tell the difference between self & non self antigens are released.

Thymus

Labels in diagram: Artery, Septa, Medulla, Cortex, T lymphocytes, Hassall's corpuscle, macrophage, reticular connective tissue, capsule.

Handwritten note: Hassal's corpuscle 2 1/2 (bodies)?

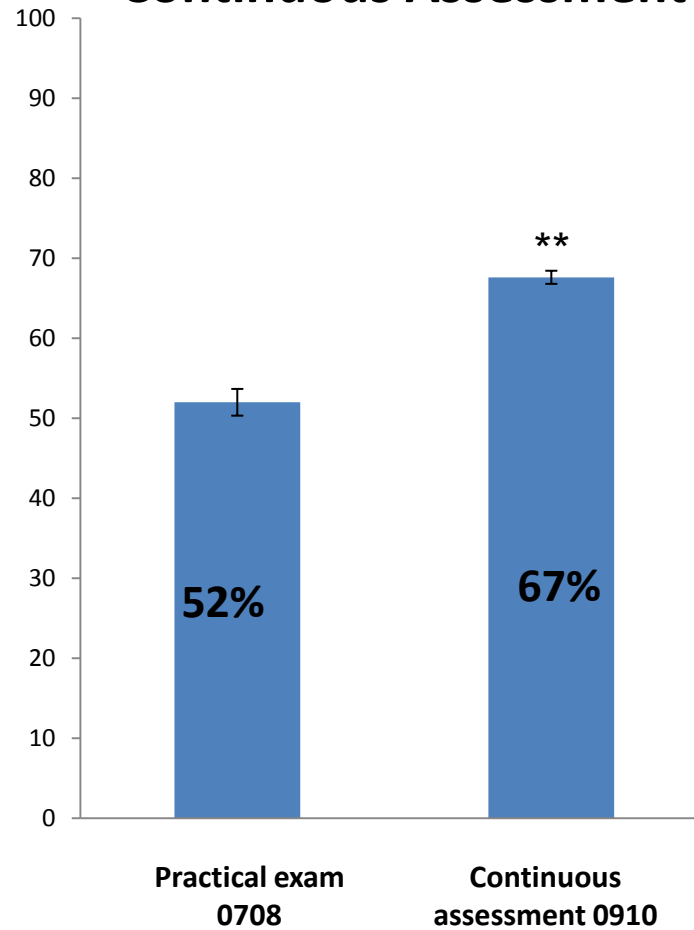
Feature	Thymus	Spleen
Capsule present	Present ✓	Present X
Trabeculae/septa present	Present (septa) ✓	Present (trabeculae) ✓
Lymphoid follicles	-	Yes ✓
Location/presence of B lymphocytes	None present	Randomly located in the form of lymphoid follicles throughout the organ *WHITE PULP X
Location/presence of T lymphocytes	Predominantly in the cortex	Located specifically beside arterioles (Peri-Arterial Lymphatic sheath PALS) *WHITE PULP X
Blood supply	Arteries penetrate through the capsule and follow septa through the organ. Ultimately branch and go into medulla	Spleen is full or large sinusoids (leaky capillaries). This bulk of sinusoids (together with connective tissue, macrophages) is *RED PULP X
Cortex	Contains T lymphocytes and reticular (connective tissue) cells; macrophages	No separation into cortex and medulla
Medulla	X Present; contains small amounts of T lymphocytes,	No separation into cortex and medulla
Hassall's Corpuscles	Present in the medulla only	-

Make sure you know that in each lobule, there is an outer cortex and inner medulla

Take more care with your drawing or you will lose exam marks.

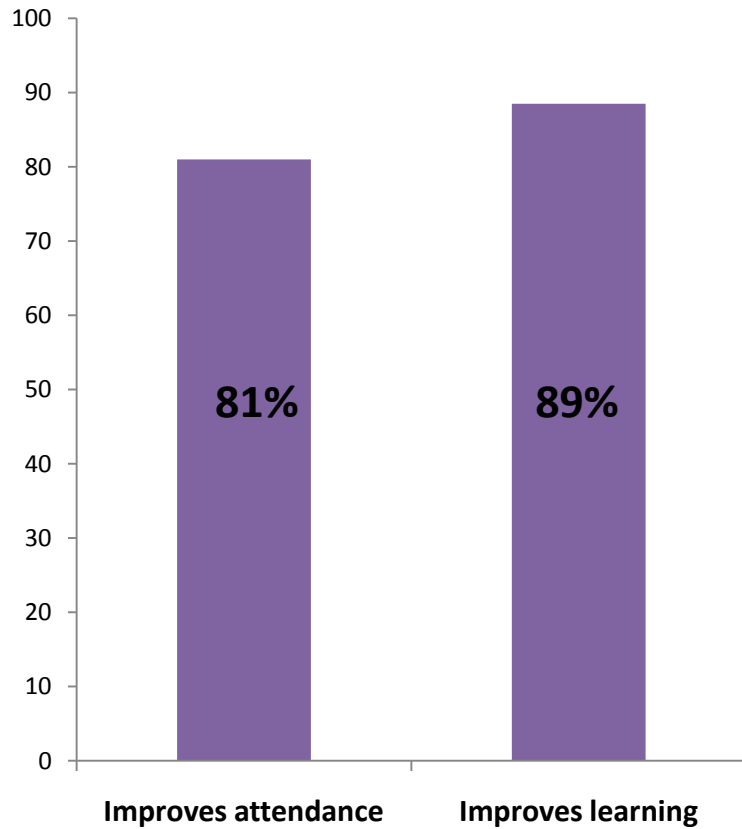
IMPACT: Continuous Assessment

Practical Exam vs Continuous Assessment

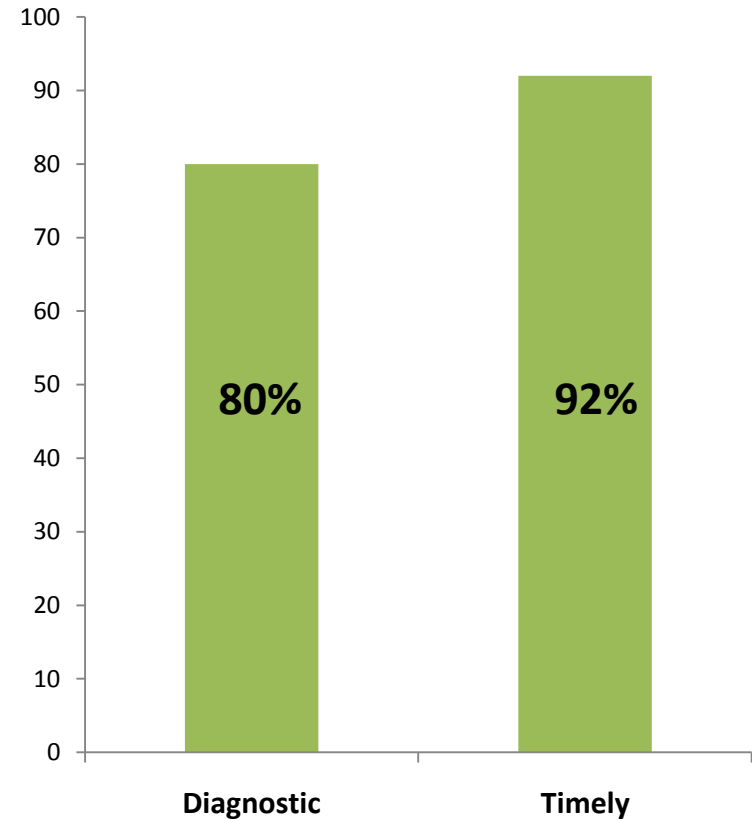


IMPACT: Continuous Assessment & Feedback

Continuous Assessment



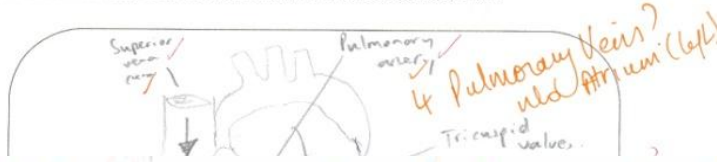
Feedback



How we support our students (IV): Practicing Exam Technique

ANATOMY

Q1. Using a labeled diagram outline the entry, exit and passage of blood flow through the heart. What gross anatomical features in the heart maintain a unidirectional blood flow?



PHYSIOLOGY

Q.2 How is cardiac output normally controlled?

Cardiac output is precisely regulated so peripheral tissues receive an adequate blood supply under a variety of conditions.

0% Good Physiology here, but you simply didn't answer the question asked! Please keep your answer to the lined areas ONLY. STC.

Definition, value, calculation, Starling law, baroreceptors, baroreceptor + symp. + hormones

Its helpful as it gives good, clear guidelines with how to go
"Very different doing awful in exams where as I
used to be a grade A student"

Physiology not an

impulse is delayed by the fact that it is resisted by a fibrous skeleton found through the atrial wall. This ensures that all of the blood has left the atrium before the atrio-ventricular node is stimulated. When this node is stimulated, the current spreads down the left side of the septum then over to the right and up the ventricular walls, thus actuating the heart muscle from the apex towards the base. This allows the ventricle, to pump the blood into the arteries efficiently. Unidirectional flow is also aided by one way valves, e.g. the bicuspid and tricuspid valves which do not allow backflow of blood.

Unidirectional blood flow is ANATOMICAL TERMS in maintained via 2 AV valves & 2 Semilunar valves. You should then describe them. = 9/20 (6) + (3)

The electrical impulses pass quickly down special muscle fibres called bundles of His. This carries them to the bottom of the septum. From here, impulses pass along Purkyne fibres in the walls of the ventricles. This causes the ventricular

END OF PAPER

stroke, in which the ventricles contract from the bottom up.

There is a small time delay - no impulses. → Cardiac muscle relaxes → diastole. Atria fills with blood before next cardiac cycle takes place.

How we support our students (IV):

Technology

video clips, animations, podcasting, personal response systems (PRS)

How could the module be improved?

More animations in lectures! So easy to learn from

Show videos



More revision sessions with example exam questions

Eileen Tansley's Revision class with the handbooks for writing
on questions was excellent

PRS - Good way to Revise

Q. 18 Do you think podcasts are a valuable learning tool?

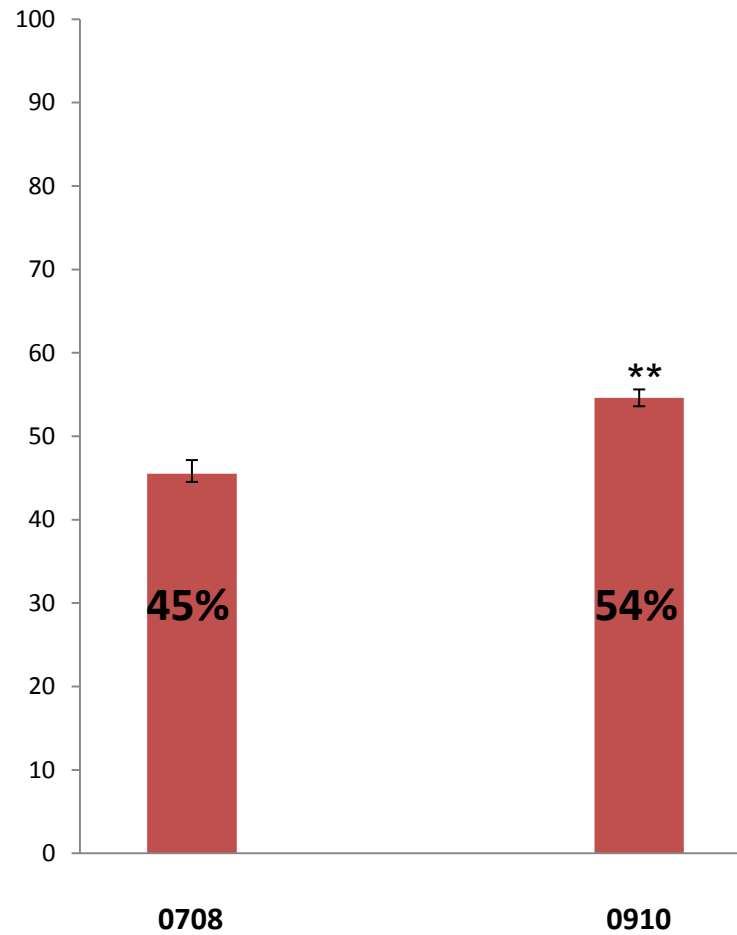
Reinforces what the lecturer has said in
the lectures + helps pronunciation →
∴ helps learning

I learn better using audio techniques than re-reading.

Very helpful. They will help to improve
exam results.

Total Impact

Overall Marks



Dealing with the transition

What was wrong

- High failure rate
- Low average passing mark
- Final end of semester assessment

- Attendance
- Lack of interaction between staff and student
- No feedback!
- Personal connection with the degree

What we did

- Reviewed curriculum and assessment
- Restructure of final exam format

- Introduction of task based tutorial (feedback)
- Introduction of continuous assessment (feedback)
- Open Book Exam (feedback)
- Class tests (feedback)

Issues

- 70 lectures
- Staff Commitment
 - Weekly individual marking and feedback for 95 students
 - Four class tests as part of in course assessment
 - Monitoring student attendance

Future developments

SHORT TERM GOALS

- Reviewing module feedback
- Open Day Biomedical & Biological Science

MID TERM GOALS

- E – learning (Questionmark)
- Virtual histology (supplement to assessment)
- Introduction of integrated, case based tutorials

LONG TERM GOALS

- Horizontal integration with School of Biology
- Vertical integration with levels 2 & 3

References

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- May, S. and Bousted, M. (2004) Investigation of student retention through an analysis of the first-year experience of students at Kingston University. *Widening Participation and Lifelong Learning* **6** (2) pp. 42-48.
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Thank you for your time

Questions?

Retention rates

- The rates in QUB generally and for Biomedical Sciences in particular show a similar trend;
- 2005-06, 3.4% of students did not return to the second year of Biomedical Science
- 9.1% in 2007-08