

Appendix 7A: Report on the use and perceptions of usefulness of a variety of learning resource, Biological Sciences, University of Sydney

Target Group: Students in BIOL 1003 HUMAN BIOLOGY

A survey was carried out as part of an investigation into use and usefulness of educational multimedia and communication technologies. The survey instrument is at the end of this report.

Results

Section 1: About your Internet access ...

1. Was it necessary to have access to the following in order to participate in and successfully complete Human Biology? (*Tick one box per line*)

	N = 347		
	Did not use	No	Yes
	%	%	%
the Internet for general Biology information	15.9	20.2	63.4
the Internet for Virtual Learning Environment and Human Biology Room	5.2	6.3	88.5

The Internet was used by many students, with only 5% of respondents reporting a non-use of the Virtual Learning Environment (and Human Biology Room). Most of the students (89%) agreed that use of the VLE + HB room was considered necessary for success in the unit of study.

Section 2: About your use of learning resources...

2. How useful were each of these resources to learning Human Biology (HB)? (*Tick one box per line*)

N = 370

Resource	Did not use %	Not useful %	Useful %	Extremely useful %
a) Attendance at lectures	1.9	3.2	62.2	32.7
b) Your personal lecture notes	5.4	8.1	59.5	26.8
c) Independent study modules	9.0	12.0	57.3	21.7
d) Web lecture notes	7.1	3.3	41.8	47.8

e)	Attendance at prac classes	0.3	6.2	54.4	39.1
f)	Prac notes	2.4	4.9	65.4	27.3
g)	Text books	3.8	3.2	41.8	51.2
h)	Library	33.9	23.6	38.5	4.1
i)	Peer group	6.2	20.1	59.1	14.6
j)	Virtual Learning Environment	6.2	4.3	51.6	37.8
k)	Biology content on the Internet	26.5	10.5	46.5	16.5
l)	Email for HB purposes	36.9	18.2	38.5	6.5
m)	HB computer tutorial modules	17.1	7.6	50.5	24.7
n)	HB self-assessment modules (SAMs)	20.7	6.5	49.3	23.4

In this unit the computer-based resources are more used than the library as a source of information, although the textbook is still a much used and appreciated resource. The purpose designed software such as the Virtual Learning Environment and the Independent Study Modules, are found more useful than the vast but unstructured resources of the Internet. Email for Human Biology purposes and the library were the least used resources and both were found not useful by around 20% of respondents. In addition 20% of respondents found the peer groups not useful to learning HB.

The traditional components of the course – lectures and practical classes – enjoyed a very favourable response from students with 94.9% and 93.5% respectively finding them useful or very useful. In addition 89.6% found the web lecture notes similarly useful.

Independent Study Modules replaced one lecture a week. These are paper-based resources directing students to the text and other resources to answer questions and make summaries etc. This was a compulsory part of the course, but 9.0% of students did not attempt them. This would be equivalent to skipping one third of the lectures. Unlike the standard lectures, which had the web lecture notes to support the learner if he or she could not get to class, there was no fall-back position to support not attempting the Independent Study Modules.

The practical notes were found useful or very useful by 92.7% of students. The students own lecture notes were found useful or very useful by 86.3% of respondents.

The optional SAMs were the least used of the computer-based resources (20.7% not used), but 93.4% of those who did use them, found them to be useful or very useful. The other major optional computer-based resource – the computer tutorial modules, though not used by 17.1% of the group, were found useful by 90.8% of those who did use them.

Success, Ability and Use of Resources

A Pearson's correlation was performed on success in the Human Biology course (measured by final mark), ability (measured by incoming University Admissions Index) and the use of resources in Human Biology.

Results (see Table 1) show a strong and very significant correlation between course success and UAI. Traditional resources correlated positively with success are the use of the students' personal lecture notes and the use of the practical notes. Interestingly, the use of the Web-based lecture notes bore no significant correlation with success in the course, as did actual attendance at lectures or practical classes- although almost everyone attended these two facilities.

Computer-based resources correlated positively with success are the Internet for use of the Virtual Learning Environment (VLE) and Human Biology Room, use of the computer tutorial modules and the use of the self-assessment modules. There was one computer-based resource with a significant negative correlation with success in Human Biology and that was the use of the Internet for general biology information. It seems the time spent surfing, trying to find information, would have been more profitably spent working through the purpose-built resources for the course.

The use of SAMs was positively correlated with every other learning resource provided except attendance at lectures. Students who utilise this resource are also, in the main, utilising the other resources as well. However, they are not necessarily the higher ability students, since UAI is not related to self-assessment module use.

Poor performing students

Students who subsequently failed the course comprised 20.05% of the group for whom we have performance data (70 of 349). This echoes the proportion of students who failed the course overall, so it is reasonable to assume we have a realistic sample in this respect.

Failing students differ from successful students in their use of several resources significant for success. They are more than three times more likely not to use their personal lecture notes for learning Human Biology (11.6% vs 3.4% for successful students). They are almost twice as likely not to use their practical notes for study compared to the successful students (2.9% vs 1.5%). Use of the Internet for the VLE and Human Biology Room is positively correlated with success, but roughly twice as many failing students do not use it compared to successful students (10.0% vs 5.2%) and three times more unsuccessful students find it not useful when compared to successful students (8.6% vs 2.6% for successful students). On the other hand, surfing the Net for general biology information, which is negatively correlated with marks, is MORE frequent amongst failing students (28.5% vs 21.4% for successful students). No successful students skipped practical classes, but 4.3% of unsuccessful students did not attend the laboratory sessions. Failure to use the textbook is more than three times more likely in unsuccessful students (7.1% of them do not use the textbook vs 2.2% for successful students). Non-use of computer tutorial modules is about the same for unsuccessful and successful students (15.7 vs 15.5 for successful), but the unsuccessful group were more likely to find the tutorial modules not useful (11.4% vs 6.8%). Failing students are more likely to use their peer group as a Human Biology Learning Resource (84.3%) whereas their more successful classmates prefer more original sources of information, with 79.6% using the peer group as a learning resource.

The UAI was generally lower for the group of failing students, who had a Mean UAI of 83.97, a Median of 84.75, and a range of 63.15-96.4, compared to the successful students with a Mean of 90.65, a Median of 93.25 and a range of 73.8-99.7. However, within the failing group, there was no systematic relationship between marks and UAI, although this was very true in the successful student cohort.

23 students did not use the VLE. Their marks ranged from 31-71% and the mean mark was 56.2 %and Median was 57%. Of those who found the VLE useful or very useful, marks ranged from 19-91 and the mean and Median were 60%. Of the 65 students who did not use the self-assessment modules, their mean mark was 58.7% and Median was 59%.

Table 1 Correlations – Use of resources, UAI and Human Biology (HB) results

First number is r – the correlation, second number is the significance or probability that the result is due to chance. Significant results are in bold. N = 339-371 except for UAI where N=201-220, for failing students N=63-70, for successful students N=269

Resource used	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1 Results HB overall	1.000	.341 .000	.116 .034	.124 .023	.082 .132	.105 .053	.033 .546	-.009 .876	.082 .131	-.062 .257	-.088 .109	.049 .373	.094 .084	-.133 .015	.124 .028	.146 .007	.143 .009
1a Results for failing students	-	.138 .339	.056 .648	.008 .949	.128 .292	.131 .280	-.111 .358	.012 .919	-.047 .700	-.390 .001	-.012 .920	-.070 .567	-.028 .817	-.146 .227	.004 .973	.042 .731	.052 .671
1b Results for successful ≥50	-	.279 .000	.059 .338	.092 .134	.051 .403	.079 .199	.036 .556	-.014 .820	.054 .376	.014 .817	-.133 .029	.056 .363	-.019 .756	-.087 .154	.056 .374	.173 .005	.116 .060
2 UAI (220)		1.000	-.017 .804	-.010 .887	.043 .528	.054 .429	-.012 .861	.012 .856	.040 .551	-.114 .092	-.036 .598	-.040 .561	.045 .508	-.057 .404	-.017 .811	.059 .389	-.011 .876
3 Personal lecture notes			1.000	.255 .000	.432 .000	.175 .001	.171 .001	.209 .000	.167 .001	.111 .033	.096 .065	.153 .003	.155 .003	.076 .145	.083 .121	.069 .189	.108 .039
4 Prac notes				1.000	.173 .001	.549 .000	.248 .000	.126 .016	.248 .000	.161 .002	.249 .000	.142 .006	.249 .000	.176 .001	.203 .000	.202 .000	.219 .000
5 Attendance at lectures					1.000	.246 .000	.133 .011	.081 .119	.161 .002	.075 .153	.041 .436	.013 .800	.140 .007	.067 .201	.089 .100	.125 .016	.098 .060
6 Attendance at pracs						1.000	.146 .005	.085 .102	.182 .000	.097 .063	.242 .000	.112 .032	.192 .000	.053 .307	.161 .003	.166 .001	.176 .001
7 Independent study mod's							1.000	.235 .000	.242 .000	.222 .000	.029 .584	.189 .000	.266 .000	.245 .000	.083 .121	.292 .000	.305 .000
8 Web lecture notes								1.000	.078 .133	.155 .003	.092 .078	.181 .000	.465 .000	.272 .000	.438 .000	.252 .000	.164 .002
9 Text books									1.000	.223 .000	.033 .529	.214 .000	.147 .005	.086 .097	.073 .176	.190 .000	.172 .001
10 Library										1.000	.159 .002	.288 .000	.165 .002	.311 .000	.070 .192	.249 .000	.258 .000
11 Peer group											1.000	.166 .001	.164 .002	.153 .003	.099 .066	.137 .009	.136 .009
12 Email for HB purposes												1.000	.295 .000	.414 .000	.183 .001	.393 .000	.330 .000
13 VLE													1.000	.314 .000	.627 .000	.398 .000	.379 .000
14 Bio content on Internet														1.000	.218 .000	.262 .000	.285 .000
15 Internet for VLE etc															1.000	.284 .000	.231 .000
16 Computer tutorial mod's																1.000	.712 .000
17 HB self assm't mod's																	1.000

Correlation is very significant at the 0.01 level or less. Correlation is significant at the 0.01-0.05 level

Of those who found the self-assessment modules useful or very useful, the mean mark was 60.7% and the Median 61%. This is not a very great difference.

Of the 52 students who did not use the computer tutorial modules, marks ranged from 31-77, with a mean of 58.1. Of those who found the computer tutorial modules useful or very useful, marks ranged from 19-91, the mean was 60.7% and Median was 61%. Again, the difference is only a few points.

Of the students who did not use the VLE, the computer tutorial modules and the self-assessment modules, the mean mark was 57%. Of the students who found the VLE, the computer tutorial modules and the self-assessment modules very useful, the mean mark was 63.1%.

Average mark of those who used the self-assessment modules, the computer tutorial modules and the VLE for exam revision, (n=91) mean mark was 63.2%. Average mark of those who did not use the self-assessment modules, the computer tutorial modules and the VLE for exam revision, (n=14) mean mark was 58.9%.

With the use of the more traditional resources correlated with success, those students who did not use their personal lecture notes and prac notes (n=3) all failed with a mean of 46.7%. Those students who did use their personal lecture notes and prac notes for consolidation and revision (n=48) had a mean of 63.1%.

3. For what specific learning purposes did you use these Human Biology (HB) resources? (Tick all relevant boxes)

Resource	Did not use %	Learning new knowledge %	Consolidating existing knowledge %	Background information %	Exam Revision %	Personal interest %
a) Attendance at lectures	1.9	80.9	34.7	28.2	25.3	19.4
b) Your personal lecture notes	5.9	31.2	46.5	13.7	50.3	8.1
c) Independent study modules	9.9	51.1	32.5	23.9	38.2	9.1
d) Web lecture notes	7.5	49.7	42.5	23.7	39.2	7.8
e) Attendance at prac classes	1.1	60.5	57.5	21.5	21.0	18.8
f) Prac notes	5.1	42.5	50.8	25.0	34.9	8.6
g) Text books	4.8	69.4	44.1	36.0	44.4	22.3
h) Library	51.9	15.1	16.4	19.9	8.9	8.3
i) Peer group	18.8	22.6	50.5	13.7	16.4	13.2
j) Virtual Learning Environment	8.9	47.6	48.4	32.0	41.9	11.3
k) Biology content on the Internet	36.3	26.1	23.9	21.8	15.9	15.3
l) Email for HB purposes	52.4	11.3	10.2	19.1	8.1	10.2
m) HB computer tutorial modules	20.2	39.2	45.2	17.5	35.5	10.2
n) HB self-assessment modules	23.4	22.8	41.7	10.8	46.0	10.2

There initially appears to be quite a wide discrepancy between the reporting in the “did not use” category – especially in the case of the **Library** and **Email for HB purposes**. Because the survey options were not exhaustive, if students did not use the library, or if they used the library for another learning purpose not listed, or if they used the library and it was not useful, responses may fall into the “did not use” category. One may conceive for example that a group of students might book a library room to work on a joint poster. There are, however, fewer alternative uses for a textbook or attendance at lectures, so these resources do not differ in their “did not use” percentage appreciably. Responses for “did not use” in Q3 are thus the same or higher than for the “did not use” in the previous question. In addition, since students may tick more than one box, the total percentages are higher than in the previous question and add to more than 100%.

The resources used for **learning new knowledge** are, in order:

Attendance at lectures 80.9%	Independent Study Modules 51.1%
Textbook use 69.4%	Web lecture notes 49.7%
Attendance at prac classes 60.5%	Virtual Learning Environment 42.5%

The resources used for **consolidating existing knowledge** are in order,

Attendance at prac classes 57.5%	Personal lecture notes 46.5%
Prac notes 50.8%	Textbook 44.1%
The Virtual Learning Environment 48.4%	

Fewer students use any of the resources for **background information** but those utilised are in order:

The textbook 36.0%
Virtual Learning Environment 32.0%
Attendance at lecture 28.2%

Exam revision is a common use of resources. Those most frequently used are in order:

Personal lecture notes 50.3%	VLE 41.9%
HB self-assessment modules 46.0%	Web lecture notes 39.2%
Textbook 44.4%	

The learning resources are least utilised out of **personal interest**. Those in order are:

The textbook 22.3%
Attendance at lectures 19.4%
Biology content on the Internet 15.3%

The “**top 5**” resources used, when all their uses are totalled are:

The textbook 216%	Web lecture notes 162.9%
Attendance at lectures 188.5%	Prac notes 161.8%
VLE 181.2%	

This range represents a good balance between visual, auditory, digital, and print media.

The least used resources for learning HB are email with 58.9% and the library with 68.6%

Section 3: About using computer-based learning modules ...

If you **HAVE** used the HB computer tutorial modules or HB self-assessment modules do Q 4 and 5.

4. Did you have any difficulties accessing Human Biology computer-based learning modules?

No response 14% No 61.7% Yes 24.3%

If **YES** please tick as many reasons below as appropriate or write the difficulty below.

a) Too much competition to use the computer at home	5.9%
b) Too much competition to use the computer at uni	8.9%
c) I couldn't download the Shockwave plug-in	14.2%
d) I couldn't get reliable Internet access at home	5.4%
e) My Internet Provider kept timing out	2.7%
f) My machine is too slow	9.4%
g) I had limited time because I work	7.3%
h) I had limited time because of family responsibilities	8.1%
i) My computer doesn't have a CD-ROM drive	1.3%
j) I didn't know the modules came on a CD-ROM	2.4%

Other: 7.5% of students had another difficulty not mentioned above.

From the distribution of responses above, one can see that the **technical reasons for not using the CD ROM** outweigh other reasons. These reasons include:

Couldn't download the Shockwave plug-in	14.2%
My machine is too slow	9.4%
I couldn't get reliable Internet access at home	5.4%
My Internet Provider kept timing out	2.7%
My computer doesn't have a CD-ROM drive	1.3%
Total	33%

Note that this figure includes overlaps of people with several difficulties and 74.3% did not respond with any difficulty.

Social reasons are of second importance:

I had limited time because of family responsibilities	8.1%
I had limited time because I work	7.3%
Too much competition to use the computer at home	5.9%
Total	21.3%

Note that this figure includes overlaps of people with several difficulties and 74.3% did not respond with any difficulty.

Of the 7.5% of respondents (n=26) who had other difficulties, 6 complained that the CD would not work for them at home, or that they could not open all the modules. An equal number complained that not all modules were present. (This is true as the modules are a work in progress and new ones are being produced as resources

permit.) One of these students would have liked to save her answers and this is not possible. Five students wrote more fully on the difficulty of downloading the Shockwave plugin. More detailed instructions were felt necessary and finding them should be made easier – eg it was not in the Readme.txt file. Four students had problems because the heavy file size made their computers crash or freeze and a three complained that although the CD worked in the purpose-built FYB resource room, one could not download the Shockwave on other university computers. Lack of time for reasons such as a heavy degree program or heavy sporting commitments limited four students participation on the FYB modules.

5. Why do you think your teachers provided computer-based learning modules? What did you learn from using them?

Many of the 80% of students who used the modules (66.4% of students) responded to this question.

Reasons perceived by respondents included:

To help us learn or consolidate our learning	23.7%
For independent learning or self-paced learning	14.7%
To provide a visual and/or interesting medium	14.3%
For revision	13.1%
To provide us with more information than in lectures	11.4%
To provide an innovative and/or interactive learning medium	8.6%
To provide an easy or different form of learning	6.9%
As a supplement or backup for lectures and labs	3.7%
To assist staff short of time and/or money	2.0%
Other	1.6%

Among respondents who felt that the modules helped them to learn or consolidate their learning:

Help consolidate knowledge, provide and interactive form of learning. I learned basic concepts to help me understand the complex ones. They were good because they were in layman's terms and followed a logical sequence (more so than the textbook).

Because students all learn differently, they can't always go into specific detail in lectures. Help reinforce work covered in lectures and pracs.

Among those who responded that teachers provided these resources to provide a visual and/or interesting medium, several students emphasised features of the form of instruction peculiar to computer based learning.

Enables work at own pace; can have illustrations, links etc

To use the things we were not able to see in practical class

In case we ...didn't want to do part of a prac e.g. Cat dissection.

Animation of the diagrams to show processes was noted:

The animation is a good way of understanding some complicated systems.

Provides a better audio-visual learning experience i.e. brings material to 'life' – animation

Easier to learn with visual aids and interactive information

So you could go over content, easy to see and demonstration things good.

So we can interact with what we are learning – see it in 3D, rather than trying to visualise what we are reading. Learnt heaps.

Some felt the good visuals from the VLE enhanced lectures:

Using PowerPoint during lectures helped to create and maintain interest during the lecture.

Among those who felt the reason was to provide more information, the following responses occurred:

- Learn extra knowledge..stuff that's not in the book, interactive means really effective*
- Additional resources not available anywhere else*
- Too much information to be presented in lectures leaned anatomy better*
- Because it can explain more information about lectures. I could memorise facts in lectures easily.*
- Because a lot of this course involves memorising detail, which is most effectively done with personal study..*

Among those who felt the VLE was a supplement or backup for lectures and labs, many found the convenience of learning from home was good. They found it was helpful if they missed a class or missed something in the class. Others felt that it was a backup if the text didn't help or something happened to one's notes.

Among the unexpected responses were those that said the modules were to help the staff!

- So they have to work less – due to government cutbacks to staff resources.*
- Because they don't have the time or money to provide tutorials separate to lab and lecture times.*

Among the "other" responses was one student who claimed not to have learnt anything from the CD and one who learnt "Everything!". One of these students believed that the purpose of the modules was to familiarise them with the computer and how to work the modules.

If you DID NOT use any Human Biology computer-based learning modules do Q 6 and 7.

6. Why didn't you use any Human Biology computer-based learning modules?

(Please tick as many as appropriate or write the reason below)

	%
a) Too much competition to use the computer at home	5.4
b) Too much competition to use the computer at uni	4.8
c) I couldn't download the Shockwave plug-in	5.1
d) I couldn't get reliable Internet access at home	3.5
e) My Internet Provider kept timing out	1.6
f) My machine is too slow	5.1
g) I had limited time because I work	9.4
h) I had limited time because of family responsibilities	4.3
i) My computer doesn't have a CD-ROM drive	0.5
j) I didn't know the modules came on a CD-ROM	1.9
k) Got everything I needed from lectures and books	9.9
l) Got everything I needed from other biology content on the Internet	3.8
m) I don't use computers for university work	1.3
n) I feel my computer skills are not good enough	2.4

Other: Only 14 students made an additional comment here. Three of those fitted into the category k) Got everything I needed from lectures and books. Another 2 claimed they were going to use them in Stuvac.

Two students did not like using the computer:

I don't like using computers! I hate them being such an integral part of uni.

However, the most frequent other reason (7 students or 50% of "other") was a free admission of lack of motivation:

Could not be bothered! Were not worth it for the time you had to spend doing it.

Didn't feel like it.

Couldn't be bothered.

Too lazy.

7. Why do you think your teachers provided computer-based learning modules?

Almost all the students who did not use the modules (18.5% of students) responded to this question.

Although many of the perceived reasons for providing computer-based learning modules were the same, the frequency differed remarkably in some cases.

Reasons teachers provided computer based modules	Those who used the modules	Those who DID NOT use the modules
To help us learn or consolidate our learning	23.7%	20.0%
For independent learning or self-paced learning	14.7%	6.2%
To provide a visual and/or interesting medium	14.3%	4.6%
For revision	13.1%	10.8%
To provide us with more information than in lectures	11.4%	9.2%
To provide an innovative and/or interactive learning medium	8.6%	6.2%
To provide an easy or different form of learning	6.9%	12.3%
As a supplement or backup for lectures and labs	3.7%	0%
To assist staff short of time and/or money	2.0%	20.0%
Other	1.6%	1.5%
Do extra work	-	9.2%

The main reason - To help us learn or consolidate our learning – figures about equally prominently in both groups. The module non-users probably do not know about the self-paced learning and visual and animated nature of the modules, so the low figures for the next two factors are understandable.

The non-user group focussed on the provision of a different form of learning eg *To increase the possible ways of learning biology*, with only two students mentioning easy access rather than ease of the material itself.

The non-user group mentioned **doing extra work**, but none in the user group mentioned this. Responses included:

For those who have the time, enthusiasm and motivation to do the extra work
Extra help for talented/interested students.

One poor student feebly proposed that:

Everything, even if not used, helps

However, it was in the realm of assisting staff that the two groups differed most. The non-user group made some quite cynical responses:

Easy for them to monitor everyone and the work

Because they can

Teachers provide them because they don't have enough time to explain them

To help us see first hand how everything fits together in Human Biology.

Cheaper than giving us real bodies!

To decrease their workload

Because they're lazy and incompetant (spelling retained)

Coz they wanted to

They thought it would help us learn.

Section 4: About your use of email ...

Please answer the following questions in relation to **your use of email**.

8. How often do you use email for the following purposes? (*Tick one box per line*)

	Never %	Less than once a week %	Once a week or more %
a) to contact friends socially	11.8	26.1	62.1
b) to contact friends about Human Biology	71.1	27.0	2.0
c) to contact your Human Biology peer group socially	73.2	22.3	4.5
d) to contact your peer group about Human Biology	64.3	34.6	1.1
e) to contact university staff in general	56.7	40.2	3.1
f) to contact first year biology staff	74.9	24.2	0.8
g) to contact Human Biology staff	78.9	20.3	0.8
h) to read email from Human Biology staff	23.7	44.8	31.5

9. Regarding the response to your emails to staff (*Tick one box per line*)

	Didn't use %	Slow or unsatisfactory response %	Prompt, satisfactory response %
a) from university staff in general I usually had a	64.3	8.6	27.1
b) from first year biology staff I usually had a	71.6	4.5	24.0
c) from Human Biology staff I usually had a	75.5	4.5	20.0

	Didn't use %	No %	Yes %
10. Have you increased your use of email to contact Human Biology staff during Semester 2?	49.3	39.4	11.3

11. In what way has email been useful as a learning aid in the biology unit?

57.5% responded to this question. This is about double the percentage who actually used email as a learning aid in the biology unit, however many responses (24.6% of respondents) wrote that they didn't use it or it wasn't helpful.

The major perceived way that email has been helpful in the course is as a message board for receiving information from the lecturer and tutors. Almost half the respondents (47.4%) found that email was useful in this respect. This included administrative matters regarding schedules, assignment details and lab classes. Also frequently mentioned were the additional biology web sites to assist the students. A selection of students' responses follows:

We were given good contact sites, which were very helpful.

Notices and directions to useful materials for the human biology assignment..

Good to inform students about what's happening and help with advice and sites.

Keeps us informed about upcoming exams, projects etc and provides us with useful extra resources/references on lectures, prac work and assignments.

Almost equal in their perceived importance was the use of email as a quick way to gain answers to questions (14.2%) and the use of email to keep in touch or communicate with ones peer group or the staff (13.7%). Among the respondents finding email useful for asking questions were:

Can contact staff easily via email to ask questions or clarify doubts on particular things being studied.

Quick way of getting a question answered – no waste of time to look through lectures etc.

Personal contact available – you can ask specific questions and get specific answers.

Can ask personal questions to help students – can get a personal answer without having to ask staff in person and better as staff may be busy and hard to contact.

Quick replies meant I solved my problems faster!

It was noticeable that students did not express any feelings about email creating a distance between themselves and staff. In fact the students expressed positive feelings about receiving a prompt and personal reply. Among the responses mentioning email as a way of keeping in touch were some more specific comments about organising group presentations or group excursions:

Organising the trip to the museum.

Easy contact with peer groups – able to email parts of the assignment to groups etc.

With assignments it was good for communicating with peers and made us able to send the info we had ready to the person assembling the posters.

Again, in these responses, there was no feeling that email produced a feeling of remoteness –the students felt it was a good way of keeping in touch:

Sometimes I am not able to reach 1st year biology staff at uni – so I email them.

A good way to keep informed easier to communicate.

SCHOOL OF BIOLOGICAL SCIENCES FIRST YEAR BIOLOGY

HUMAN BIOLOGY STUDENTS - SURVEY 2

This survey is part of an investigation into use and usefulness of educational multimedia and communication technologies. **Thank you for agreeing to take part in this survey.**

Participation in this project by completing this survey is completely voluntary. No information about individual answers or your identity will be given to people teaching or assessing the course.

Section 1: About your Internet access ...

2. Was it necessary to have access to the following in order to participate in and successfully complete Human Biology? *(Tick one box per line)*

	Did not use	No	Yes
the Internet for general Biology information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the Internet for Virtual Learning Environment and Human Biology Room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 2: About your use of learning resources...

3. How useful were each of these resources to learning Human Biology (HB)? *(Tick one box per line)*

Resource	Did not use	Not useful	Useful	Extremely useful
o) Attendance at lectures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Your personal lecture notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q) Independent study modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r) Web lecture notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s) Attendance at prac classes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t) Prac notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u) Text books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w) Peer group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x) Virtual Learning Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
y) Biology content on Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
z) Email for HB purposes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
aa) HB computer tutorial modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bb) HB self-assessment modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. For what specific learning purposes did you use these Human Biology (HB) resources?
(Tick all relevant boxes)

Resource	Did not use	Learning new knowledge	Consolidating existing knowledge	Background information	Exam revision	Personal interest
o) Attendance at lectures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Your personal lecture notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q) Independent study modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r) Web lecture notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s) Attendance at prac classes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t) Prac notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u) Text books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w) Peer group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x) Virtual Learning Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
y) Biology content on the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
z) Email for HB purposes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
aa) HB computer tutorial modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bb) HB self-assessment modules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3: About using computer-based learning modules ...

If you HAVE used the HB computer tutorial modules or HB self-assessment modules do Q 4 and 5.

4. Did you have any difficulties accessing Human Biology computer-based learning modules?
No Yes

If YES please tick as many reasons below as appropriate or write the difficulty below.

- k) Too much competition to use the computer at home
- l) Too much competition to use the computer at uni
- m) I couldn't download the Shockwave plug-in
- n) I couldn't get reliable Internet access at home
- o) My Internet Provider kept timing out
- p) My machine is too slow
- q) I had limited time because I work
- r) I had limited time because of family responsibilities
- s) My computer doesn't have a CD-ROM drive
- t) I didn't know the modules came on a CD-ROM

Other: _____

5. Why do you think your teachers provided computer-based learning modules? What did you learn from using them?

_____ please go to Q 8 next page.

If you DID NOT use any Human Biology computer-based learning modules do Q 6 and 7.

6. Why didn't you use any Human Biology computer-based learning modules?

(Please tick as many as appropriate or write the reason below)

- o) Too much competition to use the computer at home
- p) Too much competition to use the computer at uni
- q) I couldn't download the Shockwave plug-in
- r) I couldn't get reliable Internet access at home
- s) My Internet Provider kept timing out
- t) My machine is too slow
- u) I had limited time because I work
- v) I had limited time because of family responsibilities
- w) My computer doesn't have a CD-ROM drive
- x) I didn't know the modules came on a CD-ROM
- y) Got everything I needed from lectures and books
- z) Got everything I needed from other biology content on the Internet
- aa) I don't use computers for university work
- bb) I feel my computer skills are not good enough

Other:

7. Why do you think your teachers provided computer-based learning modules?

Section 4: About your use of email ...

Please answer the following questions in relation to **your use of email**.

8. How often do you use email for the following purposes? *(Tick one box per line)*

	Never	Less than once a week	Once a week or more
i) to contact friends socially	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) to contact friends about Human Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) to contact your Human Biology peer group socially	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) to contact your peer group about Human Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) to contact university staff in general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) to contact first year biology staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) to contact Human Biology staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) to read email from Human Biology staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Regarding the response to your emails to staff *(Tick one box per line)*

	Didn't use	Slow or unsatisfactory response	Prompt, satisfactory response
d) from university staff in general I usually had a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) from first year biology staff I usually had a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) from Human Biology staff I usually had a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Have you increased your use of email to contact Human Biology staff during Semester 2?

	Didn't use	No	Yes
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. In what way has email been useful as a learning aid in the biology unit?

Thanks for taking part in the survey! 😊