

3rd Annual Learning and Teaching Conference
22 April 2010

**Personalised mathematical student support
through innovative use of technology**

Lorna Love and Shazia Ahmed



Roles (retention motivated) & background:

- Shazia: Maths adviser for all Level 1 students since 2008, based in Student Learning Service; experience in Secondary Maths teaching, good understanding of mathematical problems students have; IT background, Learning Technologist in previous post.
- Lorna: Study Support Co-ordinator for Faculty of Information & Mathematical Sciences since 2008; experience of teaching FIMS subjects at University level; understanding of problems that new students have, experience of *being* a Level 1 UoG Maths student.

Our efforts to support Level 1 Maths students, and the technology used to do this

Level 1 Mathematics students 2009-10

- 2 Semester 1 modules: 1R and 1X
- 498 students enrolled in 1R and 129 in 1X
- Of these 627 students, 542 were in *their* first year (09 student-id)

Support throughout 1st Year for these students

- Weeks leading up to Freshers week – ‘Pre-Arrival’ materials
- Induction to University
- Introduction to the student society – MacSoc
- Access throughout the year to 1-1 support & Peer Assisted Learning
- Monitoring of ‘at-risk’ students



Last summer, 3 senior (previous L1 Maths) students created packages for the new students*

‘By students, for students’

- Aimed at
 - all Intending Honours Maths students (UCAS, accepted offer from UoG)
 - all students studying Maths as a 2nd or 3rd subject (curriculum approved by adviser)
 - supporting new students (not promoting to prospective)
- Purpose
 - to provide new students with information that senior students have told us they wished they’d had
 - to prepare them for life at UoG
- Content
 - some relevant to all UoG students
 - some relevant only to students of Mathematics

***Made possible by Chancellor’s Fund**

Film – “Day in the life of a FIMS student”

- Boyd Orr ‘triangle’
- The gym
- QM
- Library
- Byres Road



Film – “Previous Level1 Maths students”

Featuring: senior students, graduands, experienced graduates

- Encouraging .. ‘it was hard, but I got there’
- Motivating .. ‘I did L1 Maths, look at me now!’



Information sheets

• Q (workshops, class tests)
 • semester planners
 • 10's Who – staff members
 • words of advice
 • studying Maths at University
 • e Skills Test
 • socials (MacSoc, FaceBook, FIMS)



Physical copies sent to all non International Intending Honours;
 Electronic copies to all other Level 1 Maths students



University
of Glasgow

By Students, For Students

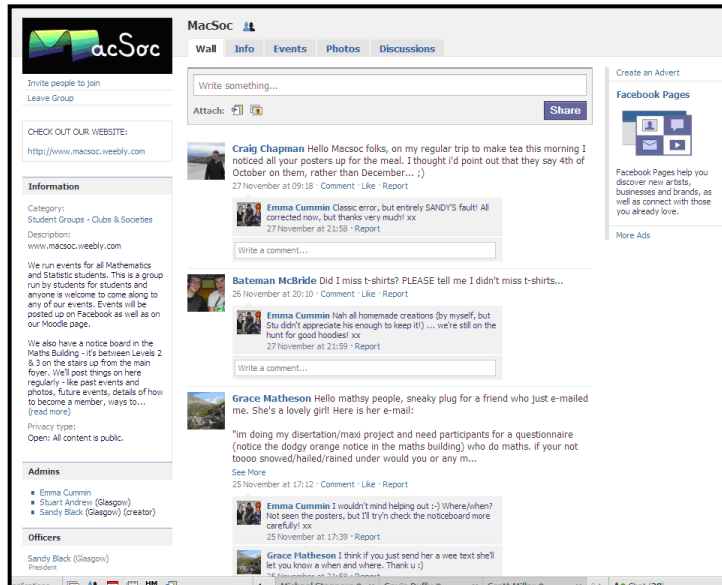


Faculty of Information & Mathematical Sciences

Induction 2009

- Compulsory all Intending Honours Maths, CS, Stats, Psych
- New, interactive format – with input from previous students
- Eliciting concerns of new students
 - Money, accommodation, homesickness, friends, cooking...
 - Academic 'step-up', subject choice, exams...
- Using WordWall to submit 'texts messages' to screen
'real answers', 'included', 'reassured', 'important', 'belonging'



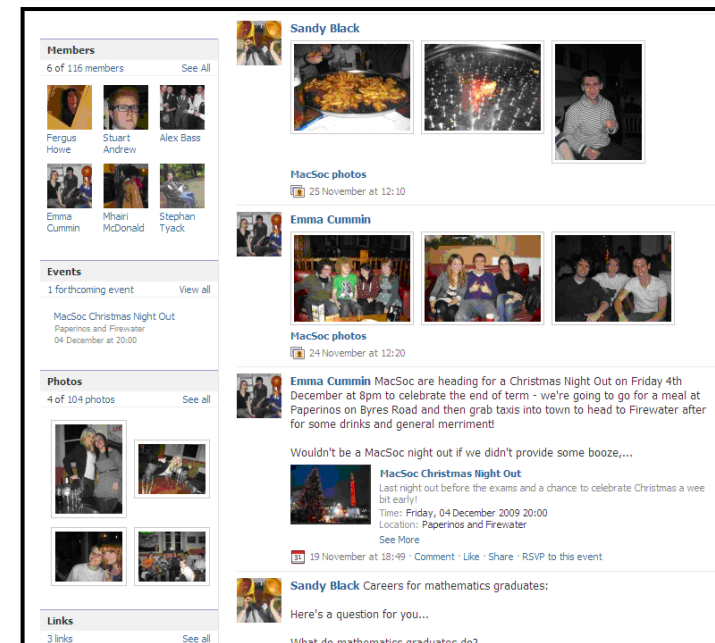


MacSoc presence:

- Moodle
- Facebook Group

Advantages of using Facebook

- Available to new students over summer (pre-arrival packs)
- Straightforward to contact new arrivals without access to email address
- Easy to arrange events, invite students & get idea of numbers






Maths Skills Test

- Compulsory
- Zero credit
- Requirement for progression into Level 2
- Identifies gaps in knowledge

Support for students

- Informal introduction at lab sessions
- 1-1 help through SLS (Student Learning Service)
- PAL (Peer Assisted Learning) sessions





University of Glasgow | Department of Mathematics

Help
Completed attempts | Category summary
Logout sa108q

Question 3 Time Elapsed: 1 mins

For $x \geq 0$,

$$\left(4 - \frac{1}{(x+1)^2}\right)^{\frac{1}{2}}$$

simplifies to

A: $\frac{[(2x+1)(2x+3)]^{\frac{1}{2}}}{x+1}$

B: $\frac{\sqrt{3}}{x+1}$

C: $\frac{(4x^2+3)^{\frac{1}{2}}}{x+1}$

D: $\frac{2x+1}{x+1}$

Choose Answer: A: B: C: D: None of these: Finish Test

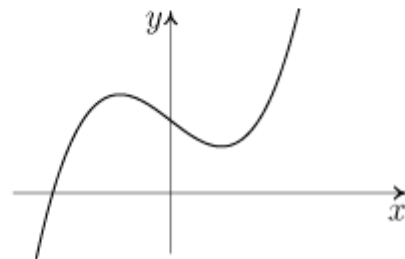
< 1 2 **3** 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 >



Question 20

Time Elapsed: 4 mins

From the list of possible answers, choose an answer which best describes the curve illustrated in the figure below.



A: $(3 - 2x)(x^2 + x + 2)$

B: $(x^2 - 1)(x - 3)$

C: $(x + 3)(2x^2 - 3x + 2)$

D: $(x + 2)(2x - 2 - x^2)$

Choose Answer:

A:

B:

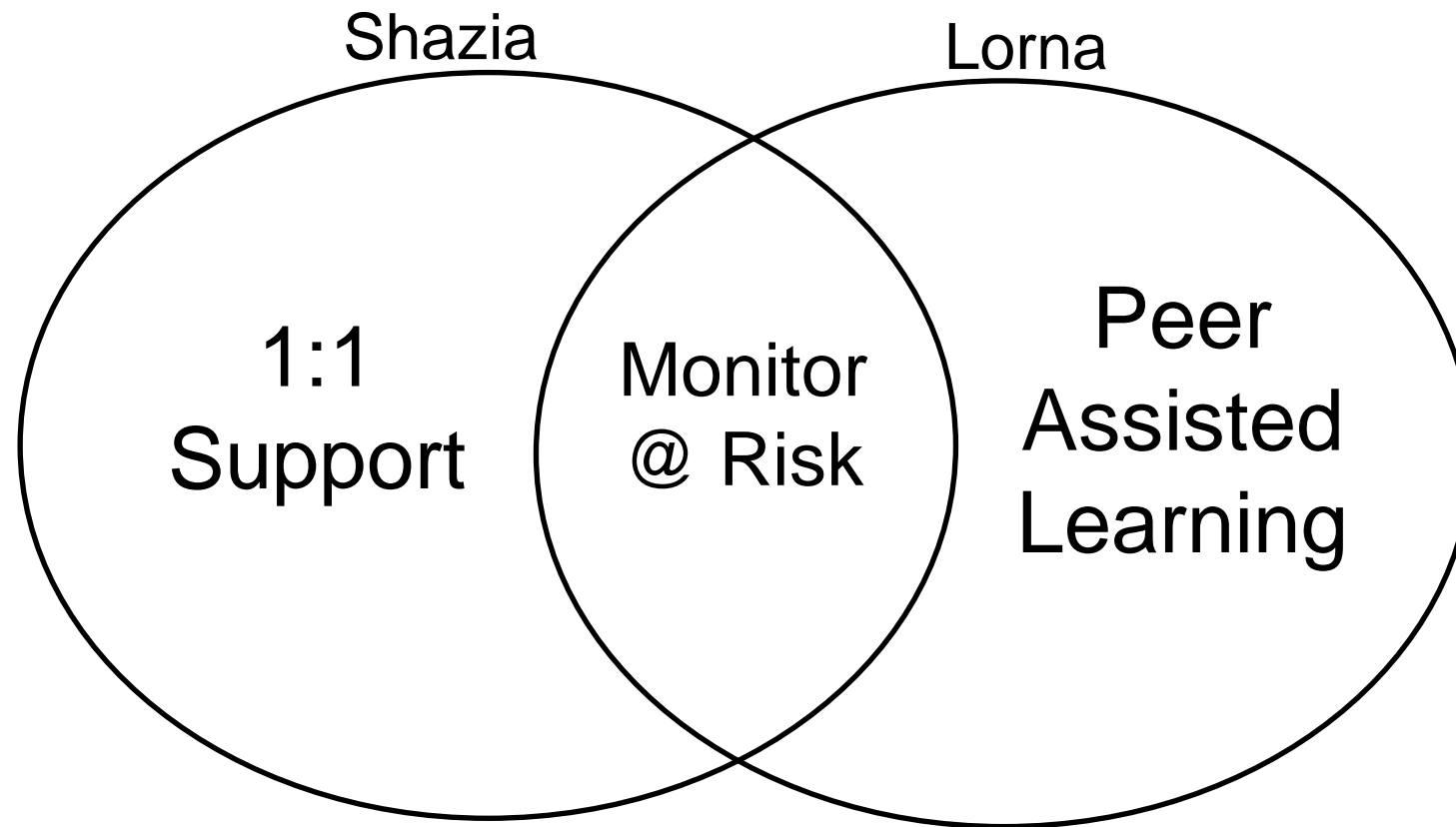
C:

D:

None of these:

[Finish Test](#)

< 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



*** Some students use both services**



Focus on Skills Test

- Identify borderline students
- Invite to 1-1 session by email

Advantages of 1-1 Support

- Focus on individual's personal needs
- Anonymous, independent of department

Use of Technology

- Texting
- Moodle





Course: Maths Support - Mozilla Firefox

http://services.moodle.gla.ac.uk/course/view.php?id=317&edit=0&sesskey=kSBOztBQmu

Student Forum

- In the run up to exams, there will be drop-in sessions running every weekday morning and afternoon from Monday 7 December to Thursday 17 December at the following times:

 - 10:30am to 1:00pm;
 - 2:00pm to 4:30pm.

If you would like some help with your maths revision, feel free to drop round and remember to bring your notes/past papers/attempts at questions, etc. with you.
- NUMBER: Student Mathematical Support offers support to all **Level 1 students** and other undergraduates studying **first year level** mathematics and/or statistics.

To make a one-to-one appointment email studentlearning@gla.ac.uk using your student email address or by using the online **booking tool** below. You can also come along to a **drop-in** session on:

 - Tuesday 2pm - 4pm
 - Wednesday 2pm - 4pm
 - Thursday 2pm - 4pm

Appointments and drop-in sessions are held in room 314 of the McMillan Reading Room (E1 on campus map).

Students are encouraged to make use of the resources listed below. Please get in touch if there are any topics missing which you would like to see included. Please also feel free to post any questions/comments on the Student Forum.

Refresher Guides

- Algebra Refresher
- Calculus Refresher

Follow this link to book a 1:1 appointment

Booking Appointments Online

Algebra

- Basic Algebra
- Equations Inequalities and Partial Fractions
- Matrices
- Matrix Solution of Equations
- Complex Numbers
- Sequences and Series

Upcoming Events

- Biology 1A exam
Wednesday, 9 December, 09:30
» 11:00
- Maths 1X exam
Thursday, 10 December, 09:30
» 11:30
- AeroEng Maths (E1) exam
Friday, 11 December, 00:00
» 02:00
- MechEng Maths (App1A) exam
Friday, 11 December, 09:30
» 11:30
- Science Fundamentals 1X exam
Saturday, 12 December, 09:30
» 11:30
- ElecEng Maths (EE1X) exam
Thursday, 17 December, 09:30
» 11:30
- Maths 1R exam
Thursday, 17 December, 13:00
» 15:00

Go to calendar...
New Event...

PLUS podcast - maths on the move

Add/Edit Feeds

- Plus Podcast 20, September 2009: How does gravity work?
- Plus Podcast 19, September 2009: The story of the Gomboc
- Plus Podcast 18, July 2009: Are the constants of nature really constant?
- Plus Careers Podcast 5, April 2009: Mathematics educator and author

Source site...

Remote News Feed

Add/Edit Feeds



MathsSupp: Booking Appointments Online - Mozilla Firefox

http://services.moodle.gla.ac.uk/mod/scheduler/view.php?id=9546

MathsSupp: Booking Appointments ...

<input type="checkbox"/>	Date	Start	End	Students	Member of Staff	Action
<input checked="" type="checkbox"/>	Monday, 19 October 2009	12:00	13:00	<input checked="" type="checkbox"/> MARGARET WILLIAMS Save seen	Shazia Ahmed	
<input type="checkbox"/>	Monday, 26 October 2009	11:00	12:00	<input type="checkbox"/> NAZIA AHMED Save seen	Shazia Ahmed	
<input type="checkbox"/>		14:00	15:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Wednesday, 28 October 2009	12:00	13:00	<input type="checkbox"/> JAMES TENNANT Save seen	Shazia Ahmed	
<input type="checkbox"/>	Monday, 2 November 2009	12:00	13:00	<input type="checkbox"/> JONATHAN DOUGLAS Save seen	Shazia Ahmed	
<input type="checkbox"/>		14:00	15:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Tuesday, 3 November 2009	10:00	11:00	<input type="checkbox"/> VALERIE GEORGINA GINTOS Save seen	Shazia Ahmed	
<input type="checkbox"/>		12:00	13:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Thursday, 12 November 2009	10:00	11:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Friday, 13 November 2009	11:00	12:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Monday, 16 November 2009	15:00	16:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Tuesday, 17 November 2009	10:00	11:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	
<input type="checkbox"/>	Wednesday, 18 November 2009	10:00	11:00	<input type="checkbox"/> JONATHAN Save seen	Shazia Ahmed	

Identify students at risk

- Invitation to chat
- 'Bridge' between academic and pastoral side
- Academic issue – direct to SLS or to PAL

Advantages

- Role Model
- Team Work / New friends
- Consolidate skills

Use of Technology

- Texting
- Moodle





Level 1 Support: PAL Workshop 4 preparation --- Mon 23, Tues 24 Nov. Click here to sign up - Mozilla Firefox

http://fims.moodle.gla.ac.uk/mod/scheduler/view.php?id=10505

Mathematics

Part of the Faculty of Information and Mathematical Sciences

fims > Mathematics > Level 1 Support > Schedulers > PAL Workshop 4 preparation --- Mon 23, Tues 24 Nov. Click here to sign up Update this Scheduler

My Appointments All Appointments Overview Statistics Exports

PAL Workshop 4 preparation --- Mon 23, Tues 24 Nov. Click here to sign up

You can at any time add additional appointment slots.

Add **Delete**

Add slots Add single slot my unused slots all my slots

Date	Start	End	Students	PAL Facilitator	Action
Monday, 23 November 2009	01:00 PM	02:00 PM	<input type="checkbox"/> MICHAEL BUCHANAN <input type="checkbox"/> ASHLEY CHAMBERLAIN <input type="checkbox"/> ROLLY HILL <input type="checkbox"/> KIRIN GOODWIN <input type="checkbox"/> CAMILLA LEE <input type="checkbox"/> IAN WILKINSON <input type="checkbox"/> CALVIN FERRON <input type="checkbox"/> RACHAEL HAYES <input type="checkbox"/> ANDREW MAGLERS <input type="checkbox"/> ZOE KERR Save seen	Stuart White	
Tuesday, 24 November 2009	03:00 PM	04:00 PM	<input type="checkbox"/> STEPHEN CAMERON MACPHERSON <input type="checkbox"/> PATRICIA BOURNE-GREIG	Stuart White	



- **Pre-induction packs**
 - Online
 - Hard copies
- **Induction**
 - EVS (using WordWall)
- **MacSoc**
 - Moodle
 - Facebook
- **Ongoing PAL and 1-1 support**
- **@Risk Monitoring**

Further Steps

- Focus on initiatives that have been more successful
- Evaluation using quantitative and qualitative methods
- Exam result analysis

Contact

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s.ahmed@admin.gla.ac.uk