

On-line communities: getting group discussions to work for DL students

Sue King
Curriculum Development Officer

MSc case study

- MSc Maintenance Engineering and Asset Management
- Taught modular course successfully run for 5 years
- Key characteristics : opportunities for networking
- Demand for on-line version
- Question: how to replicate the 'network' in an on-line course

MSc taught course

- 10 modules
- 'short, fat' face-to-face delivery
- Taught by mix of lecturers and industrial consultants
- Existing lecture notes in handbook for each module

Challenge.....

- To convert the taught course to DL
- To develop the learning community to emulate this very successful aspect of the face to face course.

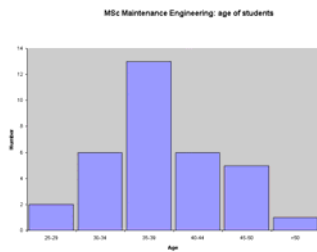
New course: definition

- Fully on-line
- Modular
- Networking opportunities
- Assessment
 - Course work including some group work
 - Examination
- Dedicated development staff (educational designer and web developer)

Student profile

- Engineers in FT employment
- Funded by employers
- UK, Malta, Iceland, Gulf States, Canada, France, Switzerland

Student profile



Over 60 % between 5 and 15 years since previous study

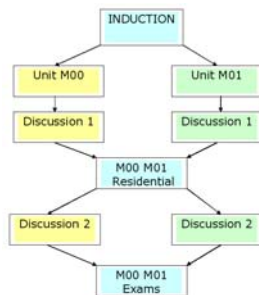
Characteristics of a successful on-line learning community

- Quality & quantity of material
- User participation
- Motivation
- Feedback
- Friendly
- Technical support
- Collaborative work
- Available 24/7
- Search function
- Aims & objectives
- Different forums for discussion
- Clear instructions on how to use
- current

Student concerns re on-line learning

- Equality of experience
- Access to resources
- Means of communication
- Course outline
- Hours of work
- Target audience of course
- Prospects of graduates
- Feedback from past students
- Asynchronous or staged release
- Hardware and software required
- Network requirements

Course design



Course design principles

- Use VLE (WebCT)
- Simple, consistent layout, easy navigation, short interesting pages
- Variety of media
 - photos, video, audio, diagrams, text – first person, exercises, self-tests, readings etc.
- Lots of opportunities to communicate (and we would communicate a lot!)
 - discussion boards, email, web pages

Community design

- Communities of practice
- 'Groups whose members regularly engage in sharing and learning, based on common interests'

– Lesser, E.L. & Storck, J. (2001)

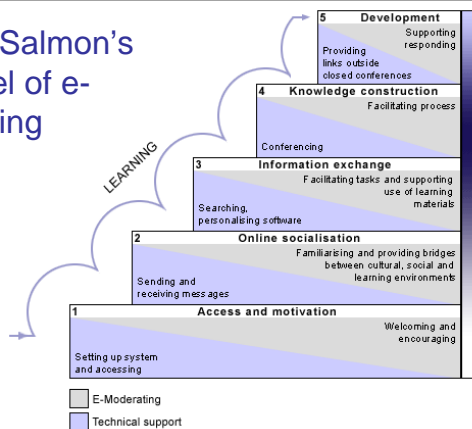
Educational & organisational benefits

- decreased learning curve
- speedy response to needs and enquiries
- reduces 'reinvention of wheel'
- share vast range of experience
- develop new ideas
- improve professional practice
- enriched learning, higher motivation

Individual & social benefits

- Individuals develop
 - sense of identity
 - sense of trust/confidence
 - common understanding of issues
 - common language
 - skills
- Overall result - strong learning community

Gilly Salmon's Model of e- learning



Community Development: induction

- 5 stage model of on-line learning (Salmon)
- Access & training (one month period)
 - to all the tools and resources of the course
e.g. library, WebCT
- Socialisation
- Information exchange
- Achievable tasks and exercises

Community Development: course content

- Themed discussions based on course content but
- made relevant to students' working practice
- involving
 - exchange of ideas
 - collaborative working
 - knowledge construction

Community development

- Would start from the very beginning!
 - induction
- involve whole course team
- use many modes of communication
 - letter/email/discussion
- send regular communications
 - the Friday email / reminders
- quick response time
 - daily website check
- the personal touch!
 - respond to individuals

Outcomes (we hoped)


- Development of higher levels of learning (Bloom)
 - e.g. critical evaluation of their own & others experience
- Collaborative working to develop skills and synthesise new ideas
- Extend community beyond the formal discussions to form true COP
- Motivated students who participate in the course at all levels, enjoy it and are successful.

Induction

Induction website




We introduced ourselves



Dr. Andrew Ball, the Academic Director of the course and Unit Leader for M14: Machinery Vibration, Monitoring and Analysis. I maintain an overview of the course structure, content and student progress. My research interests are in machine fault detection and diagnosis and condition monitoring and I head the research group in this area. I'm also active in research, lecturing and consultancy worldwide.

As Head of the School of Engineering I am currently heavily involved in the plans for merging the University of Manchester and UMIST and determining a strong position for engineering within the new institution.

Tel: +44 161 275 4347
email: andrew.ball@man.ac.uk



Dr. Simon Harris, the post graduate director for the School responsible primarily for making sure we as a group offer all post graduate students to the School an enjoyable and rewarding time. His particular responsibilities include quality issues and the development of our existing courses to satisfy new audiences. He also maintains as close a relationship as is possible with the students and will try to solve any problems that cannot be resolved by your personal tutor, Mel Young or Helena Johansson.

Tel: +44 161 275 4575
email: s.j.harris@man.ac.uk

Quizzes



Discussions - induction

- Aim: getting to know one another
- sets expectations and boundaries
 - 'netiquette'
- starts with simple discussion exercises
 - introduce self & reasons for following course
- uses student web pages
 - photos, further info
 - quick response to queries
 - html tips
 - £30 Amazon voucher prize

Induction discussions

Message 1 (part only)

- I come from Lebanon, working in Saudi Arabia as a Service Engineer for medical equipment.

Message 2 (part only)

- Currently employed by CERN (European Organization for Nuclear Research) in Geneva, Switzerland, I am in my sixth year and seriously looking around for a challenging study opportunity

Message 3 (part only)

- I'm just getting over the shock of starting to study again so I'm off on holiday now for the next two week,

Message 4 (part only)

- Hey - I take it all back this web stuff is fun - I am getting no studying done but If anyone needs some pointers with this HTML stuff I found a good web site with helpfull tutorials on it
<http://www.developingwebs.net/html/>

We asked students to introduce themselves

MD1: Maintenance Strategy 2003
Home > > > Steve Coombes > Gary Warren (in...) > Robin Blaney > Robert Adams > Nick Gill (only...
Student Homepages



Course design

Use of templates

Discussion Topics

Topic	Unread	Total	Status
All	172	345	
Main	3	33	public, unlocked
'Ask the tutor'	51	84	public, unlocked
KPI (Disc 1) Group A	8	19	public, locked
KPI (Disc 1) Group B	16	29	public, locked
KPI (Disc 1) Group C	15	16	public, locked
RCM - Fishpond pump (Disc 2) Group A	24	29	public, locked
RCM - Fishpond pump (Disc 2) Group B	20	28	public, locked
RCM - Fishpond pump (Disc 2) Group C	3	16	public, locked
Notes	0	0	public, unlocked
WebCT/Technical problems	2	31	public, unlocked
All postings up to 31.08.03	26	40	public, locked
All postings from 01.09.03 - 30.09.03	4	20	public, locked

Tutorial discussions

- 2 per course unit i.e. 4 per semester
- Each run over 2 week period
- Small groups (6-8 students)
- Private during discussion period
- Unlocked at end
- Moderated by support staff and academics
- Summarised by academic

Discussion (?)



Discussions

Exercise 1.1

Which of the techniques in Table 1.5 are you familiar with from your workplace?

Make a posting to the discussion board describing one of the techniques used on your plant and the circumstance in which it operates.

If your company does not use CBM or you are not familiar with any of these techniques please send a brief posting to that effect.

« Back | Section 1.1 Home | Next »

Information exchange



Discussion messages: CBM Techniques

Return to [Discussions](#)

[Compose Discussion Message](#) [Search](#) [Mark All As Read](#) [Update Listing](#)

Select topic: [Show all / Show unread](#) [Threaded / Unthreaded](#)

Select all [Select none](#) [Apply to selected message\(s\) below](#) [Compile](#) [Go](#)

Status	Subject	Author	Date
▼ 01	↳ Exercise 1.1		
⊞	↳ Exercise 1.1	Alan Crawford (ahgmac2)	August 2, 2004 8:42pm
▼ 01	↳ Exercise 1.1		
⊞	↳ Exercise 1.1	Colin Mervin (ahgmac2)	August 3, 2004 8:10am
▼ 01	↳ Infrared Analysis		
⊞	↳ Infrared Analysis	Richard Welch (ahgmac2w)	August 3, 2004 8:55am
▼ 01	↳ Exercise 1.1		
⊞	↳ Exercise 1.1	Gray Warner (ahgmac2w)	August 3, 2004 1:09pm
▼ 01	↳ Exercise 1.1		
⊞	↳ Exercise 1.1	Robert Adams (ahgmac2)	August 3, 2004 6:22pm
▼ 01	↳ CBM at Trestle		
⊞	↳ CBM at Trestle	Dan Wright (ahgmac2w)	August 5, 2004 12:47pm

Embed discussions into content

ACTION MENU: [Previous](#) [Next](#) [Contents](#) [Retrace](#) [Refresh](#) [Quiz](#) [Take Notes](#) [Discussions](#) [Case Study 4.1](#)

4.1.1 Methods of Setting Targets

Page 5 of 6

Having decided on the Key Performance Indicators (KPIs) which will be used to exercise maintenance control, decisions have to be taken about at what level to set target values. Easy targets will be achieved with minimal effort and improvements; tough targets might not be achieved but greater improvements may be achieved. Sometimes targets are imposed for certain maintenance activities; however, often there is a choice about at what level to set targets.



Discussions

Discussion 1: KPI (Key Performance Indicators)

This discussion will open on Sept 1st and will run for 2 weeks until Sept 14th.

Click on 'Discussions' from the Action Menu above, then change the topic to KPI (Disc 1).

You can use postings to this discussion when completing the short, in unit assessment.

You should make at least 2 postings

Discussion topic

Post a message to your discussion group summarising what the biggest challenges are for maintenance in your company and including your own company's maintenance Key Performance Indicators (KPIs).

All members of a discussion group are then invited to make comments about each others KPIs. For example, comments could be based on the following questions:

- Do they allow you to see if the main challenges are being met?
- Are there any important areas *not* covered?
- Do they allow you to assess if the maintenance strategy is working?
- Do they allow you to see if the maintenance strategy is cost-effective?

Discussion postings

MO1: Maintenance Strategy 2003			
Name : Discussion - KPI (Plus 1) Group 8			
Status	Subject	Author	Date
04	Discussion 1 now open uni...		
0	Discussion 1 now open uni...	Jessie M Kennedy (mhgsjpk_TA)	September 1, 2003 11:39am
0	Re: Discussion 1 now open...	Paul McIlhatton (mhgsjpm2)	September 2, 2003 3:14am
0	Re: Discussion 1 now open...	Jessie M Kennedy (mhgsjpk_TA)	September 2, 2003 10:11am
0	Re: Discussion 1 now open...	Paul McIlhatton (mhgsjpm2)	September 3, 2003 11:28pm
05	KPI cereal plant		
0	KPI cereal plant	Antony Jones (mhgsaaa)	September 3, 2003 1:02pm
0	Re: KPI cereal plant	Colin Newson (mhgsaa2)	September 9, 2003 8:09pm
0	Re: KPI cereal plant	Antony Jones (mhgsaaa)	September 12, 2003 8:03am
0	Re: KPI cereal plant	Sean Courtanise (mhgsaa2)	September 18, 2003 4:52pm
0	Re: KPI cereal plant	Robin Blakey (mhgsarh)	September 19, 2003 8:48pm
0	Re: KPI cereal plant	Antony Jones (mhgsaaa)	September 20, 2003 3:17pm
03	KPI in the context of Ma...		
0	KPI in the context of Ma...	James Thatcher (mhgsjrt)	September 3, 2003 5:36pm
0	Re: KPI in the context of...	Antony Jones (mhgsaaa)	September 3, 2003 6:09pm
0	Re: KPI in the context of...	James Thatcher (mhgsjrt)	September 4, 2003 11:05am
03	Maintenance challenges &...		
0	Maintenance challenges &...	Colin Newson (mhgsaa2)	September 9, 2003 7:56pm

RCM Discussion - group task

Two people from each discussion group should take one of these functions and between them complete the sheet for that function

When you have completed the sheet, share your work with the other subgroups to build up the full RCM worksheet

The Unit Leader will look in on your discussions from time to time and may comment on your work.

Once you've completed the whole sheet, nominate one member of the group to compile all your work together and email your RCM sheet to Paul Wheelhouse.

Formation of groups

Discussion messages: RCM - Fishpond pump (Disc 2) Group A

2 returns to Discussion

Status: locked

Compose Discussion Message Search Mark All As Read Update Listing

Select topic: RCM - Fishpond pump (Disc 2) Group A Show all Show series Threaded / Unthreaded

Select all Select none Apply to selected message(s) below Complete 2/2

Status	Subject	Author	Date
0/1	Discussion 2 exercise		
0	Discussion 2 exercise	Jessica M Kennedy (mhgrpsmk_TA)	October 13, 2003 4:31pm
0/13	Partner needed!		
0	Partner needed!	Nick Gil (mhgrpsmk2)	October 19, 2003 9:38pm
0	Re: Partner needed!	Robert Aikens (mhgrpsmk2)	October 20, 2003 4:42am
0	Re: Partner needed!	Paul Wardhouse (m01A)	October 20, 2003 3:18pm
0	Re: Partner needed!	Robert Aikens (mhgrpsmk2)	October 20, 2003 4:07pm
0	Re: Partner needed!	Rensse Cactus (mhgrpsmk2)	October 21, 2003 3:56am
0	Re: Partner needed!	Robert Aikens (mhgrpsmk2)	October 21, 2003 12:04pm
0	Re: Partner needed!	Rensse Cactus (mhgrpsmk2)	October 23, 2003 4:00am
0	Re: Partner needed!	Nick Gil (mhgrpsmk2)	October 23, 2003 10:49pm

RCM Discussion

Message no. 204

Posted by Paul McIlhatten (mhgrpsmk2) on Thursday, October 23, 2003 12:36pm

Hi Colin,

Please see attached for combined worksheets for Function 1. I've included some secondary function failures, pump mechanical failure and added in some headings in the response column to your sheet, but feel free to change anything.

If your happy with it then we can submit as it is.

Regards,

Paul.

Reply Quote Download

Message no. 210

Posted by Colin Newson (mhgrpsmk2) on Friday, October 24, 2003 4:48pm

Hi Paul. It looks good to me the only thing is the secondary function failure test boxes as these are covering the test on your attached version hopefully the attached should be better. If anybody can get round to compiling the three documents together then I will do it Monday night. Anyway hope you are all well and progressing with the revision and the assignments.

Regards, Colin

Completed Worksheet

G10		Condition Monitor		Visually monitor flow daily & clean filter regularly	
RCM Worksheet		Function Monitor		System: Fish Pond water re-circulation system	
1	Function	Function of filter (State of function)	Failure Mode (State of failure)	Failure effect (What happens when it fails)	Consequence (What needs to be done)
2	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
3	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
4	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
5	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
6	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
7	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
8	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
9	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
10	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
11	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
12	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
13	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor
14	To maintain water around pump @ 10cm per day	Filter partially obstructed	Partial water flow	Partial water flow	Condition Monitor
15	To maintain water around pump @ 10cm per day	Filter fully obstructed	No water flow	No water flow	Condition Monitor



-
-
-
-
-
-

Critical thinking 2

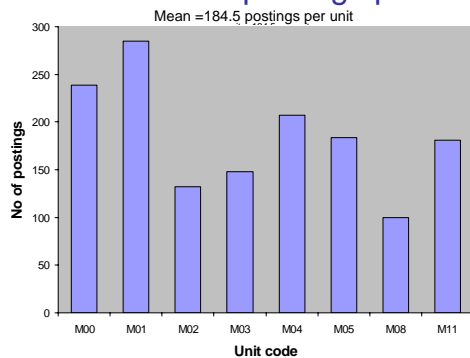
At first glance, Total Productive Maintenance (TPM) sound(ed) like an attractive business proposition....

So where did we go wrong? The primary mistake was to view the exercise entirely in terms of the cost savings... The strategic aspects of maintaining the quality of the work were largely ignored and the possibility of.....

Whether it is possible to successfully introduce a full TPM programme to complex, interconnected plants, such as power stations, is highly debatable. Historically, TPM was introduced.....

analysis/evaluation/use of comparative examples

Total discussion postings per unit



Student evaluation

- Both group discussions were very interesting and useful, particularly hearing different maintenance perspectives. (The second discussion suffered from clashing with the major assignment though).
- An excellent means of exchanging views and discussing experiences within different industries, particularly with regard to the first discussion topic (The Impact of TPM). The discussion topics were also a great way to get to know the rest of the group!
- Thanks for that. I have started a discussion and responded to one. It is interesting!! (Tutor)

Spontaneous discussions

MD1: Maintenance Strategy 2003			
Home » Site Content » Discussion » Make » Ask the team?			
01	From: CHM01_Alex.Hall, Alex.2	From: Christopher (info@mc2)	November 19, 2003 12:16pm
02	From: CHM01_Alex.Hall, Alex.2	From: Paul Whetstone (info@mc2)	November 20, 2003 7:57am
03	From: CHM01_Alex.Hall, Alex.2	From: Christopher (info@mc2)	November 27, 2003 9:55am
04	From: CHM01_Alex.Hall, Alex.2	From: Paul Whetstone (info@mc2)	November 29, 2003 2:50pm
05	From: CHM01_Alex.Hall, Alex.2	From: Nick Old (info@mc2)	December 4, 2003 10:17am
06	From: CHM01_Alex.Hall, Alex.2	From: Des Wright (info@mc2)	December 4, 2003 12:22pm
07	From: CHM01_Alex.Hall, Alex.2	From: Paul Whetstone (info@mc2)	December 4, 2003 4:46pm
08	From: CHM01_Alex.Hall, Alex.2	From: Nick Old (info@mc2)	December 4, 2003 9:37pm
09	From: CHM01_Alex.Hall, Alex.2	From: Emma Cechas (info@mc2)	December 10, 2003 10:20pm
10	From: CHM01_Alex.Hall, Alex.2	From: Paul Whetstone (info@mc2)	December 11, 2003 10:48am
11	From: CHM01_Alex.Hall, Alex.2	From: Emma Cechas (info@mc2)	December 11, 2003 11:51am
12	From: CHM01_Alex.Hall, Alex.2	From: James Thacker (info@mc2)	December 11, 2003 4:15pm
13	From: CHM01_Alex.Hall, Alex.2	From: Emma Cechas (info@mc2)	December 15, 2003 11:44am
14	From: CHM01_Alex.Hall, Alex.2	From: James Thacker (info@mc2)	December 19, 2003 11:34am
15	From: CHM01_Alex.Hall, Alex.2	From: Emma Cechas (info@mc2)	December 22, 2003 8:53pm
16	From: CHM01_Alex.Hall, Alex.2	From: Des Wright (info@mc2)	December 22, 2003 12:25pm

10 tips for setting discussion topics

1. Embed the discussions into the course
2. Set clear, structured exercises
3. Give guidelines on length
4. Specify number of postings expected
5. Allow long time frame (2 weeks)
6. Use topics where individuals can reflect on /share their own experience/research i.e. postings are unlikely to be repetitive
7. Set topics where collaboration is beneficial for the whole group
8. For group tasks, set exercises which can be easily broken down into smaller components
9. Send reminders to non-participants
10. Give positive feedback in summary

References

- Benjamin S. Bloom, Bertram B. Mesia, and David R. Krathwohl (1964). *Taxonomy of Educational Objectives (two vols: The Affective Domain & The Cognitive Domain)*. New York. David McKay.
- Lesser, E.L. & Storck, J. (2001) *Communities of Practice and Organisational Performance*, IBM Systems Journal: Knowledge Management 40, 4,
- Salmon G. (2000) E-moderating: the key to teaching and learning on-line. Kogan Page
- Wenger, E. (2002) *Cultivating communities of practice*. HBS Press

Thankyou
