Trinity College Dublin

School of Computer Science and Statistics

MSc Technology and Learning Course Review

Draft 4 for respondents' comments

Richard Millwood, Course Director

1st September 2014

Contents

1 Survey	3
2 Curriculum Overview	13
3 Ideas generated in meetings	14
4 External Examiner's comments	15
5 Future Directions	16
Appendix 1 - The survey	17

Introduction and Summary

This review was designed to help the course team, based in the Computer Science & Statistics Department of Trinity College Dublin, to develop the course and decide how to take it further in future, or indeed consider alternatives.

The first step was to survey opinions from students, staff and others. An anonymous online questionnaire was designed to seek positive, creative and constructive contributions (see next section 'Survey' and Appendix 1).

Secondly, a curriculum review was undertaken, by creating a concept map of the course content linked to the online resources used where possible. This map has then been used to review some modules to consider their content and how this might be developed.

Thirdly, two course committees and further informal meetings with a range of staff were held to invite ideas - these are summarised.

Fourthly, the external examiner, Prof Grainne Conole, made recommendations on course content in her report and these are included in this review.

Finally, the course director has indicated future directions based on these inputs.

This report is now circulated for final comments to all respondents to the survey and other party's consulted.

Respondents are invited to read this draft report and make comments.

Please email any such comments to richard.millwood@tcd.ie by 12th September 2014.

1 Survey

Respondents were able to choose whether to participate or not and were able to withdraw at any stage. Approval was sought from the School's Ethics Committee. Short notes were expected and the whole survey was designed to take no longer than 20 minutes to complete. Each question presented a short summary and invited views on:

1.1. Subject matter
1.2. Teaching approach and timetable
1.3. Learning environment
1.4. Assessment
1.5. Qualification
1.6. Audience
1.7. You (the respondents)
1.8. Your views

This survey was undertaken by Richard Millwood, Course Director, and it is acknowledged that this represents a conflict of interest because respondents may be colleagues or students who works or study with him and because he works for the university which is running the course which is the object of the survey. The responses were read and themes identified under two headings - positives and negatives. In addition, proposals were paraphrased from the responses, grouped and listed.

Overall response

Many respondents overlapped, for example answering with reference to 'Subject matter' under 'Assessment', and so the positive and negative themes identified in all questions are shown in the following figures, followed by a breakdown under each question on subsequent pages.

Overall positive themes

(173 identified)

Overall negatives themes

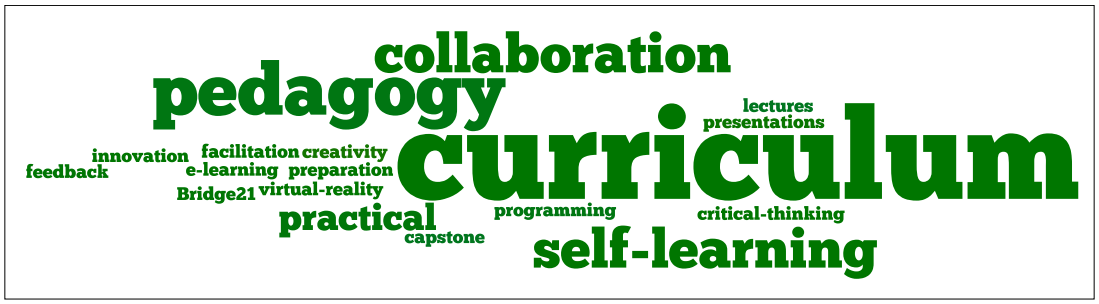
(189 identified)

1.1 Subject Matter

(30 responses)

Positive themes

(32 identified)



Negative themes

(42 identified)

Proposals:

1.1.1 Presentation

- Update and improve reading lists
- Make a curriculum map

1.1.2 Process

- Joint research with CS students
- Link with Learnovate
- Replace methods lectures with peer collaboration on dissertations
- Follow-on PhDs
- Use e-learning
- Invite class to vote on technologies to focus on
- More examples

1.1.3 Topics

- Technical workshops (3)
- Technologies
- Technologies and tools
- Teach programming (2)
- E-learning tool(s)
- User Interface Design
- Project management skills
- Innovation and Entrepreneurship
- Adult Learning

1.1.4 Structure

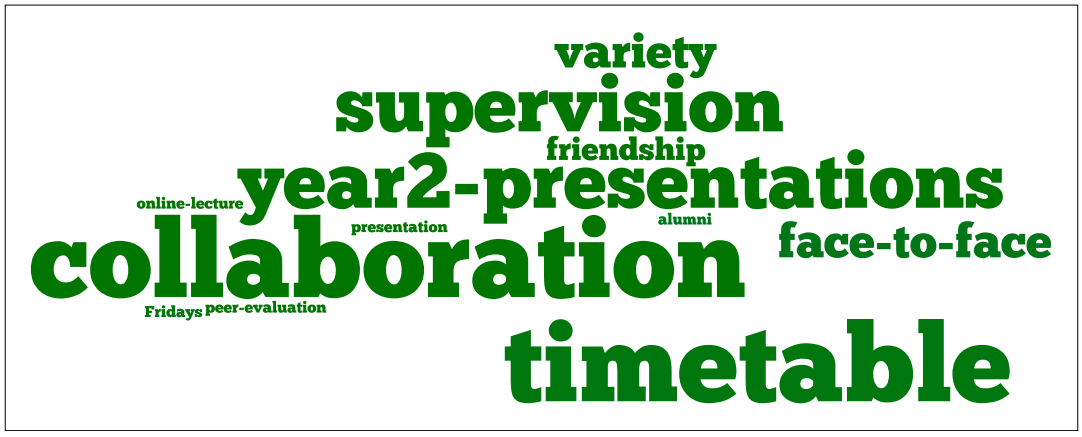
- Two quals - MSC Educational Technology Leadership and MSc Technology and Learning

1.2 Teaching approach and timetable

(29 responses)

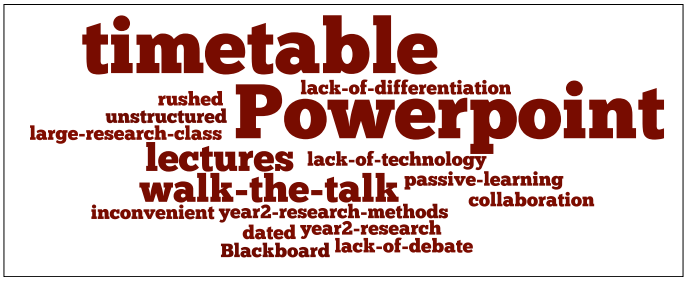
Positive themes

(37 identified)



Negative themes

(25 identified)



Proposals:

1.2.1 Delivery

- More distance learning (6)
- Whole course online (2)
- Combined local/remote
- Connect remote users to onsite experiences
- Quasi-MOOC or whatever
- Publish timetable sooner

1.2.2 Pedagogy

- Flipped classroom (3)
- Written feedback for presentations (2)
- Focus more on the quality of the teaching time rather than the quantity
- Introduce approach at induction
- Modules self-paced
- More Workshops
- More time for debate
- More outside-the-box
- Review what and how learning took place
- Timely feedback

1.2.3 Timetable

- Literature Review and Position Paper module after Christmas and eLearning before
- Start dissertation in year 1
- Make year 2 Powerpoint templates available earlier
- Vary presentation groups to see a variety over year 2
- Alternate weekends
- Summer camp intensive/themed sessions etc are probably worth exploring.
- One day F2F would be enough
- An evening course should not begin at 3pm

- Saturday only

1.2.4 Topics (belongs in Subject matter?)

- Problem Solving
- Project Management
- Year 2 lectures should be upgraded
- More support for research methods in year 2
- Less depth to gain more breadth of technology

1.3 Learning Environment

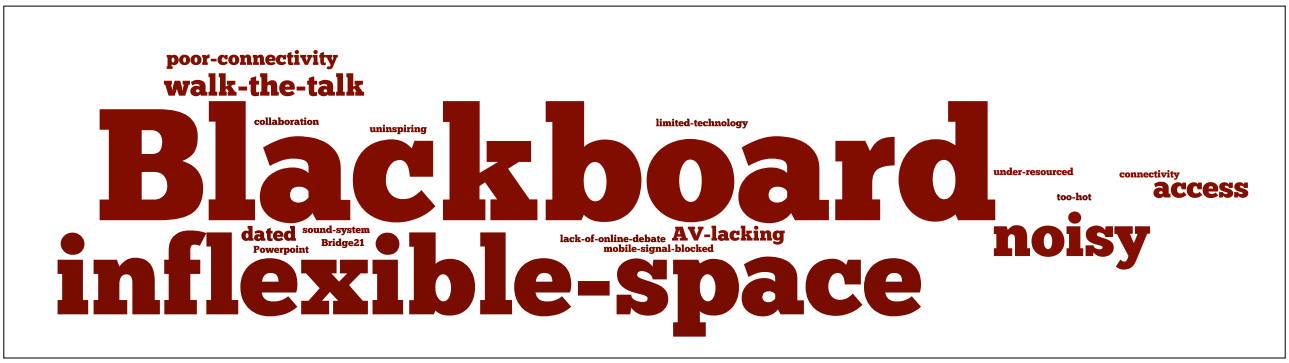
(28 responses)

Positive themes

(24 identified)

Negative themes

(56 identified)



Proposals

1.3.1 Space

- Use Bridge21
- Bridge21 needs update and comfort
- Bridge21 needs water and light
- Use variety of settings

1.3.2 Technology

- BYOD (Bring your own device) (2)
- Google Apps for Education to facilitate collaboration

1.3.3 Online

- More online classrooms
- Use VLE as go-to place for resources and discussion
- Use Blackboard better
- Use Blackboard or Moodle
- Use online delivery
- Use single place for online resources
- Use Tumblr or Wordpress or Moodle
- Blogging

1.3.4 Content (belongs in Subject matter?)

- Improve lecturers notes
- Number the notes to connect with the slides
- Learners curate reading lists

1.3.5 Scope

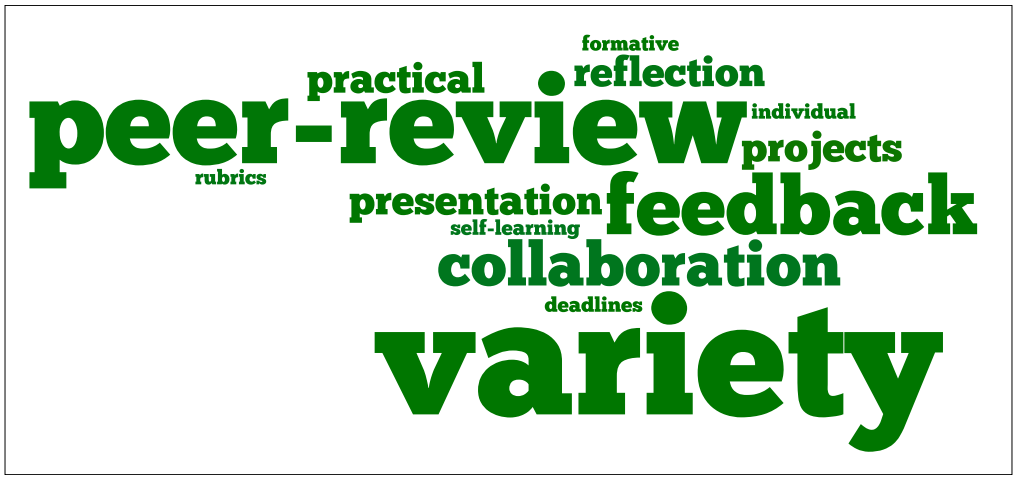
- Go big or go home
- Relationship with technology companies doing training
- Become the gold standard
- Make it a flagship
- Make the VLE a showcase
- Use it (the course) to model approaches
- Adopting and trialling learning initiatives, like flipped, peer review, spaced learning, role play

1.4 Assessment

(29 responses)

Positive themes

(34 identified)



Negative themes

(24 identified)

Proposals

1.4.1 Process

- Align assessment with learning outcomes
- Include rubrics for all assignments
- Introduce peer review earlier
- Keep the current arrangements
- Marks for individual efforts on technology
- Monitor advances in assessment
- More guidance on criteria e.g. rubrics
- Need rubrics
- Partner for capstone
- Why a CD? Why not Turnitin?

1.4.2 Timing

- Alternate weekends or use online
- Capstone only after Christmas
- Lecturers must meet deadlines

1.4.3 Attitude & encouragement

- Encourage academic writing skills
- Module on academic writing
- Teach presentation technique
- Do not lower expectations with 'if you pass'

1.5 Qualification

(27 responses)

Positive themes

(17 identified)

Negative themes

(15 identified)

Proposals

1.5.1 Value / currency

- More marketing, serious marketing
- Make students more aware of Dip / MSc alternatives

1.5.2 Shape

- Two courses - research / technology leadership
- New direction, define ROI
- Themed or tracked awards?

1.5.3 Process

- Opportunity to repeat failed assessment in year 2
- Transfer credit from capstone to year 2 dissertation as incentive
- All should get Diploma on successful completion of Year 1
- Email marks

1.6 Audience

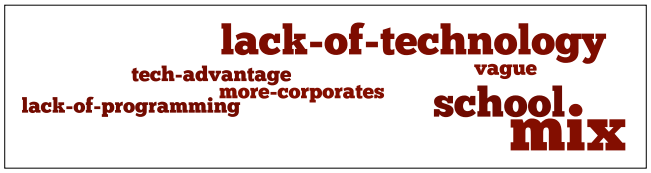
(29 responses)

Positive themes

(22 identified)

Negative themes

(11 identified)



Proposals

1.6.1 Content

- Additional modules
- Elective modules
- More pedagogy
- Tech stream and pedagogy stream
- Course with two or three threads

1.6.2 Existing audience

- Exploit the mix even more
- Schedule for submission should recognise 9-5 working for some

1.6.3 New audiences

- Consult with industry
- Scale up

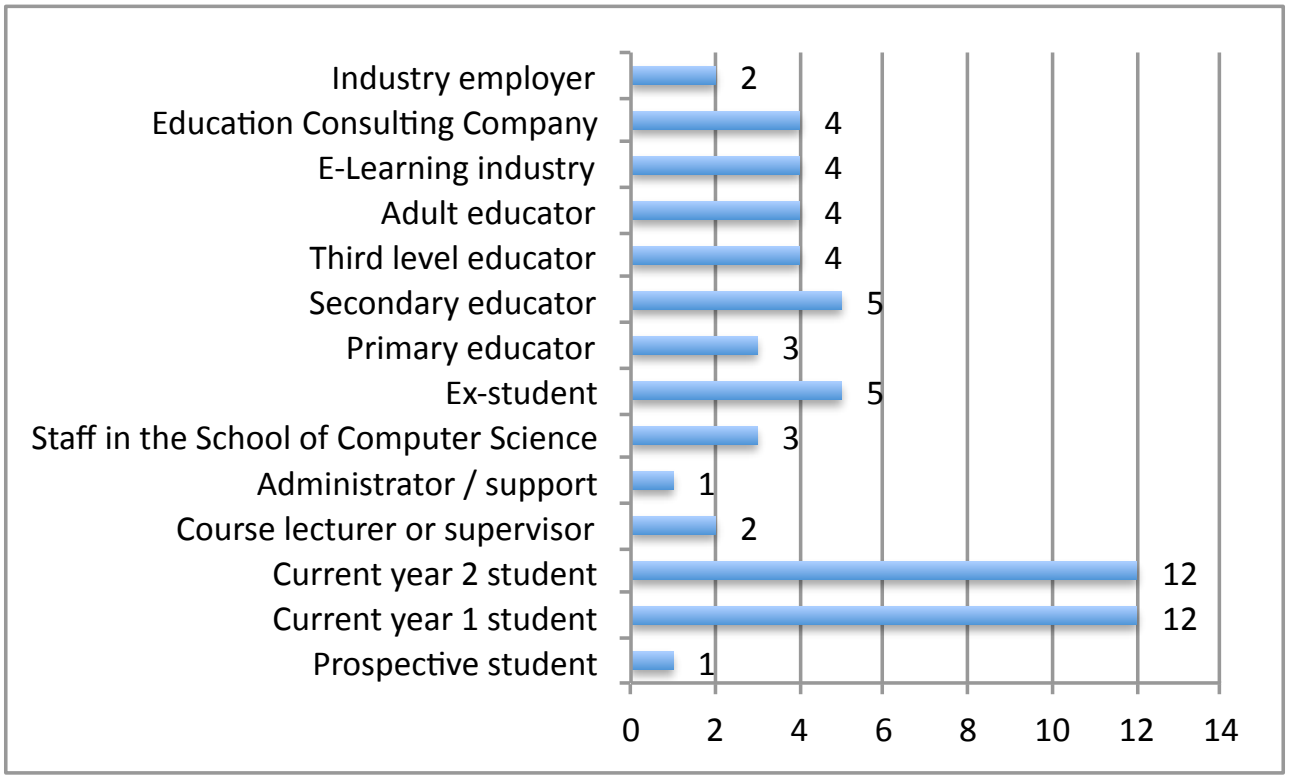
1.7 You (the respondents)

(32 responses)

The invitation to complete the survey was shared with the current first year students (18), second year students (25) and all members of staff (both academic and admin) that have been teaching on the MSc, either as lecturer or supervisors or connected with the course committee or examination board. In addition a few contacts in industry and the course alumni were notified (~60).

32 valid responses were made between 29th May and 9th June 2014.

These respondents identified themselves as belonging to one or more of the following categories:



1.8 Your (respondents') views

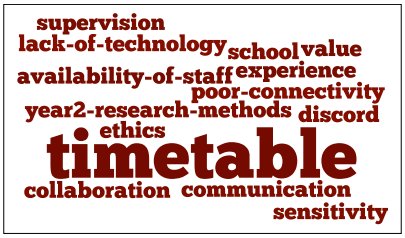
(22 responses)

Positive themes

(7 identified)

Negative themes

(16 identified)

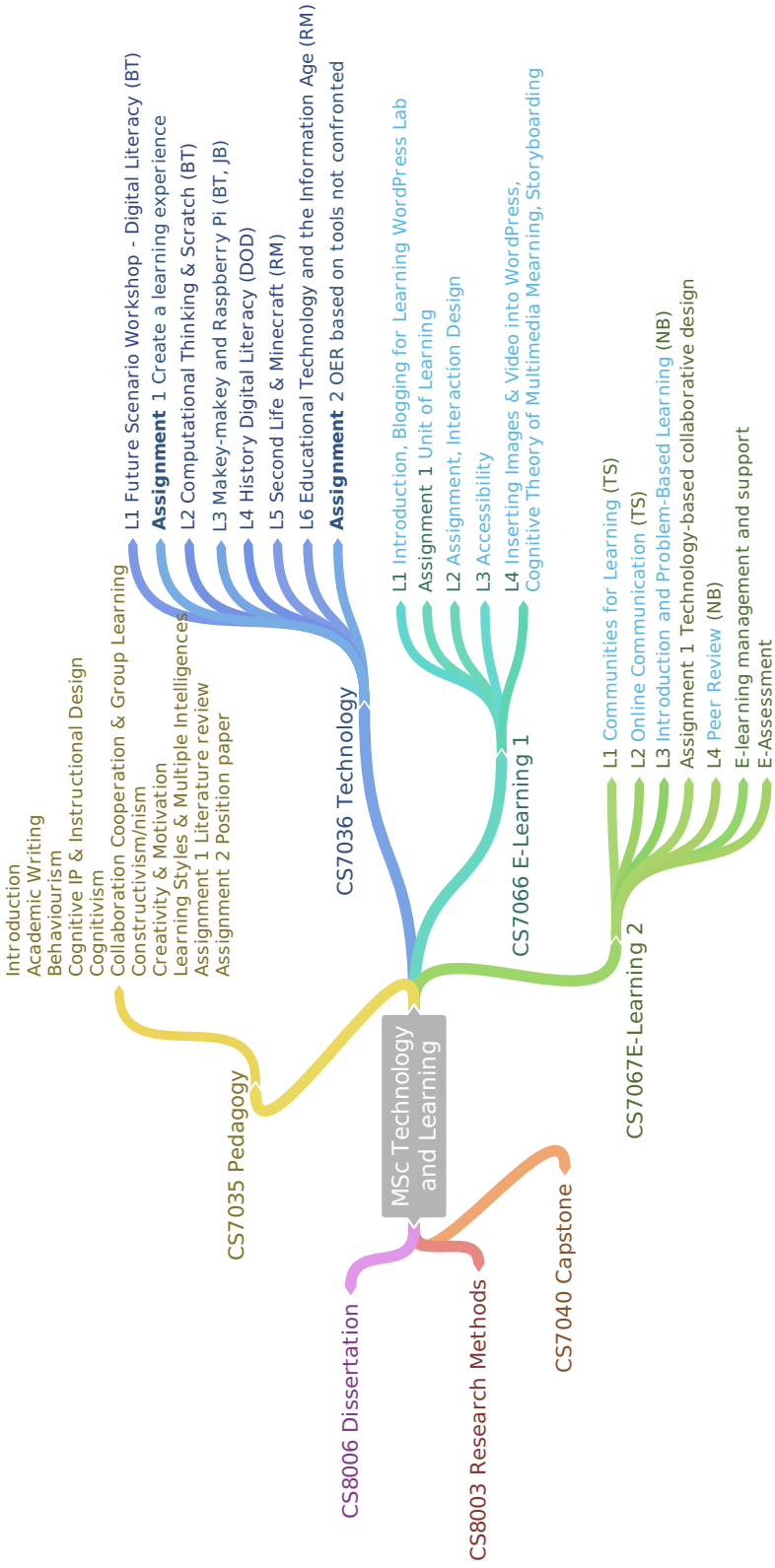


Proposals

- Benefit from other schools: Futures - Learning environments - Neuroscience - Comparative education - Computer science
- Course content to reflect diverse backgrounds
- Maintain relevance through links with e-learning industry and research
- Link to and engagement from wider ed-tech industry
- Links with other students
- Marketing to corporates
- Monthly guest speakers
- Do research methods in year 1 with refresher in year 2
- More inclusive atmosphere - less negativity / condescension
- Needs redefinition - more technical and practical
- Network with leading researchers
- Offer as a MOOC
- Offer CPD with credits towards the programme
- Teach organisations and policy
- Use rubrics

2 Curriculum overview

This concept map is a work in progress to represent the course modules, which focus in year 1 on Pedagogy, Technology and E-Learning, the year 1 individual project (capstone), the year 2 taught module on Research Methods and the final project leading to dissertation. The main session titles are given to indicate content, but further detail is available in the course handbook.



3 Ideas generated in meetings

The course director has met with many individuals to discuss potential course directions, and these are edited and amalgamated notes of some of the key points discussed:

Vision

- To take a socially constructivist approach (and walk the talk)
- To experiment and create technological artefacts (constructionist)
- To encourage informed scepticism (of technology's benefits)
- To embrace diversity and breadth (in contexts and technologies)
- To exploit the department of Computer Science's strengths (particularly in TEL)
- To maintain high standards of action research (with iterative, double-loop approaches)
- To provide a broad education rather than a specific training
- To integrate more closely with CRITE and Bridge21 research

Curriculum

- Do more with experienced staff in TEL and Education
- Pay more attention to organisational, social, policy and historical issues
- Create technology workshops, particularly to explore virtual spaces, concrete and jigsaw programming
- Address social media, OER, analytics, Learning Design, games-based learning and MOOCs
- Update and rationalise all content

Timetable

- The course must take care of lecturers' well being by timetabling wisely to avoid lecturing marathons;
- Team-work needs extended time in alternative locations
- Structure timetable to vary pace and personality

4 External Examiner's comments

[This is an extract from the full report relating to the review.]

The team is planning on undertaking a review of the course. Below are some suggestions that they may wish to consider:

- Make clear the relationship between the capstone reports and the dissertation. Make it clear whether the dissertation can build on the capstone report or whether it needs to be a new topic.
- Provide appropriate feedback on assignments, in particular the capstone reports.
- Provide more support in year one on methodology, referencing and theoretical perspectives.
- Incorporate more hands-on activities and use technologies.
- Help the students to reflect on the implications of what they have learnt for their own practice.
- Encourage students to keep a reflective blog and use of social media
- Incorporate more online literature and materials from the blogosphere, as well as materials from EU-funded research projects
- Bring in international expertise through a series of webinars
- Justify why the course is an MSc rather than an MA

The following are some topics the team may wish to consider incorporating:

- OER, MOOCs and open practices
- Social media
- Emergent technologies
- Learning analytics
- Learning across different contexts
- Learning Design
- Alternative forms of assessment
- Digital literacies
- Learner experience
- Policy perspectives
- Cultural issues
- Game-based learning and virtual worlds
- Mobile learning

5 Future directions

In the opinion of the course director there are two major directions to be considered – firstly to revise and reform the current offering without formal 'calendar' changes and secondly to invent a brand new course or courses that would require formal approval processes beyond the course committee.

Much can be done within the current framework, since the curriculum definition and timetable can accommodate the changes suggested by this review. Staffing to involve a wider group is also possible, but flexibility of staff in is limited by management issues and cost. This direction benefits from continuity, but the challenge is to maintain and enhance the reputation and respect that the alumni hold for the course by addressing the issues identified by the survey.

The second direction offers a wide open opportunity to consider radical alternatives including:

- fully online delivery;
- work-focussed learning;
- a vocational focus;
- multiple routes and award titles;
- further integration with other masters programmes to simplify systems;
- go international.

Each of these would need market testing, establishment of detail and infrastructure and vitally, enthusiasm from a well-organised course team willing to take on the formulation and delivery over a number of years.

Finally, some personal comments on infrastructure:

Firstly, it has astonished me how hard it is to work with the university's VLE, Blackboard. This has a hugely debilitating effect on the course and the staff involved. Far from facilitating the team's work, it makes it fragmented and complex. This defeats the potential for creativity in an expert staff. It is understandable for the university to need a common system to support the majority of staff, for whom this is not their speciality, but it is a high price to pay for those who have the capability and need to teach about VLEs through VLEs.

Secondly the physical teaching environment and connectivity. Again, these are discussed in the course's curriculum, but are hard to work with and the failures difficult to justify, as evidenced in the survey.

In both cases, students and staff should be challenged by the environment we teach in, but through excitement, opportunity and inspiration, not frustration and defeat.

Universities are often mythologised as the perfect place for reflective study as portrayed in photographs of beautiful libraries. The opportunity is to develop the wonderful resources at Trinity to act as a magnet that attracts, not repels.

Appendix 1 - The survey

MSc Technology and Learning - Course Review

29th May 2014

Richard Millwood

PURPOSE

This review is to help the course team, based in the Computer Science & Statistics Department of Trinity College Dublin, to develop the course and decide how to take it further in future, or indeed consider alternatives.

CONFLICT OF INTEREST

This review is being undertaken by Richard Millwood, Course Director, and it is acknowledged that this represents a conflict of interest:

- because you may be a colleague or student who works or studies with me;

- because I work for the university which is running this course which is the object of study.

In respect of this acknowledgement I ask that you act with integrity if you take part and I undertake to do the same as researcher. This research has been approved by the School of Computer Science and Statistics Ethics Committee.

YOUR ROLE AND EXPECTATIONS

Your views are sought through this online survey to offer positive, creative and constructive contributions to this goal. It is entirely your choice whether to participate or not and you may withdraw at any stage.

Short notes are expected from you and the whole survey should take no longer than 20 minutes to complete.

APPROACH

The responses will be store in an online, private, spreadsheet. The responses will be analysed to produce a report written by the Course Director, Richard Millwood, and presented to the Course Committee on the 11th June for discussion and action.

- Views of respondents are anonymous and will be summarised.

- You are asked not to say who you are nor to identify other individuals in making observations.

- If an individual is identified, that response will be supplied to the individual concerned and then deleted.

- In the extremely unlikely event that illicit activity is reported it will be reported to the appropriate authorities.

- You will be invited to read the draft report and note any further comments, particularly on any direct quotations and their contextual appropriateness.

If you have any queries or if you wish to receive the draft report please contact Richard Millwood - richard.millwood@tcd.ie

COMPLETING THE SURVEY

Please give your views in response to the following questions which are on these topics:

1. Subject matter
2. Teaching approach and timetable
3. Learning environment
4. Assessment
5. Qualification
6. Audience
7. You
8. Your views

DEADLINE

The deadline for participation is Monday 9th June 2014

CONSENT

- I have read, or had read to me, a document providing information about this research and this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction and I understand the description of the research that is being provided to me.
- I agree that any data I provide will be used for scientific purposes and I have no objection if this data is published in scientific publications in a way that does not reveal my identity.
- I understand that if I make illicit activities known, these will be reported to appropriate authorities.
- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights.
- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty.
- I understand that my participation is fully anonymous and that no personal details about me will be recorded.
- I agree to Trinity College, University of Dublin storing and using the information I provide for this project.

*Required

Confirm consent *
I have read, or had read to me, information about the project and know how information will be collected and stored. I understand that I can choose not to take part in this project at any time and for any reason I choose.

- ○ Yes - I understand and would like to continue
- ○ No - I would not like to continue

1. Subject matter
In the first year, the course has modules on technology, pedagogy and e-learning culminating in the capstone project. In the second year there is a module on research methods, and the rest of the year is an individual research project and dissertation. Due to a fast moving and ever-changing technical landscape, specific technologies and tools are not taught, but a range are discussed and evaluated and self-learning is common to achieve project outcomes. Often these are sourced by student's own research or work context. What are your views about the subject matter that the course focusses on?

2. Teaching approach and timetable
The course is offered primarily face-to-face on Friday afternoons & evenings and Saturday mornings. A small amount of work is fully online. The course is a mix of independent learning, lectures, team project work and individual projects. in the second year, a series of presentation 'moments' help keep the dissertation on track, and students are offered individual supervisors. What are your views on this learning experience?

3. Learning environment
The course sessions are held in room 1.07 Lloyd Institute, which is equipped with a single projector, loudspeakers and computer and is arranged as a traditional classroom. It suffers from noise from the nearby railway track. Some sessions are held in Bridge21 and independent learning takes place elsewhere in the university and at home. Blackboard is the university's VLE and is used primarily as a repository for lecture notes and materials. This is supplemented with lecturers' own web sites and other cloud services. As the focus is learning technology, it is important to enable access to a wide range of public online services. What are your views on the learning environment?

4. Assessment
Most assessment is through written essays, technology artefacts and presentations. Some are collaborative, but include an individual reflection piece. A few involve peer review. What are your views on assessment?

5. Qualification
Successful completion leads to the award of an MSc Technology and Learning. Students who do not succeed in completing the second year are able to exit with a Diploma if they have satisfactorily complete the first year modules. What are your views on this qualification?

6. Audience
Students come from primary, secondary, third level and adult education as well as from industry. What are your views on this audience mix?

7. You

Please check all that apply to you:

- ☐ Current year 1 student
- ☐ Current year 2 student
- ☐ Ex-student
- ☐ Prospective student
- ☐ Educational employer
- ☐ Industry employer
- ☐ Course lecturer or supervisor
- ☐ Staff in the School of Computer Science and Statistics
- ☐ Staff in the School of Education
- ☐ Other staff
- ☐ Primary educator
- ☐ Secondary educator
- ☐ Third level educator
- ☐ Adult educator
- ☐ E-Learning industry
- ☐ Administrator / support
- ☐ Other:

8. Your views

If there are any other issues that you feel should be raised, please include them here:

Confirm answers *

If you are happy with your answers, please confirm your consent for them to be recorded. You may instead wish to exit without submitting your answers.

- ○ I am content with my answers and wish them to be recorded.
- ○ I am not happy with my answers and would like them to be disregarded.