Teaching Postgraduate Research Methods Using a Novel Problem-based Learning Approach

Roisin Donnelly
*Technological University Dublin, roisin.donnelly@tudublin.ie*

Follow this and additional works at: [https://arrow.tudublin.ie/ltcoth](https://arrow.tudublin.ie/ltcoth)

Part of the *Educational Assessment, Evaluation, and Research Commons*

**Recommended Citation**


This Other is brought to you for free and open access by the Learning, Teaching & Technology Centre at ARROW@TU Dublin. It has been accepted for inclusion in Other resources by an authorized administrator of ARROW@TU Dublin. For more information, please contact yvonne.desmond@tudublin.ie, arrow.admin@tudublin.ie, brian.widdis@tudublin.ie.

This work is licensed under a *Creative Commons Attribution-Noncommercial-Share Alike 3.0 License*
Teaching Postgraduate Research Methods using a Novel Problem-based Learning Approach

Roisin Donnelly

Learning and Teaching Centre
Dublin Institute of Technology

14 Upper Mount Street
Dublin 2
Ireland

Tel 00 3531 402 7886
Fax 00 3531 6767243
E.Mail roisin.donnelly@dit.ie
Abstract

Objectives
• to have an understanding of the idea behind designing and delivering a PG Research Methods Module using a Problem-based Learning Process in Higher Education.
• to discuss both the PBL approach used and the real life multi-disciplinary research problems from the accumulated Research Methods Problem Bank to date.

Abstract
• This session describes both the reasons for and the process of designing and delivering a Research Methods Module using a Problem-based Learning (PBL) approach in a Postgraduate Diploma in Third Level Learning and Teaching at a higher education institute in Ireland. The students who undertake this part-time Module are cohorts of academic staff (Faculty Members) in Higher Education (HE). They are hitherto referred to as participants. This module is one of eight offered on the PG Diploma, all designed and delivered using Problem-based Learning. The entire PG Diploma is voluntary, and only Faculty who are keen to implement novel pedagogical approaches in their own subject disciplines apply for a place on the modules.
Abstract

• The aim of this module is to provide a broad understanding of the research methodologies used in research in HE today, and present at postgraduate level, the theory for applying research methods and skills to all aspects of learning and teaching. This module also aims to prepare participants for planning a research proposal at Masters dissertation level. However, the key to the participants’ success is by using the principles of PBL to share valuable information with their colleagues in a variety of other disciplines. The opportunity is being given to enhance group learning in a real life multi-disciplinary learning environment. This collaborative process is supported with tutor face-to-face and online facilitation sessions.

• The question can be asked why use a PBL approach for this, rather than continue allowing participants to research in a traditional learning environment? Quite simply, the main idea is to provide them with a taste of what is possible in a group environment for research. Therefore, the role of PBL is for the motivational benefits it provides. The participants are involved in active learning throughout, working with real-life research problems in their professional practice and what they have to learn in their independent and collaborative study is seen as relevant and important to enhance this. Arguably, these factors are important for educational development to act to improve teaching and learning in higher education today.
Postgraduate Masters Programme in Third Level Learning and Teaching:

Underpinning models of learning:

• Certificate level - experiential learning
• Diploma level - problem based learning
• Masters level - research based learning
PG Diploma Modules

Suite of modules offered
10 week duration for each module
PBL first module - mandatory
3 parallel modules: Online Learning, Psychology of Learning, Key Skills & Career Management
Research Methods module required for MA and offered in 3rd 10 week block
Problem-based Learning Approach

PBL is a total approach to HE Learning is centred round the PBL problem
The problem has to:

‘engage students’ interest, compel them to take it on as their responsibility, support the development and application of problem solving skills and stimulate self-directed learning into areas of study relevant to the curriculum.’
So you want to deliver a Research Methods PBL course....
Using a PBL approach

Learning is student centred
Learning occurs in small student groups
Role of teacher: facilitator or guide
Problem is the organising focus for learning
Problem is a vehicle for the development of problem solving skills
New information is acquired through self-directed learning
Research Methods: Example learning outcomes

After completing this module, participants will be able to:

• critically evaluate and apply the findings of relevant educational research to their own professional context;
• identify issues/problems which are of professional concern and which are capable of further exploration and research;
• critically appraise a range of different methods and methodologies used in research in HE;
• formulate/draw up an acceptable research proposal suitable for a dissertation topic at PG level;
• develop and support a research ethos within their own classroom practice;
• use appropriate methods of measurement and analysis;
• develop research supervision skills;
• develop their effective and efficient self-directed study skills;
• develop their teamwork skills.
Research Methods: course structure

Induction session
Problem One - Qualitative Research
Problem Two - Quantitative Research
Individual Research Proposal
Course Materials

Module Handbook
- calendar, participant/tutor pages, assessment, readings

Module Related Resources
- example courses, literature, glossary, FAQs

Online Course Support: Intranet and WebCT
- Mail, Discussion fora, Chat
The Induction Process: Research Skills

- Relationships: Epistemology, Theoretical perspective, Methodology, methods
- Educational Research
- Library and the Internet Tutorials
- Academic Writing
The Induction Process: PBL

• Setting the climate:
  – Ground Rules
  – Tutor and Participant Roles

• Encountering a new problem
  – Consider the problem as presented
  – Re-write the problem according to the contextual realities of one group member
  – Clarify the kernal of the problem and the product to be produced
So you have given them the problem...
• Reasoning through the problem:
  – Ideas/hypotheses
  – Facts/information
  – Learning issues
  – Action plan

• Self directed Learning

• Problem follow-up

• Group review
  – Review of learning: key learning points
  – Self and peer review: knowledge, group task, group maintenance
Important Issues

fixed resources linked to the two problems: ethnographic case study, action research, conducting a literature review, survey research, qualitative data analysis, supervising PG research students.

equal participation?

good research practice?

Staff / student roles?
Unexpected Issues

Concentration on research proposal rather than on two problems
Time required for group collaboration
Importance of group dynamics
Assessment criteria - PASS/FAIL

Applied to all Diploma modules:

- Team work
- Self-directed study skills
- Higher level cognitive skills
- Practice relevance
- Personal and career progression
Thinking about Assessment

Product vs process

group vs individual
Thinking about Assessment

- Group Presentation
- Group Report
- Individual Research Proposal
- Self/peer/tutor comments at stages
Module Support
- Intranet Site
- WebCT Group Collaboration Support
Intranet Resource Site

Welcome, Roisin Donnelly

**Announcements**

- **Professor Chad Perry: Research Seminar PhD and Masters** (Updated on May 17 by Katrina)
- **Thank you Eddie & Katrina** (Updated on May 15 by Brendan O'Rourke)
- **Analysing data in Qualitative Research Dissertations** (Updated on May 8 by Eddie)
- **Previous talks** (Updated on May 1 by Eddie)
- **Grounded Theory slides** (Updated on Apr 26 by Eddie)
- **New Programme - Something here for you??** (Updated on Apr 26 by Eddie)
- **Action Research Slides Available in Documents** (Updated on Mar 26 by Katrina)
- **MPhil Business, Critique the Literature** (Updated on Feb 1 by Katrina)
- **Time plan, M Phil Business** (Updated on Jan 25 by Katrina)
- **Did you know??** (Updated on Jan 24 by Katrina)
- **Online survey manual** (Updated on Jan 24 by Katrina)
- **SITE NAME** (Updated on Dec 6 by Eddie)
- **Don't remain as a guest, please JOIN** (Updated on Nov 19 by Eddie)
- **Thanks to Eddie & Katrina!** (Updated on May 15 by Brendan O'Rourke)
- **recently updated qualitative research site** (Updated on Mar 21 by Eddie)

**Links**

**Group Links**

- Business Resources on the Net
- Critical Management Perspectives
- Doing a Thesis - Chad Perry
- ESOMAR - Association for Researchers
- Great Marketing websites I have known - one person's view
- Internet Resources Newsletter
- Introduction to Marketing site John Jameson showed us
- Marketing Journals - academic
- Methods Textbook ONLINE
- Online surveys
- Qualitative Data Analysis - Software
- Qualitative Research
- Questionnaires
- Research and Marketing material at Ulster
- Russell Belk's Qualitative Course
- SPSS tutorial
- Students Assessment online?
- using internet- introduction
- WRITING - an online biblio
WebCT Discussion Fora

Research Methods Module

Group A Discussion Forum

Discussion
## Problem 1

### Discussion Messages: Archive

Select topic: Archive  Show all / Show unread  Threaded / Unthreaded

<table>
<thead>
<tr>
<th>Subject</th>
<th>Author</th>
<th>Date</th>
<th>Status</th>
<th>Attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Interviews</td>
<td>Laura Morrissey</td>
<td>Mon Mar 25, 2002 11:35</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>15. Barriers faced by ethnic minorities</td>
<td>Colm Agnew</td>
<td>Sat Mar 30, 2002 10:52</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>18. Barriers faced by ethnic minorities</td>
<td>Orlaith Tunney</td>
<td>Tue Apr 02, 2002 12:23</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>19. Presentation</td>
<td>Orlaith Tunney</td>
<td>Tue Apr 02, 2002 12:55</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>22. Barriers faced by ethnic minorities</td>
<td>Brian Bowe</td>
<td>Wed Apr 03, 2002 09:55</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>23. Best International Practice</td>
<td>Brian Bowe</td>
<td>Wed Apr 03, 2002 10:02</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>24. Next Week's meeting</td>
<td>Brian Bowe</td>
<td>Wed Apr 03, 2002 15:13</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>27. Best International Practice</td>
<td>Tony Murray</td>
<td>Sun Apr 07, 2002 23:51</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>Author</td>
<td>Date</td>
<td>Status</td>
<td>Attachment</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>49. Questionnaires</td>
<td>Brian Bowe</td>
<td>Mon Apr 22, 2002 15:51</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>50. Questions for the Teaching Staff</td>
<td>Brian Bowe</td>
<td>Mon Apr 22, 2002 15:58</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>51. Questionnaires</td>
<td>Clem Ryan</td>
<td>Mon Apr 22, 2002 17:35</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>53. Designing questionnaires</td>
<td>Orlaith Tunney</td>
<td>Thu Apr 25, 2002 22:30</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>54. Ethics, Pitfalls Reliability &amp; Validity</td>
<td>Colm Agnew</td>
<td>Mon Apr 29, 2002 09:48</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>55. Research Process</td>
<td>Tony Murray</td>
<td>Mon Apr 29, 2002 14:45</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>57. Qualitative and Quantitative Approaches</td>
<td>Brian Bowe</td>
<td>Mon Apr 29, 2002 16:47</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>59. Presentation for next Tuesday</td>
<td>Tony Murray</td>
<td>Wed May 01, 2002 12:18</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>60. First Draft of Questionnaire</td>
<td>Tony Murray</td>
<td>Wed May 01, 2002 15:44</td>
<td>New</td>
<td></td>
</tr>
</tbody>
</table>