2002

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

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Recommended Citation
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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.
• Introduction
• Background to the course
• So you want to deliver a Research Methods course ...a case study
• Course Web Site
• Q & A
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
WebCT Discussion Fora

Research Methods Module
Home

Research Methods Module

Group A Discussion Forum

Discussion
## Problem 2

### Discussion Messages: Problem 2

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"EUREKA! MORE INFORMATION!"