Strengthening the link: Research and practice in the undergraduate curriculum

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Teaching and Research Nexus

- Linking teaching and research has the capacity to engage teachers in the scholarship of discovery by providing opportunities for them to undertake quality discipline-based research while also undertaking research that informs their teaching.
- In this way, it has the capacity to demonstrate the integration of all four scholarships of learning and teaching (Boyer, 1996).

Typology of teaching and research links

Typology of teaching and research links (Griffiths 2004):

- Teaching can be research-led
- Teaching can be research-oriented
- Teaching can be research-based
- Teaching can be research-informed

Teaching and Research Dimensions

Healey (2005) suggested that curricula can also be designed along three additional dimensions, according to whether:

- The emphasis is on research content or research processes
- Students are treated as the audience or participants or
- Teaching is teacher or student focused.

Institutional perspectives

- “new” University with the abolition of the binary system
- Emphasis on teaching, service learning, applied research and access and equity.
- “new” universities focussed on professional and discipline based practice
- Academics selected on basis of professional rather than research experience
- Attracted students who are focussed on vocational outcomes. (Hazelkorn, 2004; Moses, 2004)

Challenges: Health sciences

- Differing research cultures between different disciplines
- Physiotherapy, occupational therapy, podiatry, pharmacy, nursing, laboratory medicine, radiography
- Medical radiation fields traditionally low participation in research
- Impact of clinical placements, research activity of academics, supervisors for research
- “apprenticeship model”: degree in recent years

Challenges

- the attitudes of students and practitioners of radiography to research have been demonstrably negative
- no evidence that undergraduate degree study addresses these perceptions.
- few students progress to higher degree study

Sim and Radloff (2009), Scutter (2003, 2004)

Challenges

- role modelling on clinical placements may reinforce the perception that participation in research is not a primary role of the professions.
- with the move towards models of advanced practice for these professions, there is an increasing need to define their knowledge basis and take responsibility for evidence supporting their practice population

(Yielder and Davis, 2009).

Challenges: Media studies

- reported benefits of incorporating research into the curriculum (Boyer, 1990; Brew, 1999; 2001; Brew and Boud, 1995; Elton, 2001; Griffiths, 2004, Healey, 2005; Jenkins, 2004)
- there are difficulties in instigating a research-based approach within the undergraduate curriculum in a discipline which is not well defined (Wood, 2009).

Challenges

Thornham and O'Sullivan (2004) noted these tensions in their study of the employability of media studies graduates in the UK, commenting on the perception of employers that media studies is neither a 'real discipline' nor 'real training', and the shifting discourses, which they characterise as the 'critical' and the 'vocational'.

Challenges

- The divisions between theory and practice, training and education, vocationalism and the academic, must be regarded at one and the same time as vast, but also as ultimately bridgeable (Bromley et al., 2001).
- Adam and Skinner (cited in Bromley et al., 2001) argue for a sustainable journalism epistemology which begins with a determination of what constitutes an education in journalism (as a field) and about journalism (as practice).

Challenges

- Communication students majoring in Com Media and Culture or Professional Writing more likely to progress to Honours
- Journalism - lack of student interest in Honours and research degree pathways
- Media Arts students enrol in Honours but attrition is high due to research focus
- Both Journalism and Media Arts students more interested in coursework (applied) Masters than graduate research degrees

Case study – Introduction to Digital Media

A case study based on the redesign of the curriculum of a first year undergraduate multimedia course in which students undertake research-based assignments and participate in self review and assessment, and peer review of each other's research publications.

Aims

The overall aim of the course is to introduce students to the fundamental creative design principles, processes, skills and media production techniques required for use within and across a variety of digital media artefacts and interactive digital media forms, including graphics, photography, film, video and sound.

Objectives

The specific objectives are:

- Develop effective strategies for embedding inquiry-based learning in the undergraduate curriculum.
- Develop undergraduate students' understandings of the role of research and their capacity to undertake research within their disciplines

Original structure

- The topics covered in the course over the 13 week period of the course include introduction to the theory of design, basic fundamentals in digital camera techniques and sound production, the use of image editing applications and Web design.
- The assignments prior to the changes in the assessment requirements involved: (1) a theory based visual critique paper; (2) a practical camera task and (3) the design of a website.

Evaluation: Introduction to Digital Media

- *'This subject was not clear at all, it is not a subject that will in any way whatsoever contribute towards my studies. Perhaps it should really just be a minor elective rather than a compulsory subject'.*
- Comments such as these reflect the tensions of the field and the challenges facing academics trying to find a balance between the 'academic' and the 'vocational' in an applied institutional context.

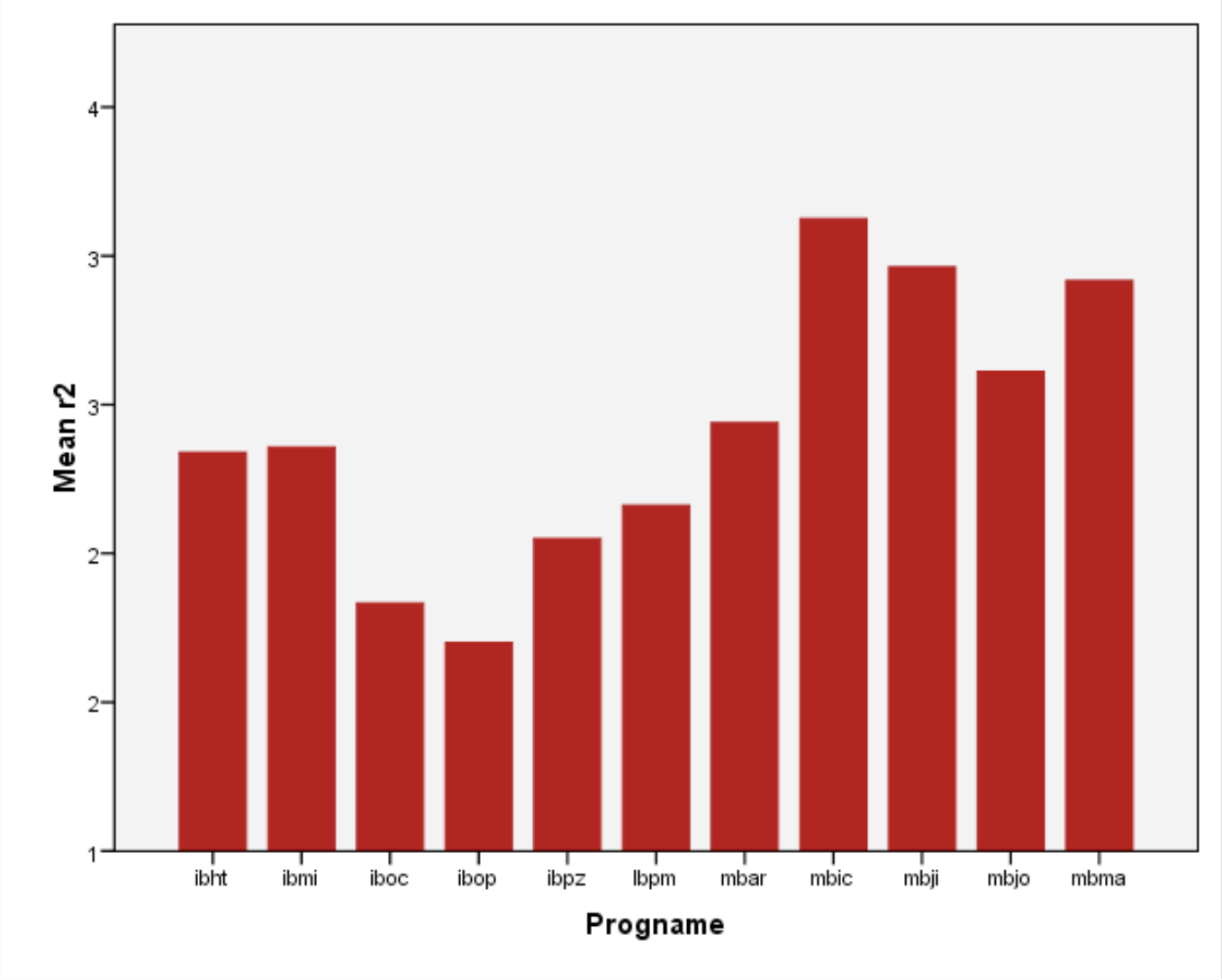
Motivations, approaches to learning and attitudes to research

- 133 item questionnaire, paper based
  - **Program, year of study, hours of work**
  - **Motivation to study**
    - Intrinsic, extrinsic, competence, recognition, achievement (Breen and Lindsay
  - **Approaches to learning**
    - Surface apathetic, deep, strategic
  - **Attitudes to research**
    - Meaning and understanding of research
- Randomised order of questions
- Distributed to students across the School of Media, Arts and School of Health Science

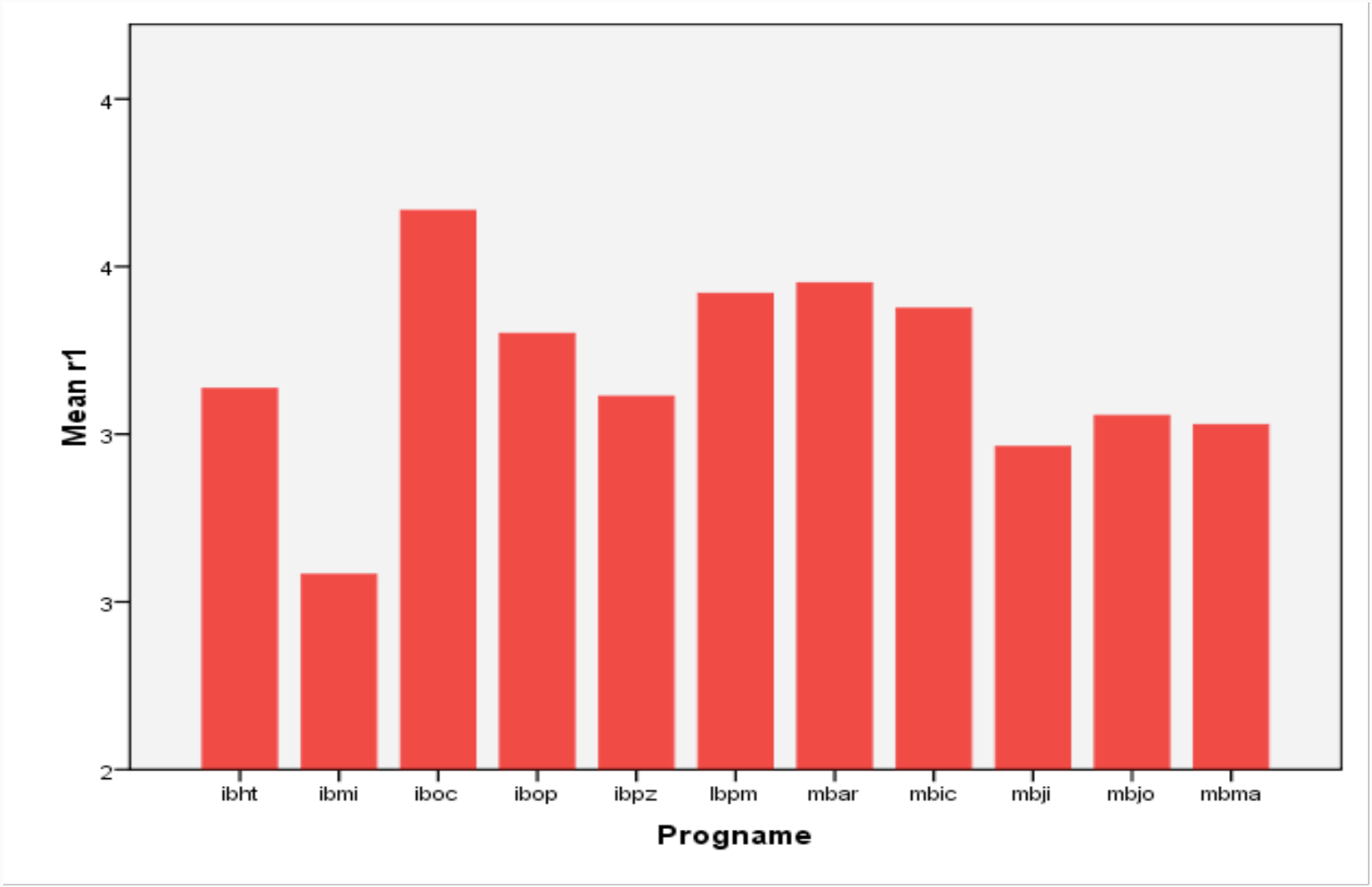
Results

- 518 responses across 11 programs
- Varied perceptions of the value of research
- In some fields, perceptions of research decrease throughout program
- Relationship between attitudes to research and intrinsic motivation to study
- Inverse relationship between syllabus-boundedness and interest in research.

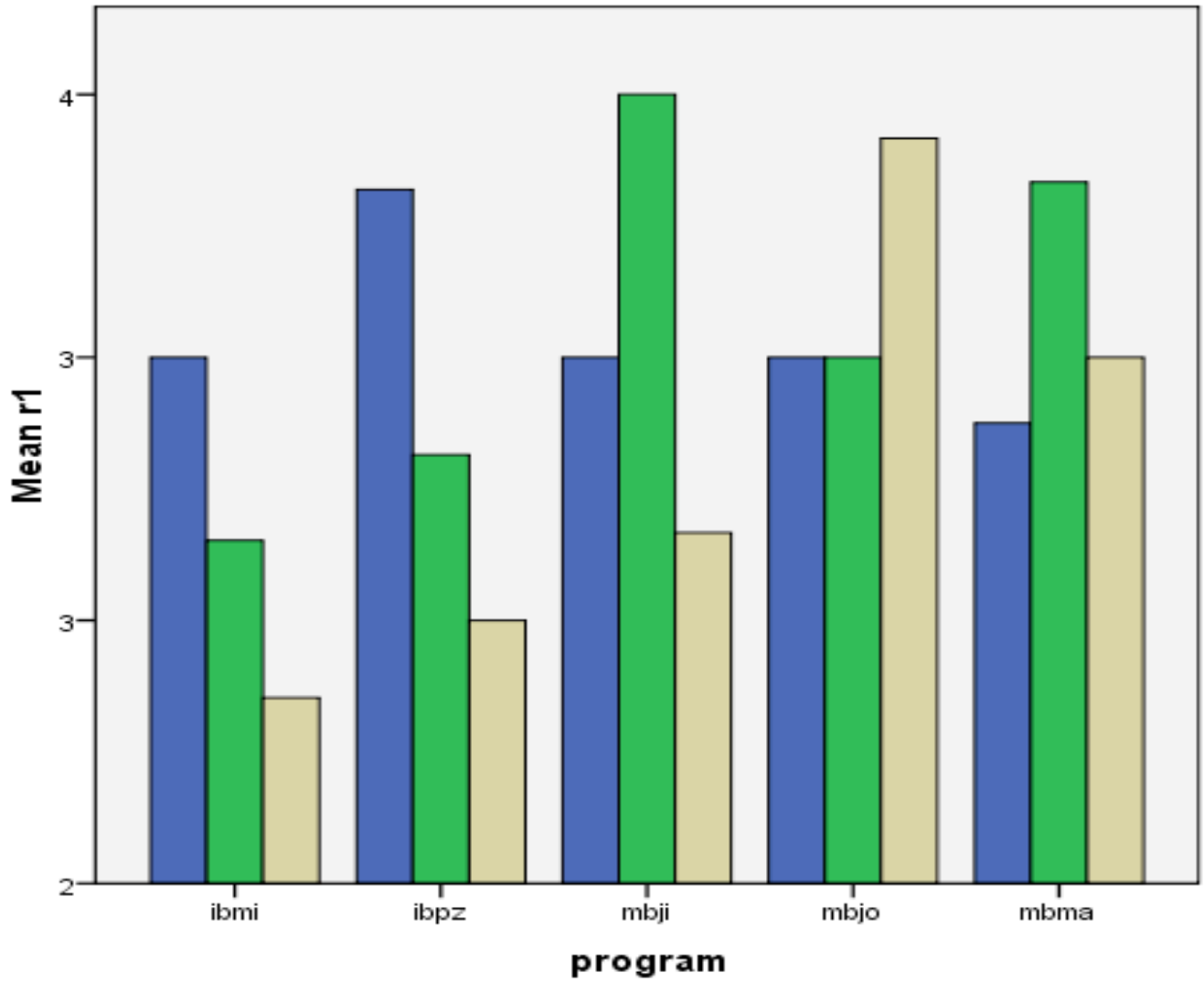
My lecturers are involved in research as well as teaching.



“I see my profession involved in research when I go on placement”



“I am interested in research”



Program and year

Addressing the problem: Medical Radiation

- Embed research *methods* into the curriculum
- Embed research *findings* into the curriculum
  - **Critical enquiry**
- Mentor academic staff
  - **University grants**
  - **Higher qualifications**
- Provide supervision for higher degrees
- Develop links with professions for collaborative research
- Liaise with professional body
- Speak at discipline-specific conferences

Outcomes

- Medical radiation:
  - **Honours graduates**
  - **Honours supervisors**
  - **Second PhD in RT in Australia**
  - **Research conferences**
  - **Support from professional bodies**
  - **More academic staff with PhDs and publications**

Addressing the problem: Media Studies

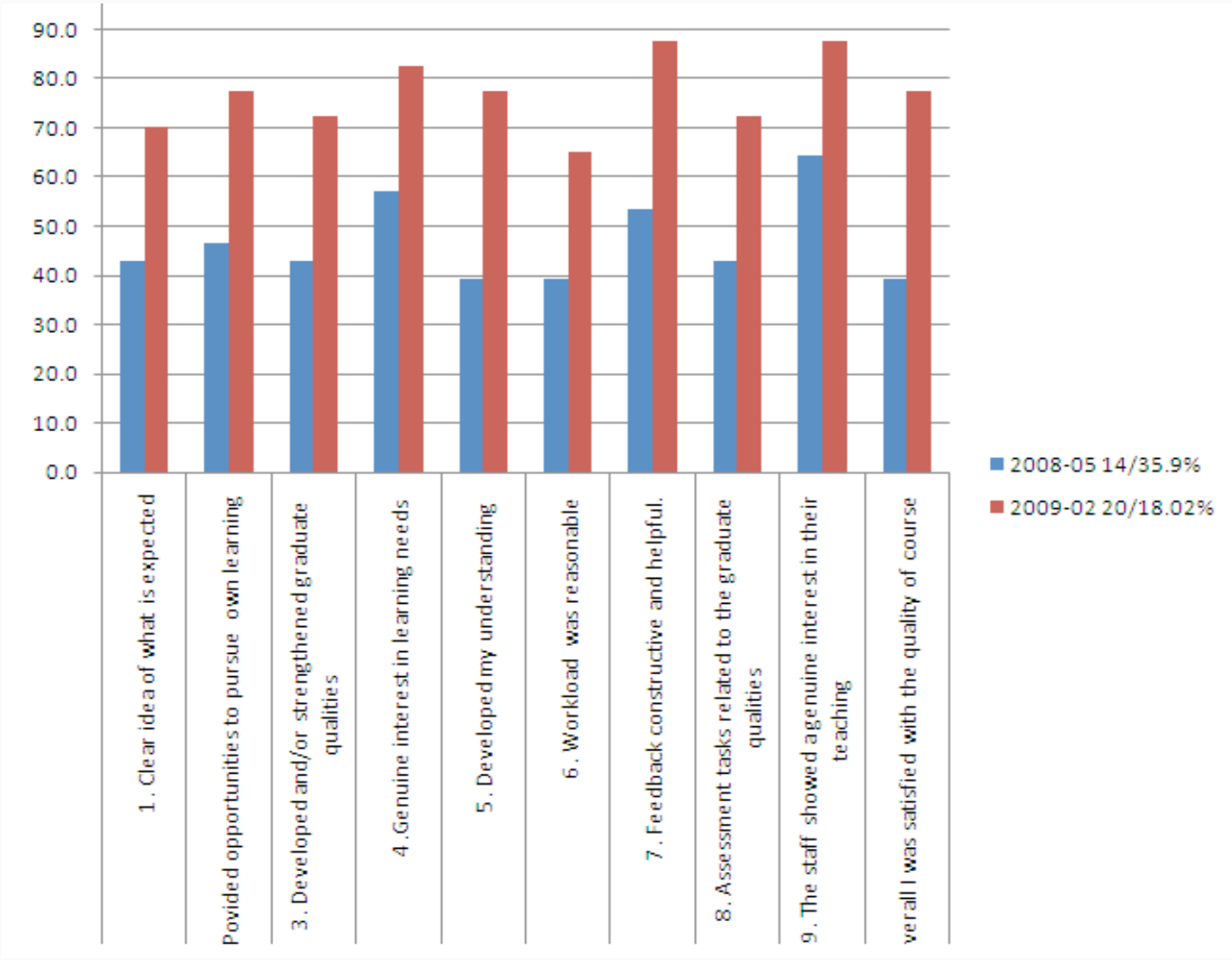
- **Revisions 2009**
- Course redeveloped so that students research the basic communicative and creative possibilities of graphics, still images, film and video and the Web through an introduction to some of the key conceptual, technical and craft issues related to digital media production.

- All three assignments based on one major project, which involves researching a social issue for the first assignment, producing a compelling and engaging digital story based on the chosen social issue for assignment two, and presenting a digital story through an online medium in the final assignment.

CEI means IDM

	B	E	F	G	H	I	J	K	L
1	**Criteria**	**2005-05**	**2006-02**	**2006-05**	**2007-02**	**2007-05**	**2008-02**	**2008-05**	**2009-02**
3	1 . Clear idea of what is expected	31.25	61.21	54.55	58.7	39.47	15.28	42.9	70.00
4	2 . Povided opportunities to pursue own learning	56.25	57.76	63.64	57.78	47.37	38.89	46.4	77.50
5	3 . Developed and/or strengthened graduate qualities	62.5	59.48	45.45	52.17	42.11	33.33	42.9	72.50
6	4 .Genuine interest in learning needs	87.5	62.93	54.55	47.83	52.63	44.44	57.1	82.50
7	5 . Developed my understanding	56.25	67.24	54.55	63.04	52.63	41.67	39.3	77.50
8	6 . Workload was reasonable	25	53.45	50	45.65	2.63	27.78	39.3	65.00
9	7 . Feedback constructive and helpful.	75	72.41	54.55	52.17	57.89	59.72	53.6	87.50
10	8 . Assessment tasks related to the graduate qualities	56.25	62.07	54.55	53.33	47.37	52.78	42.9	72.50
11	9 . The staff showed a genuine interest in their teaching	87.5	76.72	68.18	71.74	76.32	63.89	64.3	87.50
12	10 . Overall I was satisfied with the quality of course	31.25	66.38	54.55	51.09	39.47	34.72	39.3	77.50

CEI means IDM



Research means IDM

	B	I	J	L
1	**Criteria**	**2007-05**	**2008-02**	**2009-02**
13	1 . Developed a better understanding of research in design	45.8	45.8	80.47
14	2 . Enjoyed the challenge of undertaking my own project in DMT	28.1	40.6	51.31
15	3. Research is a good thing to include in undergraduate courses	44.2	45.3	62.14
16	4 . Peer review process helped me to better reflect on my own work	32.5	61.0	
17	5 . Developed better skill in the ability to critique the work of others	28.1	44.7	
18	6 . Able to improve quality of my assignments through peer review	29.4	61.4	
23	4b. Gained a greater insight into my value positions and assumptions			56.43
24	5b. Better understanding of social and ethical responsibility			76.43
25	6b. The idea generation process helped to conceputalise social issue			74.05
26	7b. The mind mapping exercise helped with different perspectives			60.36
27	8b. The course allowed me to relate to my own experiences			55.00
28	9b. Eencouraged students to take responsibility for own learning			77.50
29	10b. Accommodated the differences in student backgrounds			81.79

Research means IDM

Student comments

- *‘Creative idea generation methods enabled me to think outside of the ordinary and therefore I was able to creatively produce an exciting finished product which one would not normally come across. It also helped me to think very deeply and come up with alternative and sophisticated solutions to creative problems’.*
- *‘It was more research based and required a lot of creative thinking’.*

Student comments

- *‘I thoroughly enjoyed this topic as it was highly creative and were given a high degree of creative freedom despite having to work with in the limitations set down. All the teaching staff were passionate and extremely helpful and willing to go that extra mile’.*
- *‘The creativity component challenged my technical ability. For example, having new and more creative ideas forced me to learn new video editing techniques’.*

Conclusion

The findings also suggest that such an approach can strengthen the scholarship of teaching and learning by engaging teachers in a process of reflection on their own teaching, the quality of the feedback they provide students, and the alignment of assessment and feedback with student learning objectives.

Evaluation

While the majority of students agreed to Likert-scale questions relating to the importance of research in the undergraduate curriculum (“*I have a better understanding of the role of research as a result of completing this course”; “I enjoyed the challenge of undertaking my own research project” and “I think that research is a good thing to include in the undergraduate curriculum”*) by the end of the course not all students were convinced, as this student’s comments reflect:

Evaluation

- Student feedback on the value of an enquiry-based approach indicated that despite initial resistance of some students, by the end of the course, most had recognised the importance of research in the media arts curriculum and appreciated the opportunity to undertake a research project of their own choice as reflected by comments such as:

  'I thoroughly enjoyed undertaking my own project in DMT, as it enabled me to explore an area of personal interest, which resulted in a project that I am proud of'.

Evaluation

- Despite the resistances of the film and television cohort of students in the course, tutors reported a high standard of student work; with significant improvements in students' ability to think creatively, undertake critical analysis and present a compelling argument from being noted.
- The diversity of topics chosen by students reflects both the breadth of a field of study that is not clearly defined, as well as the creativity in approach that is possible within an enquiry-based curriculum, even at the first-year undergraduate level.

Conclusion

- The case studies reported in this paper illustrate the complexities and challenges involved in attempting to enhance the teaching and research nexus in
  - **A field of study that is not well defined and lacks strong disciplinary foundations**
  - **A discipline that has developed from medical-dominated hospital based training**
- These challenges are particularly evident in the newer universities that have derived from more vocationally focused institutions.

Conclusion

Despite these challenges, the findings from initial trials of a revised curriculum designed to strengthen the teaching and research nexus suggest that an enquiry-based approach in which teacher and learner are engaged in a process of reflective practice can be an effective strategy in introducing students to research.


Thank You!

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