

2011-03-07

How do Doctoral Research Academics Perceive their Research Activities to be of Benefit to Undergraduate Students?

James Mc Cauley

Technological University Dublin, james.mccauley@tudublin.ie

Follow this and additional works at: <https://arrow.tudublin.ie/tfschcafcon>

Recommended Citation

McCauley, J.: How do Doctoral Research Academics Perceive their Research Activities to be of Benefit to Undergraduate Students? Proceedings of Inted 2011. International Technology, Education and Development Conference. Valencia, Spain. 7th-9th March, 2011.

This Conference Paper is brought to you for free and open access by the School of Culinary Arts and Food Technology at ARROW@TU Dublin. It has been accepted for inclusion in Conference papers 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](https://creativecommons.org/licenses/by-nc-sa/3.0/)

HOW DO DOCTORAL RESEARCH ACADEMICS PERCEIVE THEIR RESEARCH ACTIVITIES TO BE OF BENEFIT TO UNDERGRADUATE STUDENTS?

James Mc Cauley

Dublin Institute of Technology

Republic of Ireland

james.mccauley@dit.ie

Abstract

The principal rationale for this research paper is to discuss the link between a lecturers Doctoral research activity and its perceived benefits or drawbacks for *undergraduate* students in todays' Higher Education Institutions (HEI's).The perceptions that six Doctoral academics have with regard to the impact their work has on such students was specifically investigated. In-depth interviews with them gleaned research results which demonstrate the degree to which their research activities have positive or negative consequences for undergraduate students.

Broadly speaking, three main types of activities were identified as having a *positive* impact, First was the topic-specific 'cutting-edge' knowledge that was perceived as beneficial to students. Secondly, the broad-based liberal learning ethos they brought to their teaching added value, whereby some students basked in their 'reflected glory'.Thirdly,their specific research methods skills were of benefit, especially to Dissertation students. A contrary perspective identified the following three *drawbacks*. Firstly, sometimes a Doctoral research academics knowledge was 'pitched' at inappropriate or too high a level for undergraduate students' abilities. The inaccessibility of such staff to these students was a second issue that was problematic.Thirdly, a disconnect between such academics and the actual ownership and relevance of such their work to the students and their future careers was examined.

Other discussion points

The roles of college management and academics in working together to ensure there is link between what these academics do when it comes to teaching undergraduates is examined.The work and expertise of such academics and the need for their work to be targeted and disseminated properly to this large student cohort is dealt with. That such a significant segment of the student population deserve to gain maximum benefit from all Doctoral research work in HEI's should not be a matter for debate. Very often however, as identified in my research, they are the student grouping who, without proper management could benefit least due to myriad issues investigated as part of my research for this paper.

Overall ,the assumption of a unity between research and teaching is investigated. The debate on this sometimes natural and at other times, vexed link between the two in today's HEI's is addressed. In conclusion, the many significant changes in higher education which have challenged the relationship between the two are touched upon. These include:

- The move to a mass higher education system
- The amount of time and priority given to teaching and research
- Management and governmental policy (Internationally and in Ireland) towards the two and attitudes towards research funding and return on investment.

Keywords: Research, Teaching, Ph D's, Doctoral studies, Arts &Tourism, Undergraduate students.

1. RESEARCH DESIGN AND METHODOLOGY

The theoretical perspective of my research from an epistemological viewpoint was the interpretative paradigm where *inter alia* the researcher at a practical level talks to the research participants and seeks to understand them, through interviews, observations and focus groups. My research engaged with six Doctoral lecturers in the Dublin Institute of Technology (DIT) through interviews, which is in synch with this paradigm. The DIT is a multi-level third level HEI with over 20,000 students and over 800 academic staff. I used qualitative research to conduct my investigations and held one to one in-depth interviews with six doctoral lecturers in two Colleges within DIT, using a topic guide. All interviewees were on an anonymous basis. The actual interviews themselves lasted on average forty minutes each and were recorded with the consent of the participants with a commitment given to anonymity. Pseudonyms for the six participants are used in discussing my findings.

2. RESULTS - BENEFITS TO STUDENTS

All interviewees perceived their research background as having a positive impact on their undergraduate students. Participants were asked the extent to which their **discipline** specific Doctoral research knowledge could make an impact on undergraduate students. They were also asked how the actual **research methods** skills could impact the same student cohort. In research carried out in Oxford Brooks University, being at the cutting-edge of knowledge was something that was regarded by students as being of crucial importance: "Good teaching required teachers to have up-to-date knowledge and that knowledge must be beyond that which was available in textbooks". (Jenkins et al 1998, p. 131)[1]

2.1 Interviewee responses

2.1.1 Benefit No. 1 - Topic-specific, cutting-edge knowledge

Having a greater depth and breadth of knowledge is critical to student learning. In one study specifically researching the views of undergraduate students, one student observed that: "*non-research-active staff teach students to pass exams, whereas research-active staff actually teach students the subject*" (Coate et al, 2006, p.166) [2]. One DIT lecturer called Fintan in my own research was firmly of the view that the exposure he had to a wide breadth of literature helped his undergraduate students. "*The whole Doctoral process really opens your brain and opens your mind and your reading to very broad categories*". Another interviewee, Ali suggested "*having gone through a Doctorate, it means that you are actually very well read and so it gives you an idea and the capacity to be able to talk about a huge range of issues*". This sense of having a broad based knowledge and being capable of incorporating the most current, up-to-date thoughts into a class is also alluded to by many in the literature:

When academics incorporate research into their teaching, students perceive their courses as up to date, stimulating intellectual curiosity and giving the impression staff are enthusiastic about what they are teaching.

Visser-Wijnveen et al (2009 p. 673) [3]

This is a sentiment corroborated by Neumann (1994) [4] who mentions the importance of up to date, relevant examples from teachers' research. The majority of my interviewees' opinions were in sync with the views held above and it is clear that undergraduates would benefit from the depth of their current discipline-specific research knowledge.

2.1.2 Benefit No 2 - Research methods knowledge skills

In regard to the realm of **research methods** knowledge and skills, there was unanimity among all the respondents in the sense that their exposure to the methods, methodologies and ongoing practice of research could only be a plus for their undergraduate students. In the opinion of Neumann (1994, p.326), teaching did not just serve as a form of dissemination of the latest knowledge: "but also for academics to pass on the research skills and techniques necessary for study at an advanced level".

This is a view that was certainly pronounced from my interviews with all the respondents. One stated that while he himself did not teach research methods as such, he said that he had become more strict and vigilant with first year undergraduates, by saying to them *"if you do this from day one, you're gonna save yourself an awful lot of trouble, because that has been my experience. If you learn to reference right from the beginning, it saves you a lot of hassle"*. He also saw resonance in applying his learning to all years by suggesting: *"In years one to three, it's mostly academic writing and referencing skills that would be the most applicable really"*.

In relation to final year Dissertation students, all of the six interviewees saw a strong correlation between their research-specific practices and the final year work of undergraduate students. The idea of final year undergraduate students doing a Dissertation is cited by many writers as being very important. According to Brew (2006, p.86) [5], final year Dissertations are very useful to such student cohorts as it provides important opportunities to integrate their studies, to develop a piece of sustained work and to exercise creativity.

As a supervisor of dissertations, Ali's suggestion in this regard was instructive: *"I would have had two students who undertook logical research. Prior to my taking on the Doctoral research, I would never have considered it...that's where it comes into the capstone, in having a better understanding of suggesting different approaches to research"*. Barbara, another interviewee, was also quite clear about the link: *"I think that in final year level, it has a very definite affect"*. She also added that her research-methods knowledge has a positive impact: *"I will be doing much more supervision next year, and obviously it's going to be of great help there"*.

Eugene, an interviewee who very recently completed his Ph D was of a similar view that his research-methods skills would be beneficial to undergraduates undertaking a Dissertation. *"Research methodology is actually one of those things that's actually quite straightforward, but can be complicated by people. You know, the whole idea, your first take on it can be very complicated"*. This is especially so when one considers the myriad problems Dissertation students can encounter. Healy and Jenkins (2007) [6] had important views about the significant undertaking an independent research project in the form of a dissertation can be. They placed it as one of the most challenging and rewarding parts of an undergraduate's university experience, positing that these same students often suffer from disjuncture expressed as lack of motivation, hesitancy and avoidance. This arose from the daunting enormity of the task and the high demands placed on them as independent learners and problem-solvers. This hesitancy was often as a result of the challenges of dealing with a new language or 'research lexicon', quite often unknown to them. Eugene added that his research skills were of benefit, especially with this lexicon: *"Hermeneutics and you name it!, I mean, even trying to understand the difference between one and another, it's difficult. I think when you have a good enough grasp of it yourself, you can de-mystify it for the poor student and let them get on with the work of doing research instead of actually tripping up"*.

Healy and Jenkins (2007)[6] argued that listening to students and responding to their perceived needs is an effective way to improve supervision practices. Students were shown to be lonely and insecure about their Dissertations and the supervisor pressured by a considerable supervisory burden. If supervisors such as the aforementioned are involved, then it is clear that they all believe they can add value to the supervision process. By lessening the stresses alluded to above, this is clear evidence of undergraduates benefiting from Doctoral researcher activities.

2.1.3 Benefit No 3: Inculcating a broad-based liberal learning ethos

One of the frequently stated benefits to students of research-active academics according to Jenkins et al (1998, p.132)[1] is the enthusiasm for their research area that some lecturers convey when they refer to their own work, thus giving these students a motivation to learn. The students described how the lecturer's enthusiasm 'rubs off' on them and gave 'a vitality' to their teaching, referred to by Neumann (1994, p. 328)[4] as: "the subtle underplay that prevails among the research academic and his students"

Fintan alluded to the benefits of this broader conception by suggesting that he brought "*something extra to the table*". He spoke about it thus: "*I think as well from the point of view of even beyond the topic and the subject area, I think the philosophical side is the better understanding of people,...How they learn. Why they learn?*". This is very much in sync with the view of Blackmore and Cousin (2003)[6] who note that students appreciated the opportunity to participate in research and they appreciate being able to play a role in knowledge production through participating in the culture of inquiry. These wider benefits were mentioned by my respondents, notwithstanding the importance of the more obvious research methodology and research topic facets. Barbara also mentioned the wider philosophical benefits to students from her Doctoral research: "*It broadens my perspective and it broadens the perspective of the students*".

Another interviewee (Colm) said that he shared his latest exposures to new research with as many students as possible. His means of dissemination included sharing his national and international academic contacts with students: "*I meet a whole new set of people and I get them in as guest lecturers for example, which I have done and the students benefit from that*". This has resonance with the "*communities of practice*" idea which Brew (2003, p.12)[8] suggested could change the nature of higher education itself. It could be re-conceptualized so that staff and students work together in '*communities*' in which staff and students are '*co-workers*'. This is a clear benefit to students. Another interviewee (David) emphasised the importance of getting researchers to widen out the discussion to general topics as distinct from the specifics of his own Ph D, particularly as it applies to the everyday: "*in class discussions we do a lot of discussion about topical issues that are out there at the moment*".

Eugene was also very enthused by the opportunities his own research afforded him to enhance the learning experiences of students from a holistic perspective. "*I am definitely more confident in myself in my knowledge. I've so much more to give the students in a broader sense of learning and I like to have those broader discussions with them*". He specifically alluded to the fact that these were real mature '*third-level*' discussions as distinct from what he referred to '*vocational learning*'. Allied to this he had secured scholarships for two of his students to get involved in research symposia abroad. This exposed them to leading-edge scholars in the profession. Involvement for all his students in field-trips, led by these self same scholars also benefitted student learning. This is what he referred to as '*liberal learning*'. He was always aiming for this type of deeper discourse with his students and was of the view in that students definitely benefitted from his broad doctoral-based discussions: "*we are able to link it in with other things and other elements, whether it be in Art, whether it be in Science or History or whatever....very much so in that perspective*". This correlates with Neumann's (1994, p. 330) [4] ideas in relation to participating in research and being able to play a role in knowledge production.

Many students described their surprise firstly being asked to do something different from the usual assignments and secondly their sense of fear – sometimes coupled with excitement – at the challenge. All stated that by the time they had completed the assignment they had found the work intellectually stimulating and enjoyable. Neumann (1994, p. 330) [4]

These positives are not however without many contrary negative examples of how being taught by such research academics can be problematic. These matters are analysed here.

3. DRAWBACKS FOR STUDENTS

Coate et al (2001)[8] confront the popular conception that research enhances teaching, they argue that evidence of such synergistic relationships is inconclusive. In a similar vein, research carried out by Astin (1993, p. 363) [9], in a detailed study of over 200 US institutions bluntly concluded: "a college whose faculty is research-orientated increases student dissatisfaction and impacts negatively on most measures of cognitive and affective development". In conducting my research, I endeavored to elicit the views of my interviewees with respect to some of the above assertions. The questions I asked them were as follows:

Do you believe there are any ways in which your research activities may not enhance the experience undergraduate students have of your teaching?. If so, in what ways?

Some research participants were quite defensive about this and others were disarmingly frank in admitting that it can cause problems. In sync with the literature, three broad areas were addressed:

3.1 Drawback 1: Lecturing content of specific research area favoured over general syllabus

Many of the research participants disagreed that there was a problem in their case with this issue. One participant was quite emphatic that her research activities did not detract from her teaching practice, nor in any way disadvantage her undergraduates: *"Well first of all, I would like to say that teaching has to be an absolute priority. The first thing is the student and the preparation of classes and aiming to be a good lecturer and any research I do, is after that"*. Ali was also of a similar view and said he resisted any temptation to delve too deeply into his own research area when dealing with undergraduates: *"I've never only talked about my research. It's a bit of you know... 'slapping yourself on the shoulder'...and I'm not into that"*. Being aware of the level of students was critical to Ali: *"you keep it simple and you follow what you are supposed to be doing with the students"*.

When it came to 'over-focusing' on his own research in class Eugene admitted to being culpable: *"you go off on a tangent sometimes, because you are so interested in what you are doing and you have to remind yourself... 'to put the brakes on here, I'm getting carried away here, this is not really what we're meant to be doing today'"*. He also felt that at times, he was questioning his teaching style and content and suggested his students may be thinking there is a: *"boredom, 'here we go again' factor"*, whereby he was over-using his Doctoral ideas too much in class. He said this was especially obvious among younger undergraduate students: *"the ones that probably haven't grasped the idea of college yet, you know, who think, 'Ah, here he goes again', you know... 'the glazed expressions'...is it 'another war story'?"*. He accepted there was a risk of 'losing' students attention in this regard.

Colm had a similar view and often had to remind himself of his audience: *"you should be aware that you're talking to a group of mixed people and some of them will 'get it' and other ones won't get it, you can't be pitching it at your own level, you can't, then you're gonna lose x amount of the class"*. This view on 'pitching' your lectures at the right level is something shared by half of my interviewees and this augurs well for their undergraduate students. These students will benefit from such academics not over-emphasizing Doctoral research work at the expense of an undergraduate syllabus. Those who deviate from the syllabus need to be a lot more vigilant. In the words of Colbeck (1998, p.647) [10], it is important for staff to maximize all opportunities to find their teaching and research activities *'merging in a seamless blend'*.

3.2 Drawback 2: Non-availability of lecturers whose focus on research causes time constraints that disadvantage undergraduates.

Ali admitted that students may have been disadvantaged during the time he conducted his research because he had a reduced teaching timetable workload and had to refuse supervising undergraduate students. In addition, a junior member of staff took his classes and the aforementioned students for their Dissertation supervision. In relation to replacement staff taking undergraduate students in Universities, the Boyer Commission (2008, p.8) [11] posit:

Again and again, universities are guilty of advertising practice that they would condemn in the commercial world. Recruitment materials display proudly the world-famous professors, the splendid facilities and the ground-breaking research that goes on within them, but thousands of students graduate without ever seeing the world famous professors. Some of their instructors are likely to be badly trained or even untrained teaching assistants who are groping their way toward a teaching technique.

Fintan also said that replacements may disadvantage students in that: *“a subject area that you had subject specificity in, they’re replacing you with somebody who maybe isn’t quite as skilled as you”*. Whilst one cannot generalize about the calibre and experience of replacement staff, it is obvious that busy researchers who have a wealth of knowledge to share are not always ‘available’ to undergraduates as much as they could be. This view was one that was shared by half of the six interviewees, especially in relation to balancing the time they have to give to teaching versus research. Colm stated: *“I always feel I’d like to give more time to each. Yea and I mean we’ve had this conversation at various reviews and there was a Faculty review and it’s not just me saying it, because this came up from anyone who was doing research, you know, that it was a juggling act. And it’s very hard to balance it.”* A shortage of time for both is referred to by many of the interviewees. Indeed the institutes college staff time allowances for academic staff doing a Doctorate was four hours per week (a reduction of a quarter of ones class-contact teaching commitments). The point of sparing academics any commitment to “over-teaching” could be interpreted by some undergraduates as the oft mentioned lack of availability of these academics to them.

Eugene added further to this issue about time allocation by stating that the quality of his teaching suffered: *“The quality of my teaching disimproved or got worse, so the students suffered in the way that I haven’t as much time to prepare for my classes and to organize my classes as I had in the past because I had been so pre-occupied with my research”* He admitted: *“I was going on autopilot, ...because you knew your subject so well or you knew your class and you give the same class a few years in a row”*. He frankly stated that he didn’t get a chance to plan or decide how he was going to approach his classes because of this pre-occupation and stated: *“I must be honest about that”*.

The level of interplay by respondents between whether all of what they do research-wise is beneficial versus any downsides was something with which Eugene engaged. He admitted to giving less time to class preparation: *“in previous years you would have given it a lot more preparation”*, but he correspondingly cites the many advantages that accrue to undergraduates in terms of a broader education because of his exposure to new material. Nonetheless, others agree that when doing their Doctoral research, it does take them away from students, one observed that: *“when I was writing up my Ph D, it was very time consuming, and it did mean a number of trips to different conferences over and back to London”*. Because his Supervisor was based in London, he admitted: *“it kind of detracted from some of my teaching in that I had to cancel some of my classes and rearrange them too”*.

Fintan also spoke of the time factor and being away from teaching: *“I think when you’re teaching you’re trying to research. It can cause great distraction because you’ve got this big body of work that you’re working on”*. He adverted to the fact that one needs to be very disciplined around time as well as ensuring that the content covered in actual teaching does not suffer. Managing to update what you were currently delivering in lectures was key to this, but remained a balancing challenge for him.

3.3 Drawback 3: Disconnection of Doctoral researcher academics to undergraduates who lack 'ownership' of the research process

Linked to the ideas on time given to preparing for lectures as well as the time spent in them is the idea of 'availability' and connection of academic staff to students. This is cited by many students (Jenkins et al, 1998) [1] as being an important quality in academic institutions. To this end, the idea of lecturers not being around for student queries and perhaps '*being aloof*' Healey (2005)[5] is an important one. Jenkins et al (1998, p.135) [1] made the following observation: "*most students had no sense of ownership/involvement in these activities. To put it at its most extreme, it was virtually as if research-active staff was some mysterious substance that, in X-files fashion, spirited staff away. The staff mysteriously come back, seemingly unchanged and that was it*". This point was addressed by Fintan who said that if you're at home you're not in the building to see students: "*so if students are looking for you you're only going to be here maybe two, maybe three days a week to see students*". In Ali's case, he said that in the last year he had not taken on any research students because his own research and timetabling allowances for same meant inevitable time constraints. "*I had to refuse anything that was over and above my timetable*". It is worth noting that the vast majority of the student population in the college in question are undergraduates, which meant his absence was a disadvantage to them in the short-term. He considered this to be a short-term sacrifice: "*that's a short-term impact, the positives far outweigh the negatives*". By becoming a more qualified researcher himself, his strongly held counter view was that he could offer more to students in the long term.

When Eugene was asked about this matter of availability and perhaps being aloof from undergraduates, he was equally candid about not being available: "*Well that would be true in that I wouldn't have been as available as I would have been in the past as I did a lot of my research from home or I'd be in the library in Trinity (name of his research Institution) so I wouldn't actually be on-site. So if some student came to see you for a question or something they might never ring you or e-mail you, but had you been there, they might have had a word with you, you definitely weren't as available as you had been*". This idea of undergraduate students being 'outside the loop', inadvertently or otherwise is mentioned in the literature and among media commentators. The Bayer Commission (1999, p. 6) was critical of the fact that an undergraduates university experience on one hand was kept isolated from the research activity of academics on the other hand, suggesting: "*Universities on the whole did not see ways to integrate their undergraduates into the research missions that they valued above all else*". John Walsh, the education correspondent for the Irish Independent, an Irish national newspaper signaled a similar note of caution when he suggested that "*research is the rage in cash-hungry universities, but it may be over-emphasised at the expense of teaching*" (Walsh, 2006, p.5)[12]

In Ireland, Prof John Kelly the former registrar and Dean of Engineering and Architecture in University College Dublin and also founder/editor of the *International Journal, Industry & Higher Education* made a similar point. He suggested that the increased government emphasis on research output and the enlargement of PhDs numbers in Ireland has to be handled carefully so that teaching to undergraduate students is not damaged. He further asserted: "*Research is a vital component of university education at all levels but there are dangers of its over-emphasis*" (Kelly, 2009, p.12).[13]. These views had some resonance with comments made by my interviewees in regard to this topic insofar as research can become an all-consuming process. Fintan's earlier reflection is a case in point: "*It can cause great distraction because you've got this big body of work that you're working on. It also takes up a huge amount of time*".

Others commented about the huge challenge of 'juggling' time to accommodate their Doctoral activities as well as their undergraduate teaching requirements. Eugene also suggested that there was pressure to attain the research qualification. This opinion echoes somewhat with the analysis proffered by Coates et al (2001, p. 170)[2] where they contended:

In some low research institutions, staff were actively encouraged to value research more highly, and heads of departments or other managers had implemented strategies rationalizing teaching loads in order to foster a research culture.

4. CONCLUSIONS

Many positives are perceived by academic interviewees. These included developing within students, practical research skills as well as a broader sense of *liberal* learning. These could be achieved through another benefit of their research which was establishing 'Communities of Practice'. The fact that students' abilities could become increasingly challenged through the expectation of higher standards and cutting-edge knowledge were other plusses. In one instance, one of my respondents noted an undergraduate experience what was referred to in the literature as the "*thrill*" or "basking in the reflected glory" (Neumann, p.331, 1994) [4] of being taught by a Doctoral lecturer whose name was in print.

The potential negatives as identified by some of my interviewees included; a temptation by two of them to deviate more towards their own research at the expense of the curriculum. There was also an increased absence away from teaching undergraduates whilst doing their Doctorate. Subsequent to it, they were usually timetabled for less teaching and more research. Timetabled teaching hours were increasingly with postgraduates, which also meant that part-time or junior lecturers taught undergraduates, thereby depriving students of the colleges Doctoral expertise. Some of my respondents admitted, in the words of one to: "*working on autopilot*" when it came to teaching whilst doing his research. Others also had an express wish to do less teaching and spend more time researching. The risk inherent here is that they become more removed and aloof from undergraduates.

5. RECOMMENDATIONS

Focusing on the preparation and content of lectures should be omnipotent for all lecturers, mindful of the fact that they should 'pitch' them at their undergraduates levels and abilities. To this end, the teaching skills of prospective Doctoral staff should be a key concern in the recruitment, training, timetabling and future promotion of these staff. This should be a central priority at managerial level. Being crystal clear about what priority they give to research versus teaching should also be stated. Avoiding scenarios where undergraduates may be taught by part-time or less experienced junior members or staff who are lacking subject specificity should also be a management priority. Doctoral academics should continuously aim to make themselves more available to undergraduates, thereby avoiding becoming 'aloof'. This should be a key component of staff timetabling. Again, the subject groups and the college management need to ensure that they constantly monitor and identify how their overall research policy impacts and supports the *undergraduate* curriculum.

Such lecturers could perhaps use their perceived 'authority' to provide encouragement to students with their studies and also to provide them with the re-assurance that they are in the best college when it comes to skills and expertise of staff. Brew (2003) [8] suggested the skills in becoming a Doctor include the ability to carry out a rigorous and systematic process of enquiry as well as a capacity to apply the skills so acquired in a range of contexts, including teaching. Instilling these skills and providing confidence to the undergraduate should be their over-riding priority. Most importantly however, it is critical that student are not 'in awe' of such practitioners. They should always be made feel that Doctoral skills and advice are amenable to them.

6. RECOMMENDATIONS FOR FUTURE RESEARCH

My research was limited to interviewing academics only. Broadening same to include students of these lecturers in particular, and also college management would provide interesting insights into the other main constituent elements of the nexus. Examining the interface between all elements in case study research in the lecture halls and tutorials of such Doctoral academics would provide tangible examples of how the nexus works, or does not, as the case may be. Attending dissertation supervision conducted by such academics with final year undergraduate students would also be prove useful

References

- [1] Jenkins, A., Blackman, T., Lindsay, R. O. and Paton-Saltzberg, R. (1998). Teaching and research: student perspectives and policy implications. *Studies in Higher Education*, 23, (2), 127-41
- [2] Coate, K., Barnett, R., and Williams, G. (2001) "Relationships Between Teaching and Research in Higher Education in England" *Higher Education Quarterly* 55 (2) pp 158–174
- [3] Visser-Wijnveen G J., Van Driel J., Van der Rijst, R., and Verloop N. and Visser A. (2009) "The relationship between academics' conceptions of knowledge, research and teaching - a metaphor study" *Teaching in Higher Education* 14(6) pp. 673-686
- [4] Neumann, R. (1994). The Teaching-Research Nexus: Applying a framework to university students' learning experiences. *European Journal of Education*, 29, 323-339.
- [5] Brew, A. (2006) *Research and Teaching: Beyond the divide*, Basingstoke: Palgrave Macmillan
- [6] Healy and Jenkins (2007) *Case studies of linking discipline-based research and teaching in disciplines, departments, institutions and national systems*. Mick Healey. www.enhancementthemes.ac.uk/.../ResearchTeaching_Case_Studies_AJenkins.pdf
- [7] Blackmore, P. and Cousin, G. (2003) Linking teaching and research through research-based learning. *Educational Developments*, 4 (4), 24-27
- [8] Brew (2003) Teaching and Research: New relationships and their implications for inquiry-based teaching and learning in higher education *Higher Education Research & Development*, The University of Sydney 22 (1) 3-18
- [9] Astin, A (1993) *What Matters in College? Four Critical Years Revisited* San Francisco, CA, Jossey-Bass
- [10] Colbeck, C.L. (1998) "Merging in a seamless blend", *Journal of Higher Education* 69 (6) pp 647 – 671
- [11] Boyer Commission (1998) The Boyer Commission on educating Undergraduates in t Research University *Reinventing Undergraduate Education: a blueprint for America's research universities*. Retrieved on October 26th, 2009 from <http://naples.cc.sunysb.edu/Pres/boyer.nsf/>
- [12] Walshe. J. (2006, June 8) Teaching is 'losing ground' to research, *The Irish Independent*, p5
- [13] Kelly J. (2009, April 16) New Master Plan needed for higher education. *The Irish Times* p9