



Students' Awareness, Experiences and Perceptions on Teaching-Research Nexus

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Abstract

This paper presents a study of students' awareness, experiences and perceptions on teaching-research nexus in three universities in Malaysia, namely UiTM, UIA and UKM. The findings are based on the results of the questionnaires of 480 students. In line with the previous research, the results indicate that students are moderately aware of the research activities of their lecturers. Nevertheless, many of the students participating in this research perceive clear benefits to teaching and learning from the research activities undertaken at their university, their experiences on research aspects, and the academicians' involvement in research. The results of the study could be applied to the discussion of particular strategies that may be used to strengthen the nexus between teaching and research to benefit the undergraduates' learning experience in these institutions.

Keywords: Teaching-research nexus; student experience; research awareness, experiences and perceptions

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1.0 Introduction

The higher education sector is undergoing a significant shift, changing from solely teaching activities to incorporating research activities. By placing teaching excellence alongside research, it can be an important key indicator of quality in universities (McInnis, 2003). A research can be defined as an intellectually controlled investigation that leads to advances in knowledge through discovery and codification of new information or the development of further understanding about existing information and practice (Patrick and Willis, 1998). In contrast, teaching can be defined as a multidimensional activity that seeks to promote quality learning through a student-centred interaction between the teacher, student and the curriculum (Patrick and Willis, 1998). Therefore, research and teaching are discoveries and imparting of knowledge, which are the prime functions of the university. These functions are, or should be, mutually supportive. Consequently the teaching-research nexus is defined as the many ways in which teaching informs research and research informs teaching; this mutually supportive relationship operate to benefits of both (Monash Research Review Committee Report, 1992, p. 5). One clear benefit of making the link between teaching and research that is visible to students is it raises their awareness that they are learning in a research-intensive university. Moreover, students appreciate it when the academic identity of their teachers emerges through the teaching process; they respond well when teachers offer a first-hand perspective on the research experience. It is particularly important, then, for academicians to introduce their own experiences as learners gained through their research.

The exploration of student awareness, experiences and perceptions of the research mandate of their university is of increasing importance as community expectations grow for universities to be both centres of research and innovation and sites for high quality education. It is becoming increasingly vital in most universities for the student voice to be heard as a payer of education fees and the role of the student as a consumer becomes more prevalent. Additionally, there is a continuous debate as to whether research undertaken by the academic staff adds value to the undergraduate teaching and student learning. The conventional wisdom model has argued that the research and teaching functions are, or should be, synergetic – each gaining from one another. Both student and academic staff should perceive a positive impact among each other. These issues and findings in some way reflect our attention and stimulate our interest to further explore the relationship between teaching and research especially in our Malaysian context. Moreover, in Malaysia there is a lack of evidence found on the related study of the teaching-research nexus in higher education. Therefore, the purpose of this study is to explore the students' level of awareness, experiences and perceptions on teaching-research nexus in three selected universities – Universiti Teknologi MARA (UiTM), Universiti Islam Antarabangsa (UIA) and Universiti Kebangsaan Malaysia (UKM).

2.0 Literature Review

There are three contrasting perspectives – positive, negative and null/zero – on the relationship between teaching and research. Moreover, several different arguments hypothesising a positive relationship between research and teaching are described. Surveys show that the common belief among the academicians is that teaching and research are positively related (Brown and McCartney, 1998). Furthermore, Neumann (1992) reported that the connection between teaching and research is mutually enriching, stating that in practice the two often tend to merge and that the university environment is conducive to achieving some sort of excellence in both areas. A review of the literature provides a list of arguments supporting a negative relationship between quality in research and teaching. Firstly, Ramsden and Moses (1992) revealed a typically no relation or a negative relation between research and undergraduate teaching in Australian higher education. Secondly, Blackburn (1974) noted that unsatisfactory classroom performance might result in academicians neglecting their teaching responsibilities in order to pursue research and publications. The following discussion indicates the possibilities that the relationship may not be reciprocal and may, in fact tend to zero. Barnett (1992 *a,b*) contended that research is an entirely different enterprise from teaching. Rugarcia (1991) noted many divergent relationships between teaching and research, such as it should not be expected that they correlate positively and negatively. Rushton et al. (1983) found that the personality correlates of teachers are orthogonal of those of researchers.

Student perceptions on the effects of lecturer research on learning are evidently relevant to the debate. Many arguments in favour of a positive nexus between teaching and research are related to the expected benefits of research on teaching as well as on students' learning. Jenkins et al. (1998), Lindsey et al. (2002), Zamorski (2002), Robertson and Blackler, (2006) and Turner et al. (2008) demonstrated strong positive student perceptions of staff research. In these studies, the undergraduate students' perceptions of research reported that research had positive benefits to the students including course credibility and relevant current course content. In addition, the research interests of staff gave students the opportunity to view the instructors as "real people" and to relate on a level of interest and enthusiasm in the same area of study. Students are also motivated and interested when they are taught by lecturers who are active in research (Jenkins et al., 1998). While research activities may be advantageous, students often perceive them as an "extra" to what they believe is the primary requirement of a university, and the provision of quality undergraduate teaching. These studies also observed similar disadvantages in that research oriented teachers tended to be less available to students and were often preoccupied with their research at the expense of their teaching. Nevertheless, the authors conclude that from the students' perspective there is a largely positive teaching-research link, while the main adverse impacts can at least be resolved through effective management.

2.1 Research Framework

The research framework of the study is shown in Figure 1. It depicts the relationship between independent and dependent variables to be used in this study. The current study predicts that a significant positive relationship would exist between the students' awareness, experiences and perceptions on research and teaching and learning based on two major arguments: conventional wisdom model and "g" model (Hattie and Marsh, 1996). For the conventional wisdom model, the surveys showed that the common belief among academicians was that research is positively related to teaching and learning. Neumann (1992) reported that the nexus between research and teaching was to be mutually enriching. Regarding the "g" model, the expected positive relationship was often based on the premise that the abilities underlying successful teaching and the abilities underlying successful research were similar (Hattie and Marsh, 1996). From the research framework, the following research questions are developed; a) what are the levels of the students' awareness on teaching-research nexus?; b) what are the levels of the students' experiences on teaching-research nexus? and c) what are the levels of the students' perceptions on teaching-research nexus?

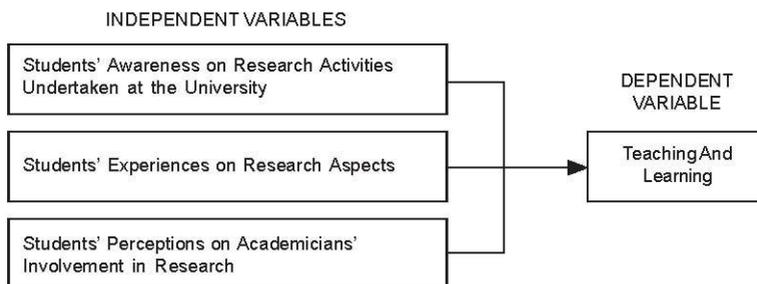


Figure 1: Research framework

3.0 Methodology

The survey research method is used for this study. The respondents were given a questionnaire each that was delivered personally by the authors. The respondents of this study comprised of all the final undergraduate students of the accounting department enrolled in the January-June semester in 2009 in the three selected universities – UiTM, UIA and UKM. This study was limited to the Bachelor of Accountancy students because a linkage of teaching and research was predominantly considered as a challenge at the undergraduate level; more precisely in the final year. The authors consider the relation to be more 'natural' at the postgraduate level. The instrument by Verburch et al. (2006) was adapted for this study. This instrument was further tested in order to increase the reliability of the scales. Basically, this instrument has been originally developed by Healey et al.

(2002) and further adapted by Verburgh et al. (2006). Concerning its validity, this questionnaire has been used by several other universities around the world to benchmark their practices (Healy et al., 2010). There are 60 items that are organized in 6 sections. Section 1 aims at measuring students' awareness of research activities at the university and of their own while in Section 2 they have to indicate the extent to which they agree with the statements that their own lecturers write and publish research reports, articles and academic books. Section 3 elicits students' experiences on research-based teaching, mainly in the classroom during regular teaching but also outside their regular classes. Section 4 assesses students' opinions about the relation between the academician's involvement in research and teaching and learning. Section 5 measures students' opinions on the positive impact of research on teaching and learning whereas Section 6 elicits students' opinions on the negative impact of research on teaching and learning. The statements are based on advantages and disadvantages of the lecturers' involvement in research for students' learning.

4.0 Data Analysis

Descriptive statistics were used to explore the data collected. This analysis attempted to achieve the objective of this study so as to explore the students' level of awareness, experiences and perceptions on teaching-research nexus. They provided simple summaries about the samples and the measures. Every single variable is described with a frequency distribution, central tendency (mean) and standard deviation. The mean score and average mean score for each variable are determined based on the following scales as shown in Table 1. The usage of this scale of score is consistent with the work of Verburgh et al. (2006).

Table 1: Scales of scores

Mean Score	Scale
4.00	Very High
3.00 – 3.99	High
2.00 – 2.99	Moderate
1.00 – 1.99	Low

4.1 Students' Awareness on Research Activities Undertaken at the University

The respondents were fully aware that research was conducted at the university, though this research was not carried out to the full extent (Table 2). They were also aware (437 respondents) of the existence of written and published academic books by the university (mean 3.20). Moreover, research has been conducted at national and international projects (mean 3.13). Furthermore, respondents clearly knew that they were supervised when they carried out a research (mean 3.02). Lastly, research seminars were organised and lecturers

presented their research (mean 3.01). Most respondents agreed that they were aware that their university research articles were written and published, and the research assistants were supervised during PhD work. The PhD students were employed as research assistants, research reports were written and published and lecturers decided to do research (mean 2.99, 2.98, 2.95, 2.94, and 2.92 respectively). In this case, the level of awareness was moderate in which the respondents were aware that university prepared research posters for research seminars (mean 2.79). The average mean score for all the items was 3.00 indicating that the respondents' level of awareness on specific research activities undertaken at the university was slightly high.

Table 2: Students' awareness on research activities undertaken at the university

Indicate the extent to which you agree with the following statements. I know that at the university,	Mean	Standard Deviation
1. Research seminars are organised, where students and/or lecturers present their research work.	3.01	0.533
2. Research posters are prepared for research seminars.	2.79	0.587
3. Research reports are written and published.	2.94	0.625
4. Research articles are written and published.	2.99	0.604
5. Academic books are written and published.	3.2	0.576
6. PhD students are employed as research assistants to work on doctoral thesis.	2.95	0.66
7. Research assistants are supervised during their PhD-work.	2.98	0.608
8. Students are supervised when they do research work (e.g. their master thesis).	3.02	0.633
9. Lecturers can decide what to do on research.	2.92	0.653
10. Research is done in national or international research projects.	3.13	0.581

4.2 Students' Experiences on Research Aspects

After six semesters at the university, respondents reported the infrequent involvement in research (Table 3). The most experiences that students had with research were they assisted as respondents in scientific research, lecturers discussed results of scientific research during classes and lecturers discussed their own scientific work during classes (mean 2.67, 2.54 and 2.43 respectively). Some students participated in data collection or analysis of scientific research and listened to guest speakers presenting their scientific work during classes and gained experience in conducting research projects (mean 2.27, 2.20 and 2.16 respectively). Respondents reported that they had little experience in reading scientific articles and reports of their lecturers and participating at scientific conferences and workshops (mean 2.13 and 2.05 respectively). Most of the respondents did not participate actively or voluntarily in research seminars (mean 1.97). Moreover, they collaborated as research assistants in research projects, apart from the formal requirements of their programmes (mean 1.94). The findings revealed that the standard deviations for most variables were equal to 1, which indicated an inconsistency among the respondents'

experiences on research aspects. The respondents' experiences on research aspects were quite limited since the mean for all the variables ranged from 1.94 to 2.67 only. The average mean score for all the items was 2.24 and this indicates a moderate level of students' experiences on research aspects.

Table 3: Students' experiences on research aspects

Indicate how often you were confronted with each of the following situations.	Mean	Standard Deviation
1. Lecturers discuss results of scientific research during classes.	2.54	1.007
2. Lecturers discuss their own scientific work during classes.	2.43	1.004
3. Guest speakers present their scientific work during classes.	2.20	1.052
4. I read scientific articles and reports of my lecturers.	2.13	1.032
5. I voluntarily participate in research seminars (seminars in which research is presented and discussed).	1.97	0.979
6. I participate at scientific conferences and workshops.	2.05	0.966
7. I assist as a respondent in a scientific research (e.g. fill in questionnaire, interviewee, etc).	2.67	1.224
8. I participate in data collection or analysis of scientific research (e.g. analysis of interviews or data from a lab, analysis of a questionnaire, ...).	2.27	1.172
9. As part of a course, I conduct a research project (e.g. doing an experiment in a lab, administering an interview, developing a solution for a particular problem, preparing a dissertation, ...).	2.16	1.148
10. I collaborate as research assistant in research projects, apart from the formal requirements of my program.	1.94	1.066

4.3 Students' Perceptions on Academic's Involvement in Research

The respondents have no strong perceptions on the academicians' involvement in research except for three variables (Table 4). Majority of the 426 respondents reaffirmed that there were many advantages related to the involvement in research of their lecturers (mean 3.19). Besides that, respondents argued that it was very vital for their lecturers to be actively involved in research (mean 3.15). Furthermore, they also argued that it was important for their lecturers to report or discuss their own research during their classes (mean 2.95). Nevertheless, they hardly knew the research interest of their lecturers (mean 2.52). Respondents were moderately aware of the research reputation of the staff working in the department of their study at the time of their registration at the university (mean 2.43). Respondents did not think that lecturers who were not active in research, spent more time in helping students and they less assumed that the most effective teaching was when the lecturers gave them research tasks (both mean 2.89). The enthusiasm to be actively involved in the research of their lecturers was less pronounced (mean 2.77) and they did not think they learnt most when they were fully involved in a research project (mean 2.79).

Lastly, most respondents thought that in their programmes, too little time was devoted to the development of research competencies (mean 2.81). This perhaps was not applicable to students of UiTM as they did not (*what?*) research methodology course. Nevertheless, it was relatively relevant to the UIA and UKM students since research methodology paper was a compulsory course for them. The findings also displayed inconsistency among the respondents' perceptions that they learnt most when they were actively involved in research projects. Therefore, this indicated that some respondents enjoyed learning when they participated in research projects and some of them did not (standard deviation 0.766). The average mean score for all the items was 2.84 indicating a moderate level of respondents' perceptions on academicians' involvement in research.

Table 4: Students' perceptions on academicians' involvement in research

Indicate the extent to which you agree with the following statements. In my opinion,	Mean	Standard Deviation
1. I know the research interest of my lecturers.	2.52	0.675
2. When I registered, I was aware of the research reputation of the staff working in the department of my study.	2.43	0.705
3. I think it is very important that my lecturers are active in research.	3.15	0.675
4. There are many advantages in the involvement of research with my lecturers.	3.19	0.657
5. Lecturers who are not active in research, spend more time in helping students.	2.89	0.733
6. I learn most when I am involved in a research project.	2.79	0.766
7. I think it is important that my lecturers report on their own research during their classes.	2.95	0.685
8. In my program too little time is devoted to the development of research competencies.	2.81	0.663
9. I would like to be actively involved in the research of my lecturers.	2.77	0.706
10. The most effective teaching is when the lecturers give us research tasks (e.g. exercises on problem solving, development of a research project, giving a presentation of own research).	2.89	0.7275

5.0 Conclusion

The study illustrates that the students' level of awareness, experiences and perceptions on academic research were moderate. One of the significances of this study was that it supported curriculum development that encouraged undergraduates to be exposed widely to and participate actively in the research cultures of their departments. In this case, the academic development units in these institutions have to play a vital role in encouraging and supporting academic staff, through academic development programmes, influencing

institutional strategies, and in exploring and implementing appropriate and effective pedagogy for integrating research into the classroom. Moreover, in increasing the level of awareness among the undergraduate students of the universities' and lecturers' researches, these students should be aware of research-related activities such as research seminars organised by academic staff or visiting scholars, and encourage them to participate as part of the academic community. The notion of the learning environment beyond the classroom could include providing research opportunities for students or providing research internships with community groups, government, or industry.

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