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Introduction

Universities play a central role in developing national research capacities through the provision of doctoral programmes by research. Doctoral graduates embody research skills and knowledge that help to sustain their nation’s social, health, cultural and economic wellbeing (EUA, 2005; LERU, 2007; UNESCO, 2007), especially in emerging knowledge-based economies such as Malaysia (World Bank, 2010). Postgraduate education in general is one of the fastest-growing sectors in higher education (Sastry, 2004; Chinese Government, 2006) and, in particular, universities internationally emphasise the quality and best practices of the research experiences and resources provided for postgraduate research students (see, for example, Council of Graduate Schools (US), 2010, Council of Australian Deans and Directors of Graduate Studies, 2011). Australia and UK universities use surveys of research masters’ and doctoral students’ experiences to monitor and enhance the quality of postgraduate research degree provision. Based on analyses of the data gathered from these surveys, policies and strategic plans are formulated and modified, at both national and institutional levels, to improve the postgraduate research programmes.

This study provides an overview of two instruments which have been used to measure postgraduates’ research experiences in an Australian university; (1) the UK Postgraduate Research Experience Survey (PRES); and (2) the Australian Postgraduate Research Experience Questionnaire (PREQ). A comparative study of PRES and PREQ at an Australian university were carried out in 2011. The data collected by the university using PREQ was used as a reference base to compare the validity of the PRES data gathered by the researchers. The results were then benchmarked against the state of Victoria and Australian national standards.

Postgraduates’ Research Experiences

The most widely used instruments to gauge postgraduates’ research experiences are the Postgraduate Research Experience Questionnaire (PREQ) developed for Australia and the Postgraduate Research Experience Survey (PRES) developed for the UK. A brief outline of their features follows.

Postgraduate Research Experience Questionnaire

The PREQ was developed in 1999 by the Graduate Careers Council of Australia [now Graduate Careers Australia (GCA)] and the Australian Council for Educational Research (ACER) (ACER, 1999). The 28-item instrument focuses on dimensions central to postgraduate research experience: (1) supervision, (2) intellectual climate, (3) skill development, ...

| TABLE 1 Dimensions of Postgraduate Research Experience in PREQ |
|----------------------|-------------------------------------------------|------------------------------|
| **Background**       | **Main Dimensions**                            | **Focus**                    | **Items** |
| 28 items             | Supervision                                    | The accessibility and quality of research degree supervision | 6 |
| 7 dimensions         | Intellectual climate                            | The learning community and conditions provided by the institution | 5 |
| 5-point Likert scale, ranging from ‘strongly disagree’ to ‘strongly agree’ | Skills development | The extent of generic analytical and communication skill development | 5 |
| To be answered by recent graduates (4 months after graduation) | Infrastructure | The quality of learning infrastructure such as space, equipment, and finance | 5 |
| Thesis examination   | Whether the examination process was timely, fair and satisfactory | 3 |
| Goals and expectations | The clarity of learning structure, requirements and standards | 3 |
| Overall satisfaction | Overall satisfaction with the recently completed degree | 1 |

Source: Graduate Career Australia (2010)
(4) infrastructure, (5) thesis examination, (6) goals and expectation, and (7) overall satisfaction. It uses five-point Likert scaled responses to statements ranging from ‘strongly disagree’ to ‘strongly agree’. The questionnaire is administered to graduates about four months after the completion of their degrees. It is mandated that universities invite graduates to complete the PREQ. This allows the GCA to report on national performances and trends, and also allows benchmarking between similar programmes in different universities (Graduate Careers Australia, 2010). On the institutional basis, the data gathered from PREQ can serve as foundation for strategic planning, faculty level academic development, and curriculum review to enhance the quality of research higher degrees. However, the application of PREQ at smaller units of analysis, such as individual student-supervisor level, may be questionable since its reliability is not well established at such level (Marsh, Rowe, & Martin, 2002).

**Postgraduate Research Experience Survey (PRES)**

The Postgraduate Research Experience Survey (PRES) is commonly administered by UK universities from March to May annually to current students, including those who have gone through the *viva voce* examination but have not graduated (e.g., in the process of final thesis submission and waiting for convocation). The PRES was adapted from the PREQ after consultation across the sector, including universities, the UK National Postgraduate Committee, the Quality Assurance Agency, the Higher Education Funding Council, the Research Councils, and the UK GRAD Regional Hubs (Park, Hanbury, Kulej, & Harvey, 2007). Table 2 shows the dimensions of PRES.

The instrument has two main sections: the first comprises 28 items which gauge students’ research experiences in six dimensions (1) supervision; (2) skill development; (3) infrastructure; (4) intellectual climate (research environment); (5) goals and expectation; and (6) thesis examination; the second comprises aspects that are related to postgraduates’ research experiences, such as professional and career development, roles and responsibilities, teaching opportunities, and personal factors. PRES uses similar five-point Likert scaled items to the PREQ.

PREQ and PRES share several similar items but there are two fundamental differences: PREQ surveys recent graduates about their satisfaction with previous experiences, whereas PRES surveys current students about their experiences (Oxford Learning Institute, 2008). PREQ is mandatory for Australian universities, whereas PRES is voluntary for UK. Furthermore, unlike PREQ, PRES also includes quality assurance items (Park et al., 2007; Oxford Learning Institute, 2008). The design and development of PRES was based on the principles in Table 3 (Park et al., 2007: 9).

**TABLE 2 Dimensions of Postgraduate Research Experience in PRES**

<table>
<thead>
<tr>
<th>Background</th>
<th>Main Dimensions</th>
<th>Focus</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 items</td>
<td>Supervision</td>
<td>The supervisor’s knowledge, availability, the guidance and feedback provided</td>
<td>6</td>
</tr>
<tr>
<td>6 dimensions</td>
<td>Intellectual climate (research environment)</td>
<td>The research environment, social interaction with the research community and research ambience in the department</td>
<td>5</td>
</tr>
<tr>
<td>5-point Likert scale, ranging from ‘strongly disagree’ to ‘strongly agree’</td>
<td>Skill development</td>
<td>The development of generic analytical skills, communication skill, research skills, and transferable skills</td>
<td>4</td>
</tr>
<tr>
<td>To be answered by current postgraduates</td>
<td>Infrastructure</td>
<td>The quality of infrastructure, such as equipment, working space financial support, computing resources, library facilities and technical support</td>
<td>6</td>
</tr>
<tr>
<td>Focus on research experience rather than satisfaction</td>
<td>Goals and standards</td>
<td>The clarity of research standard in terms of thesis, standard of work expected and requirement for thesis examination</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Thesis examination *</td>
<td>Whether guidance was provided for <em>viva voce</em> preparation and the thesis examination process was timely, fair and standards</td>
<td>4</td>
</tr>
</tbody>
</table>

* only answered by postgraduates who have experienced examination

Source: Park et al. (2007)
A Comparative Study of PRES and PREQ at an Australian University

A comparative study of PRES and PREQ was carried out at an Australian university in 2011. The PRES was distributed online to all current 1,200 research Masters and doctoral candidates at the university. A total of 134 (11.2 per cent) postgraduates responded, which is congruent with voluntary online survey response rates (Siikamaki & Wernstedt, 2008; Wernstedt & Hersh, 2006). Before the study began, clearance was obtained from the university’s Human Research Ethics Committee for an email to be sent to these candidates inviting them to participate in the study by completing an online survey. Minor modification was made to the items in the instrument to adapt to the context and structure of higher degree research programmes at the sampled university. For instance, a ‘not applicable’ option was added to cater for students who may find some of the items not applicable, such as off-campus students and those who may still be early in their candidature. A subscale on thesis examination, which focuses on *viva voce*, was dropped as it is irrelevant to the Australian universities context. An item on overall satisfaction was added to PRES to enable comparison to be made with the results gathered from the PREQ item.

Comparative analyses of the PREQ and PRES data showed many similarities. Both the current students (PRES respondents) and the graduates (PREQ respondents) rated most positively their experiences of skill development, and goals and expectations. Figure 1 shows that at least 80 per cent of PRES and PREQ respondents were satisfied with these two aspects. Intellectual climate and infrastructure were rated less positively by groups of respondents. For supervision experiences, 79 per cent of the PRES respondents indicated that satisfaction and 77 per cent of PREQ respondents felt likewise. These results were consistent with both the state (76 per cent) and national (77 per cent) benchmarks. The PRES respondents rated overall satisfaction slightly lower than the PREQ respondents. However, this is to be expected as graduates have, by definition, experienced success, and students are yet to do so. Nevertheless, the overall findings suggest that both the university’s students and graduates were satisfied with the quality of their research degree programme.

A table showing the underlying principles of PRES is included:

<table>
<thead>
<tr>
<th>No.</th>
<th>Principles</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Student-centred</td>
<td>it must listen to the student voice, and focus on enhancement of the student experience.</td>
</tr>
<tr>
<td>b)</td>
<td>Easy to use</td>
<td>from the student’s perspective, it must be in an accessible online format.</td>
</tr>
<tr>
<td>c)</td>
<td>Easy to understand, quick to complete</td>
<td>from the institution’s perspective, it must be easy to set up and administer, and easy to analyse and interpret the results.</td>
</tr>
<tr>
<td>d)</td>
<td>Voluntary</td>
<td>institutions and their research students must be allowed and encouraged, but not required, to take part.</td>
</tr>
<tr>
<td>e)</td>
<td>Flexible</td>
<td>while for comparative purposes it must have an agreed standard set of core questions, it must be possible for HEIs to add their own questions if they wish to.</td>
</tr>
<tr>
<td>f)</td>
<td>Useful</td>
<td>it must provide information that is useful to HEIs and national bodies, and this includes a focus on the student experience and the opportunity for comparative analysis (benchmarking and longitudinal tracking).</td>
</tr>
<tr>
<td>g)</td>
<td>Cost-effective</td>
<td>it must be economical for HEIs to run [the Academy meets all central development and support costs]; the survey itself is free to users; participating HEIs need a BOS site licence.</td>
</tr>
<tr>
<td>h)</td>
<td>Anonymous</td>
<td>the anonymity of student respondents and institutions taking part must be protected: all student responses are anonymous; a list of participating HEIs is not published.</td>
</tr>
<tr>
<td>i)</td>
<td>Secure</td>
<td>participating HEIs must be confident that their institutional results will not be made available to any third party.</td>
</tr>
</tbody>
</table>

Source: Park et al. (2007: 9)
Conclusion

Both PREQ and PRES are useful tools that can be used by universities to determine, monitor and benchmark postgraduates’ research experiences at institutional and national levels. The validity and reliability of the instruments were well established (Park et al., 2007; Graduate Career Australia, 2010). Nevertheless, these instruments may require adaptation and refinement before use in another national context as higher education system and development in each country may differ. Where common items are appropriate, Malaysian data may be compared with the Australian and UK data.

Acknowledgement

Professor Roger Horn and Mr. Grant Michie of the Institute of Research Training, Deakin University provided invaluable assistance during the data collection processes.

References


Graduate Careers Australia. (2010). Postgraduate research experience 2009: The report of the postgraduate research experience questionnaire. Melbourne, VIC: Graduate Careers Australia Ltd.


FIGURE 1 Postgraduates’ research experiences gauged by PRES and PREQ in an Australian university