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Abstract

A university's key resource is its academic and professional staff. Although professional staff comprise more than half the Australian higher education workforce, little research has been done into the work of professional staff, particularly in relation to the core business of learning and teaching. Yet a more rigorous understanding of the contribution of higher education professional staff to student outcomes has the potential to enhance their institutions' organisational sustainability. In this study, a framework was developed for investigating the contributions of higher education professional staff to student outcomes. This paper discusses the development of that framework, the Professional Staff–Student Outcomes (PSSO) Framework. The PSSO Framework was developed through a 9-step process that used the results of a meta-study of research literature on the impact of student support services on student outcomes and three rounds of a modified Delphi study. Member checking of the PSSO Framework was completed, and the framework was then used to frame a case study.

Keywords:
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Introduction

For more than two decades, higher education professional staff – also known in Australia as general staff, administrative staff, non-academic staff and support staff (Graham, 2012b) – have comprised over half the workforce in Australian universities (aggregated data from Department of Education, Employment and Workplace Relations [DEEWR], 2012). The roles and responsibilities of this group of staff are diverse, comprehensive and considerable. Although significant research has been undertaken by academics into the changing nature of universities, academic work and academic identities (for example: Adams, 1998; Anderson, et al., 2002; Henkel, 2000; Macfarlane, 2010; Marginson, 2000; Marginson & Considine, 2000), academics have written little about the work of professional staff. This lack of research by academics into the work and identities of professional staff is not surprising, since academics 'focus on the areas that concern them the most' (Pitman, 2000, p. 166). On the other hand, over the past decade there has been a growing body of literature written by professional staff, and former professional staff, about the work and changing identities of professional staff in universities, both in Australia and overseas (for example: Conway, 2000; Dobson, 2005; Small, 2008; Szekeres, 2004, 2011; Whitchurch, 2006, 2010). Nevertheless, gaps persist in this research, and a full understanding of the work and identities of professional staff is yet to be revealed.

Given the large proportion of professional staff in Australian universities, understanding the contributions of these staff to the strategic goals of universities is vital to the effectiveness of these institutions. Education (learning and teaching) and research are two key components of core business for universities (Shattock, 2010), and are fundamental to the strategic goals of their institutions. While the contributions of professional staff to research, through research management and administration, have been studied (Allen-Collinson, 2004, 2006, 2007; Sebalj & Holbrook, 2006, 2009), there has been little research into the contributions that professional staff make to learning and teaching (Graham, 2012b). Aiming to help fill this gap, the doctoral research that gave rise to this paper investigated the work of higher education professional staff in the context of learning and teaching.

In order to provide a foundation for the research, a Stage 1 study explored and developed a framework for describing the work of professional staff in relation to student outcomes. This Stage 1 study addressed the research question: *How can the contributions of professional staff to student outcomes be investigated?*

Methodology

Development of the Professional Staff–Student Outcomes (PSSO) Framework for studying the contributions that professional staff make to

student outcomes involved a 9-step approach. This process is illustrated in Figure 1 and is described below.

Literature search and analysis – Steps 1 to 4, Figure 1

Exploratory literature searches revealed that the contributions of professional staff to student outcomes were under-researched. Accordingly, analysis of a meta-study by Prebble and his colleagues (Prebble, et al., 2004) was undertaken to determine the suitability of its results as a basis for a new framework for investigating the contributions of professional staff to student outcomes. In a review of 146 international studies, Prebble et al. (2004) derived 13 propositions for student support (referred to as *Prebble Propositions* herein, see Table 1) that were found to enhance student outcomes in terms of retention, persistence and achievement. Although the Prebble Propositions focused on student services, there was almost no mention in the meta-study of the contribution by professional staff to these services (Prebble, et al., 2004). Yet the behaviours described in the propositions appeared to be activities that could be undertaken by professional staff, thereby providing a potential means for linking professional staff behaviours to student outcomes. Nevertheless, the Prebble Propositions were untested for this purpose.

To be an effective framework for the subsequent case study, the PSSO Framework needed to provide a link between activities and behaviours of professional staff and student outcomes. Crucial to this framework is an appropriate definition of student outcomes. Despite the now ubiquitous use of this term in higher education, the term *student outcomes* has different meanings for different people with different purposes (Ewell, 1983; Ng, et al., 1993; Terenzini, 1989). Comprehensive taxonomies of student outcomes have been developed by Lenning in the late 1970s and Pascarella and Terenzini in the early 1990s (cited in Hanson & Denzine, 2000), and Ewell (1983) and King and Howard-Hamilton (2000) describe three different classifications of student outcomes. Hanson and Denzine (2000) discuss the importance of deciding, from all the possible types of student outcomes that may be assessed, which outcomes are the most important for a particular institution, noting that rankings of importance of outcomes may vary for different groups. Specifically, as the cost of university education has been transferred to individuals, students and external stakeholders wish to identify and measure the return on their investments (Bradley, et al., 2008; Terenzini, 1989), making outcomes that relate to retention, graduation and graduate employment rates increasingly important. Accordingly, for the purposes of this study, the term *student outcomes* relates to engaging and retaining students through to completion, and uses the definition of 'student retention, persistence and achievement' (Prebble, et al., 2004, p. ix).

The Delphi study – Steps 5 to 9

The next step in developing the PSSO Framework was to test the trustworthiness of the Prebble Propositions for linking professional staff activities to student outcomes. Accordingly, an adaptation of the Delphi

method, as elaborated by Schmidt (1997), was used. The Delphi method uses structured communication to facilitate group management of complex problems (Linstone & Turoff, 2002), and is designed to create group consensus from individual opinions (Hasson, et al., 2000). The Delphi method has four characteristics that distinguish it from other group decision-making processes, such as round-table discussions or focus groups: (1) expert participants provide input, (2) participants remain anonymous to each other, (3) interaction between participants is provided by anonymous feedback, and (4) statistical analysis of results can be undertaken. Moreover, as this method does not require co-location of the experts, logistical constraints of the study are reduced and significant stakeholders may be included as expert panellists, making this method highly suitable for practitioners researching professional practice (Graham, 2010).

Choosing appropriate experts is an important aspect of Delphi studies (Delbecq, et al., 1975; Duffield, 1993; Okoli & Pawlowski, 2004) involving two main considerations: panel size and knowledge of the panellists (Powell, 2003). Delphi study expert panellists should meet four overarching criteria: (1) knowledge and experience of the issues under study; (2) the capacity and willingness to contribute to the investigation; (3) sufficient time for the study; and (4) adequate communication skills (Adler & Ziglio, 1996). However, the number of expert participants required for a panel is not large, with 10 to 18 being considered suitable (Paliwoda, 1983).

Delbecq et al. (1975) described a modified version for use in ranking issues, which has subsequently been used in a variety of fields (Schmidt, 1997). However, while a set method for using the Delphi technique had been developed for forecasting, researchers had not followed a consistent technique for ranking issues (Schmidt, 1997). Schmidt (1997) proposed a method for data collection and analysis to improve the ranking method, involving three phases: (1) the discovery of issues; (2) determining the most important issues; and (3) ranking the issues. Schmidt's method (Schmidt, 1997) uses open-ended questions to elicit issues from the expert panellists, which are then consolidated and referred to the panellists for verification (phase 1). In phase 2, the panellists are asked to nominate the most important issues, from which the researcher eliminates any issues that were not selected by a majority of panellists; this process is repeated, if necessary, until a short-list of the most important 20 or fewer issues is determined (Schmidt, 1997). Phase 3 involves a number of rounds in which the issues are ranked by the panellists, with analysis of the rankings provided as feedback to the panellists between rounds, until consensus has been achieved (Schmidt, 1997). This method will be referred to as the *Schmidt Delphi* method.

To explore the Stage 1 research question, a new method, adapting the Schmidt Delphi ranking method (Schmidt, 1997) was developed, using the Prebble Propositions as a starting point (Graham, 2010). In this modified Schmidt Delphi method, Schmidt phases 1 and 2 are satisfied by using the 13 Prebble Propositions. This is a valid assumption since the issues were derived from experts' studies, and the number of Prebble Propositions, being 13, is

consistent with the Schmidt phase 2 requirements. Phase 3 in the current study was completed by a group of expert professional staff, identified by criterion sampling on the basis of relevant skills and attributes (Graham, 2010). The modified Schmidt Delphi method is shown schematically in Figure 2.

In total, 26 panellists, whose average length of experience in higher education was 16 years, participated in the Delphi study (Graham, 2010). Panellists worked in positions ranging from Higher Education Worker (HEW)[1] Level 4 to above Level 10, with the median being Level 7. On average, the panellists' highest educational qualification was a bachelor degree. Three ranking rounds were completed, with feedback provided to the panellists between rounds, which provided a balance between adequate consensus and panel-fatigue. This feedback comprised the mean rank of each Prebble Proposition, the proportion of panellists ranking each proposition in the top half of their rankings and the level of agreement as determined by Kendall's coefficient of concordance (Graham, 2010).

Results

After round one of the Delphi (Step 6 of Figure 1) it was decided to omit propositions 4, 5 and 12 as they relate to behaviours currently relevant to academic staff only. At the conclusion of three Delphi rounds (Step 8), agreement was moderate as determined by the Kendall's coefficient of concordance (Graham, 2010). Further verification was achieved through member checking of the results by providing panellists with a final report, inviting comments and questions.

Table 2 shows the average ranks of each proposition and the percentage of panelists ranking each proposition in the top half of the rankings at the conclusion of all three Delphi rounds (Graham, 2010). The most highly ranked proposition in all three rounds was the first namely: institutional behaviours, environments and processes are welcoming and efficient. This proposition concerns students' enquiries being dealt with promptly, knowledgeably and with a friendly manner, and that the institutional and physical environment meets their needs and expectations.

Discussion

Based on the research evidence provided by the Prebble Propositions, and the expertise of professional staff working in higher education, the PSSO Framework has been developed. This framework identifies behaviours and

[1]HEW levels, given various titles in different institutions, refer to the classification structure for professional staff that is typically used in Australian universities. The classification ranges from HEW 1, which is the lowest level and is rarely used in most institutions, to HEW10+, which includes directors and managers. HEW 5 and 6 are the most common levels at the study site, representing 40% of all professional staff from 2009-2011.

conditions to which professional staff contribute, and which promote retention, persistence and achievement of students. Accordingly, the PSSO Framework provides a structure for investigating how professional staff contribute to student outcomes.

Following the successful framework development, the PSSO Framework was used to analyse data from a case study at the same site. Applying the PSSO Framework across the case study, the contributions of professional staff to student outcomes were found to be most significant in ensuring behaviours, environments and processes are welcoming and efficient (Graham, 2012a, 2013). This result confirmed the validity of the PSSO Framework.

Strengths and Limitations

A major strength of this study is the process of developing the PSSO Framework, using the Prebble meta-study (Prebble, et al., 2004) as a basis and the Delphi method to test the relevance of the propositions by a number of experts. The Prebble meta-study used a wide range of international studies from which to derive the propositions, which link specific behaviours or activities to the achievement of positive student outcomes. The Delphi rounds provided an anonymous and logistically manageable means for professional staff to reflect on and to rank their work in relation to the behaviours and activities described in the Prebble Propositions. By using this approach, a framework for linking the work of professional staff to positive student outcomes was derived.

One limitation identified in the original study (Graham, 2010) was the use of a single site with a group of panel experts drawn solely from faculty-based professional staff. Further validation of the framework could be tested by replicating the process at different sites and with different groups of professional staff. The aging of the Prebble Propositions due to the aging of the studies from which the propositions were derived, published as they were between 1993 and 2003, was also noted (Graham, 2010). This limitation was exemplified by the lack of propositions relating to the support of student outcomes through the use of technology.

One lesson learned during the Delphi steps was the importance of making explicit that ranking of the propositions should relate to the *contributions made by the work of professional staff*, not the importance to student outcomes. In the first round of the Delphi study, it became apparent that several of the participants had ranked the propositions according to perceived effectiveness in achieving student outcomes (Graham, 2010). This was addressed by explicit instructions about the intention of the ranking in subsequent Delphi rounds.

An important subsequent step was to validate the PSSO Framework by using it in the case study, which was undertaken at the site at which the framework was developed. This case study confirmed the validity of the PSSO Framework, and its usefulness in investigating the work of professional staff in relation to student outcomes.

Conclusion

The PSSO Framework designates several key behaviours and conditions that support student outcomes, and to which professional staff contribute. The framework is intended to be used in both professional practice and research. Further testing of this framework under different conditions could provide comparisons of the contributions of professional staff to student outcomes across different groups of professional staff from different institutions and different countries. It is likely that such comparisons will result in different ranking orders, influenced by the specific knowledge and activities of the panellists involved. Indeed, as more professional staff enter the 'third space' between academic and professional staff (Whitchurch, 2008) it may be necessary to reinstate the more academic-related propositions into the framework. Nevertheless, these possible differences in ranking do not diminish the usefulness of the Professional Staff–Student Outcomes Framework for investigating the contributions of professional staff to student outcomes for a particular site.

Figure 1. *Steps in the development process of the PSSO Framework*

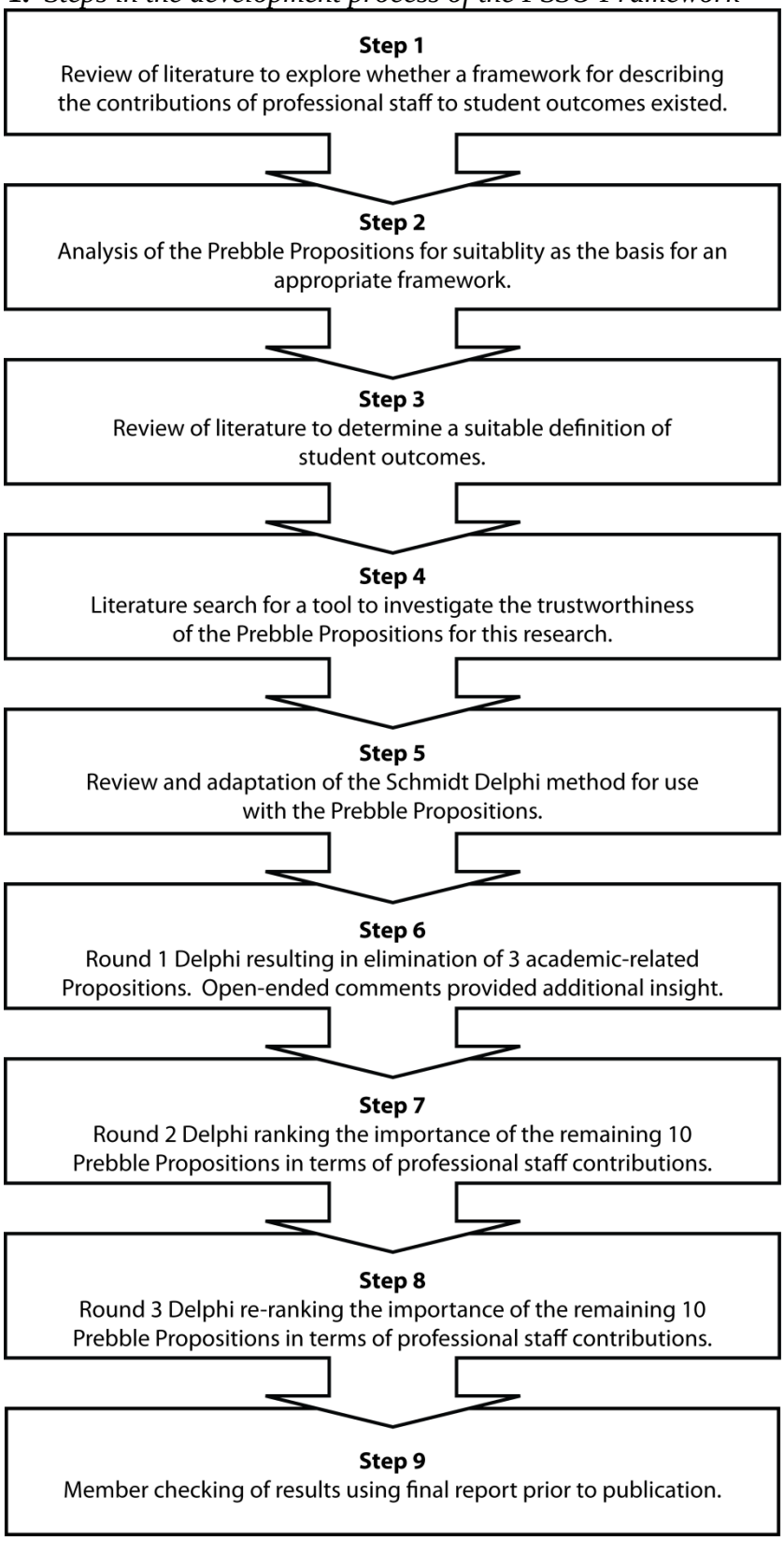

Figure 2. *Modified Schmidt Delphi method*

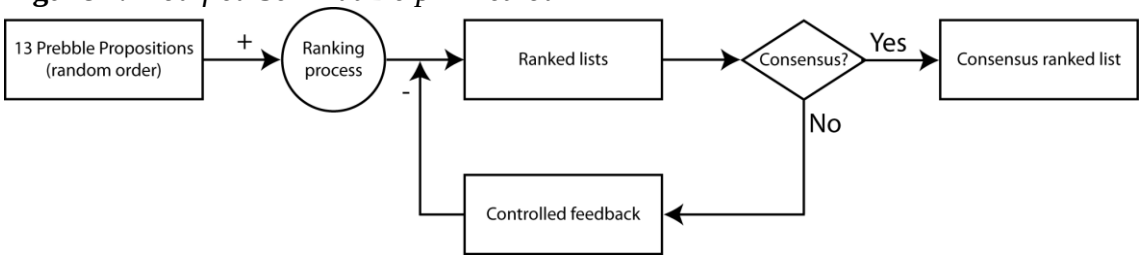

Table 1. *Description of Prebble Propositions*[1]

Student Support Propositions	Description
1. Institutional behaviours, environments and processes are welcoming and efficient	Students' enquiries are dealt with promptly, knowledgeably and with a friendly manner, and the institutional and physical environment meets their needs and expectations
2. The institution provides opportunities for students to establish social networks	Student clubs, societies and activities are supported, and facilities and events are provided to support socialisation
3. Academic counselling and pre-enrolment advice are readily available to ensure students enrol in appropriate programs	Students are provided with high quality advice and information concerning program choices, and links are established with secondary schools
4. Lecturers are approachable and accessible inside and outside class times for academic discussions	Students benefit from regular and meaningful formal and informal contact with academics, particularly when a learning community is developed
5. Students experience good quality teaching and manageable workloads	The quality and teaching methodologies can have an impact on student outcomes, as can a manageable workload
6. Orientation and induction programs are provided to facilitate both social and academic integration	Both academic orientation and general orientation programs can improve student outcomes
7. Students working in academic learning communities have good outcomes	The deliberate use and facilitation of learning communities has a positive impact on student outcomes
8. A comprehensive range of institutional services and facilities is available	Student outcomes are improved by the provision of services and facilities that support both the social and academic integration of students
9. Supplemental instruction is provided	Academic support programs in programs that students find difficult improve student outcomes
10. Peer tutoring and mentoring services are provided	Students benefit from well-designed and well-run peer tutoring and mentoring programs

[1] (After Prebble, et al., 2004)

11.	The institution ensures there is an absence of discrimination on campus, so students feel valued, fairly treated and safe	When diversity is welcomed and valued, and students feel physically and psychologically safe, student outcomes are improved
12.	Institutional processes cater for diversity of learning preferences	Students have different learning styles, which need to be accommodated
13.	The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs	The diverse backgrounds of students should be affirmed and accommodated

Table 2. Ranking of Prebble Propositions[1]

Proposition	Mean rank	Percentage ranking in top half[2]
Institutional behaviours, environments and processes are welcoming and efficient	1.48	100
Academic counselling and pre-enrolment advice are readily available to ensure students enrol in appropriate programs	3.32	88
Orientation and induction programs are provided to facilitate both social and academic integration	4.24	68
A comprehensive range of institutional services and facilities is available	4.28	72
The institution ensures there is an absence of discrimination on campus, so students feel valued, fairly treated and safe	6.28	48
Students working in academic learning communities have good outcomes	6.32	40
The institution provides opportunities for students to establish social networks	6.72	28
Supplemental instruction is provided	7.44	20
Peer tutoring and mentoring services are provided	7.44	12
The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs	7.52	24

References

Adams, D. (1998). 'Examining the fabric of academic life: An analysis of three decades of research on the perceptions of Australian academics about their roles'. *Higher Education*, 36(4), 421–435.

[1](Graham, 2010)

[2]The percentage of panellists ranking each proposition in the top half of their rankings.

Adler, M., & E. Ziglio (Eds.). (1996). *Gazing into the oracle: the Delphi method and its application to social policy and public health*. London: Jessica Kingsley Publishers.

Allen-Collinson, J. (2004). 'Occupational Identity on the Edge'. *Sociology*, 38(2), 313–329.

Allen-Collinson, J. (2006). 'Just "non-academics"?'. *Work, Employment & Society*, 20(2), 267–288.

Allen-Collinson, J. (2007). ' "Get yourself some nice, neat, matching box files!" Research administrators and occupational identity work'. *Studies in higher Education*, 32(3), 295–309.

Anderson, D., R. Johnson, & L. Saha. (2002). *Changes in academic work: implications for universities of the changing age distribution and work roles of academic staff*. Canberra: Department of Education Science and Training. Available at http://www.dest.gov.au/sectors/higher_education/publications_resources/profiles/changes_in_academic_work.htm [6 June 2008].

Bradley, D., P. Noonan, H. Nugent, & B. Scales. (2008). *Review of Australian Higher Education – Final Report*. Canberra. Available at http://www.deewr.gov.au/highereducation/review/pages/reviewofaustralianhighereducationreport.aspx [8 November 2010].

Conway, M. (2000). 'Defining administrators and new professionals'. *Perspectives: Policy and Practice in Higher Education*, 4(1), 14–15.

Delbecq, A., A.H. Van de Ven, & D.H. Gustafson. (1975). *Group techniques for program planning: a guide to nominal group and Delphi processes* (A. H. Van de Ven & D. H. Gustafson, Trans.). Glenview, Ill.: Scott, Foresman.

Department of Education, Employment and Workplace Relations. (2012). Publications – HE Statistics Collections. Available at http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/Home.aspx [29 January 2012].

Dobson, I. (2005). 'Cultures Within: Academic staff, Governance and Administration'. Paper presented at the CHER 18th Annual Conference Higher Education: The Cultural Dimension – Innovative Cultures, Norms and Values, 1–3 September 2005, in Jyväskylä, Finland. Available at http://ktl.jyu.fi/img/portal/4791/ian_r_dobson.pdf [5 May 2007].

Duffield, C. (1993). 'The Delphi technique: a comparison of results obtained using two expert panels'. *International Journal of Nursing Studies*, 30(3), 227–237.

Ewell, P.T. (1983). *Information on Student Outcomes: How to Get It and How to Use It. An NCHEMS Executive Overview*. Boulder, CO: National Center for Higher Education Management Systems.

Graham, C. (2010). 'Hearing the voices of general staff: A Delphi study of the contributions of general staff to student outcomes'. *Journal of Higher Education Policy and Management*, 32(3), 213–223.

Graham, C. (2012a). *Report on the findings of the doctoral research project 'Pedagogical Partnerships and Professionalisation: Changing work and identities of professional staff at one Australian university'*. Available at http://www.higheredprofessionals.info/publications/reports [21 January 2013].

Graham, C. (2012b). 'Transforming spaces and identities: the contributions of professional staff to learning spaces in higher education'. *Journal of Higher Education Policy and Management*, 34(4), 437–452.

Graham, C. (2013). 'Professional staff contributions to positive student outcomes: a case study'. *Australian Universities' Review,* in press.

Hanson, G.R., & G.M. Denzine. (2000). 'Student Affairs Research: The Work We Do'. *New Directions for Institutional Research*, 2000(108), 5–17.

Hasson, F., S. Keeney, & H. McKenna. (2000). 'Research guidelines for the Delphi survey technique'. *Journal of Advanced Nursing*, 32(4), 1008–1015.

Henkel, M. (2000). *Academic identities and policy change in higher education*. London: Jessica Kingsley Publishers.

King, P.M., & M.F. Howard-Hamilton. (2000). 'Using Student Development Theory to Inform Institutional Research'. *New Directions for Institutional Research*, Winter 2000(108), 19–36.

Linstone, H.A., & M. Turoff (Eds.). (2002). *The Delphi method: Techniques and Applications*. Reading, Mass.: Addison-Wesley Pub. Co., Advanced Book Program.

Macfarlane, B. (2010). 'The unbundled academic: How academic life is being hollowed out'. Paper presented at the 33rd Annual HERDSA Conference, 6–9 July, in Melbourne, Australia. Available at http://www.herdsa.org.au/wp-content/uploads/conference/2010/papers/HERDSA2010_Macfarlane_B.pdf [23 November 2010].

Marginson, S. (2000). 'Rethinking Academic Work in the Global Era'. *Journal of Higher Education Policy and Management*, 22(1), 23–35.

Marginson, S., & M. Considine. (2000). *The enterprise university: power, governance and reinvention in Australia*. New York: Cambridge University Press.

Ng, G.C., K. Heskin, & R. Sharma. (1993). 'Quality of Student Outcomes: Concepts And Issues Of Measurement'. *Journal of Institutional Research in Australasia*, 2(1), 35–46.

Okoli, C., & S.D. Pawlowski. (2004). 'The Delphi method as a research tool: an example, design considerations and applications'. *Information & Management*, 42(1), 15–29.

Paliwoda, S.J. (1983). 'Predicting the Future Using Delphi'. *Management Decision*, 21(1), 31–38.

Pitman, T. (2000). 'Perceptions of academics and students as customers: a survey of administrative staff in higher education'. *Journal of Higher Education Policy and Management*, 22(2), 165–175.

Powell, C. (2003). 'The Delphi technique: myths and realities'. *Journal of Advanced Nursing*, 41(4), 376-382.

Prebble, T., H. Hargreaves, L. Leach, K. Naidoo, G. Suddaby, & N. Zepoke. (2004). *The impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study: A synthesis of the research.* Available at http://www.educationcounts.govt.nz/publications/tertiary_education /5519 [21 January 2013].

Schmidt, R.C. (1997). 'Managing Delphi Surveys Using Nonparametric Statistical Techniques'. *Decision Sciences*, 28(3), 763–774.

Sebalj, D., & A. Holbrook. (2006). 'Administering PhD studies'. Paper presented at the 2006 Australian Association for Research in Education Conference, 27-30 November, in Adelaide, South Australia. Available at http://www.aare.edu. au/06pap/seb06658.pdf [21 January 2013].

Sebalj, D., & A. Holbrook. (2009). 'The Profile of University Research Services Staff'. *Australian Universities' Review,* 51(1), 30–38.

Shattock, M. (2010). *Managing successful universities*. Berkshire, England: SRHE and Open University Press.

Small, K. (2008). 'Relationships and reciprocality in student and academic services'. *Journal of Higher Education Policy and Management,* 30(2), 175–185.

Szekeres, J. (2004). 'The invisible workers'. *Journal of Higher Education Policy and Management,* 26(1), 7–22.

Szekeres, J. (2011). 'Professional staff carve out a new space'. *Journal of Higher Education Policy and Management,* 33(6), 679–691.

Terenzini, P.T. (1989). 'Assessment with Open Eyes: Pitfalls in Studying Student Outcomes'. *The Journal of Higher Education,* 60(6), 644–664.

Whitchurch, C. (2006). 'Who do they think they are?: the changing identities of professional administrators and managers in UK higher education'. *Journal of Higher Education Policy and Management,* 28(2), 159–171.

Whitchurch, C. (2008). 'Shifting Identities and Blurring Boundaries: the Emergence of Third Space Professionals in UK Higher Education'. *Higher Education Quarterly,* 62(4), 377–396.

Whitchurch, C. (2010). Convergence and Divergence in Professional Identities. In G. Gordon & C. Whitchurch (Eds.), *Academic and Professional Identities in Higher Education: The Challenges of a Diversifying Workforce* (pp. 167–183). New York: Routledge.