

Professional Education in Built Environment and Design: Exploring Stakeholder Roles and Responsibilities

Abstract

This paper reports on the preliminary findings of an ongoing Australian Learning and Teaching Council (ALTC) – Discipline Based Initiatives (DBI) study, mapping the key issues facing professional education in built environment (quantity surveying, construction management, project management, property economics, spatial science, planning, civil engineering) and design (architecture, interior design, industrial design, landscape architecture).

The research aims to advance professional education in these disciplines and the transdisciplinary spaces across them by identifying the changing nature of professional practice in built environment and design disciplines, particularly the impacts of changing modes of practice (integrated practice), technology and globalisation. Three focus groups were conducted in Brisbane, Australia with key stakeholders: industry professionals (n=8), academics (n=8) and graduate/final year students (n=6). A semi-structured approach was utilised to explore the key challenges facing the built environment and design sectors, identify the role the university, industry and students play in meeting these challenges, and understand how prepared current graduates are for professional practice and what needs to be done to help better prepare students for this transition.

Responses were analysed using a thematic approach, identifying categories, themes and patterns. Preliminary findings highlight the apparent disparity between the understandings and expectations of different stakeholders, particularly the relative importance of specific graduate capabilities (e.g., technical skills, critical thought). Our research offers a beginning point for understanding how industry professionals, academics and graduates view the changing nature of professional practice in built environment and design, highlighting challenges and opportunities.

Introduction

In Australia, the need for built environment and design professionals is acute given the boom in infrastructure required to advance economic development and national prosperity. Whilst graduates in these disciplines are currently employed quickly, at higher salaries than ever before, changing modes of practice require new types of skills and knowledge sets so that graduates are well prepared for emerging practice paradigms. The importance of maintaining relevance in their skills on graduation is critical to the mass of recruits entering these disciplines each year. It is also essential that professional education prepares graduates to make sound, ethical (especially related to sustainability and globalisation), and technologically appropriate, well-founded decisions on behalf of the community (Sullivan and Rosin 2008).

The value of this research lies in its future focus on the professions – which graduates of built environment and design enter. Changing modes of practice (a move to integrated practice¹), technological development (emergence of building information modelling systems²) and globalisation have inexorably altered these professions (ICSID 2007; Sullivan 2005) while at the same time there remains a need for professional people to work in the ethical service of their communities. The impact of this research will be to focus professional education in built environment and engineering on the changing needs of the practice in the service of the community. It is anticipated that this research will assist the disciplines concerned to promote teaching and learning for change in the professions (Boud 1998; Boud and Solomon 2001; Hutchings, Huber and Golde 2007).

¹ Integrated practice refers to teams of architects, engineers, construction managers, quantity surveyors etc usually (but not necessarily) cooperating to create a single unified building information model with all aspects of architecture, structure, services etc fully integrated and resolved.

² A 3D digital model of a building containing sufficient information to construct it without the use of additional drawings or specifications.

Methodology

To better understand the changing nature of professional practice in built environment and design disciplines and ways to establish a more appropriate and future-oriented agenda in these disciplines, key stakeholders (professionals, academics and students) were encouraged to participate in focus groups.

Focus groups were conducted in Brisbane, Australia with each of the three target groups: professionals (n=8), academics (n=8) and graduate/final year students (n=6). As an incentive for participation, participants received lunch and a \$30 gift voucher. One researcher led each focus group, using a semi-structured approach. Standard good practice interview and ethical protocols were followed, with the semi-structured discussion format focus groups lasting approximately one hour.

The 'Professional' group comprised of senior managers, representing architecture (4), urban planning (1), quantity surveying (1) and engineering/project managers (2). Half were affiliated with the professional industry partners on the project; half were recruited through personal networks and target emails to local businesses in these disciplines. The 'Academic' group comprised of teaching staff, 4 females and 4 males, from landscape architecture (1), industrial design (1), architecture (2), interior design (2), property economics (1) and civil engineering (1). All were recruited through a general faculty-wide email requesting participation. The 'graduate/final year' group comprised of 2 females and 4 males, from industrial design (2 graduates, 1 final year), Architecture (1 graduate), civil engineering (1 final year) and urban planning (1 graduate). All were recruited through personal networks, asking final year coordinators and project partners to pass on the focus group details to potential participants.

Analysis

A semi-structured approach was utilised, this was centred on understanding the key challenges facing the built environment and design sectors and identifying the role each stakeholder

(university/academics, industry/professionals and recent graduates/students) can play in meeting these challenges. A critical component was to understand how well prepared current graduates are for professional practice and what needs to be done to help better prepare students for this transition. A Thematic Analysis was undertaken on the focus group data to identify key themes. Transcripts and responses were analysed using a thematic approach, identifying categories, themes and patterns (Liamputtong & Ezzy, 2005). The process of identifying, categorising and coding data, described by Punch (1998) as “putting tags, names or labels against pieces of the data” (p 204), helps reduce and simplify the vast amount of data and identify dominant themes. A key focus was to identify the extent of convergence or divergence in what stakeholder’s perceived to be the key issues facing built environment and design related disciplines.

Findings and discussion

Surprisingly, the three stakeholders (professionals, academics and students) generally held rather different views about the key challenges facing the industry. Recent graduates and final year students focused on the challenge of getting their first job, as well as the importance of social skills and developing specific personality traits such as humility and confidence. Whereas the academic cohort focused on the global economic crisis and the importance of graduates developing critical thinking and transferable skills. For professionals, the focus was on attitude, skills and abilities of new graduates, particularly in terms of critical thinking and addressing issues such as sustainability. Despite the different emphasises, however, there were some general commonalities about what these stakeholders perceived as the key challenges facing their professions:

1. Development of critical thought and lifelong learning

All stakeholders, in different ways, emphasised the importance of critical thinking, problem-solving skills and life-long learning. All acknowledged that graduates need a strong conceptual skill-base to build on, which is what university should provide.

Academics described how *“one thing we can do is to be able to give them the tools to research and be able to find out information for them and to be able to continue their learning process on their own beyond university”* (Academic, M7); similarly, professionals debated what the job of a university was, agreeing that *“university has the responsibility of... providing the forum for people to learn and think”* (Professional, M5). Equally, students spoke of the task of university being about learning skills and knowledge and not about developing personal attributes *“as we go through university it is purely about skills and about knowledge. It is not actively, you don't actively improve yourself...”* (Students, M2).

The development of ‘thinking’ was the prime consideration for professionals; all were very clear that they did not expect new graduates to arrive and do everything, but they need to possess a conceptual skill-base and ability to understand the problem. It was generally agreed also that university was the platform to provide the space for exploring this skill *“It's the one time in their lives that for maybe 4-5yrs that they can be free. They can be global about their thinking.”* (Professional, M4)

2. Development of interpersonal social skills.

Students spoke passionately about the importance of inter-personal, social and communication skills, describing how humility, leadership and teamwork were critical qualities for success in the workplace. *“I think all of the things, you know communication and how to talk to somebody and how to present your work and all of these things that are really, really important in the real world”* (Students, M2). *“Confidence. It's the sink or swim mentality. If someone chucks you in the deep end and you manage to keep your head above water long enough to get to the side then you gain confidence in your ability to do harder things”* (Students, F3). Similarly professionals mentioned the importance of graduates expressing and demonstrating a desire to learn. This was discussed extensively with the majority of professionals claiming technical capabilities less of a concern stating they actively *“look for the willingness to learn”* (Professionals, M4).

3. *The impact of the global economic crisis.*

Although all stakeholders saw the global economic crisis as a challenge, they generally focused on different aspects and consequences. For students, there was an acknowledgement that jobs would be more difficult to get *“But now that the market is not as buoyant and things are a little bit uneasy, people who, who were potentially the best students in the corium of graduates are now finding it really difficult to find work”* (Students, F3). For academics, most saw the solution, and their role to be educating students to be life-long learners and to be adaptable *“I was thinking along the same lines it implies that they need to think broader. There is a range of vocations that we can probably prepare them for beyond a normal and a traditional approach. A lot of them get to the end of the course and I don’t want to really be an interior designer or an architect but we can give them an education that gives them skills that they can adapt to complimentary type roles”* (Academic, M3).

Conclusions

Exploring ways to smooth the transition between university and work needs to be a priority for universities and industry. Notably, this process is not about assistance in terms of developing curriculum vitas, but rather about assisting students (especially those without mandatory work experience in their degree) to identify practical tangible work opportunities and how to target them. The next stage of this research will be to correlate the focus group findings with that of the national survey that was still active during the compilation of this paper. A complete definition of the key challenges facing built environment and design related disciplines in Australia as well as a list of recommendations will be available through the final Australian Learning and Teaching Council report due to be completed March 2009.

References

- ACNielsen Research Services (2000). Employer Satisfaction with Graduate Skills - Research Report, Department of Education, Training and Youth Affairs: 1-61.
- Barrie, S. C. (2006). "Understanding What We Mean by the Generic Attributes of Graduates." Higher Education **51**(2): 215-241.
- Billett, S. (2001). Critiquing Workplace Learning Discourses: Participation and Continuity at Work. Context, Power and Perspective: Confronting the Challenges to Improving Attainment in Learning at Work. Joint Network/SKOPE/TLRP International Workshop, Sunley Management Centre, University College of Northampton.
- Boud, D. (1998). How Can University Work-based Courses Contribute to Lifelong Learning? International Perspectives on Lifelong Learning. J. Holford, P. Jarvis and C. Griffin. London, Kogan Page Ltd: 213-223.
- Boud, D. and N. Solomon (2001). Future Directions for Work-based Learning: Reconfiguring Higher Education. Work-based Learning: A New Higher Education? D. Boud and N. Solomon. Buckingham, UK, SRHE and Open University Press: 215-227.
- Commonwealth of Australia (2002). Employability Skills for the Future. ACT, Department of Education, Science and Training (DEST).
- Franz, J. (2008). A Pedagogical Model of Higher Education/Industry Engagement for Enhancing Employability and Professional Practice. WACE Asica Pacific Conference. Sydney, ACEN.
- Gibb, A. (2005). "Construction Engineering Management: Academic Collaboration with Industry." CEBE Transactions **2**(1): 7-27.
- Harvey, L. (2000). "New realities: the relationship between higher education and employment." Tertiary Education and Management **6**(1): 3-17.
- Higher Education Council (1996). Professional Education and Credentialism. Canberra, National Board of Employment, Education and Training: 143.
- Hutchings, P., Huber, M. T., & Golde, C. M. (2007). Integrating Work and Life: A Vision for a Changing Academy [Electronic Version]. *Caregie Perspectives*, 2. Retrieved 2 June 2008 from <http://www.carnegiefoundation.org/perspectives/sub.asp?key=245&subkey=2003>.
- ICSID. (2007). *The increasingly vital role of design* (2nd ed.). Copenhagen: International Council for Societies for Industrial Design.
- Liamputtong, P., & Ezzy, D. (2005). *Qualitative research methods*. South Melbourne: Oxford University Press.
- Milne, P. (2007). A Model for Work Integrated Learning: Optimizing Student Learning Outcomes. WACE 6th Annual International Symposium - The Quest for Quality, USA, South Carolina, Charleston, WACE.
- Punch, K. F. (1998). *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage Publications.
- Rainbird, H., A. Fuller, et al., Eds. (2004). Workplace Learning in Context. New York, Routledge.
- Savage, S. (2005). "Urban Design Education: Learning for Life in Practice." Urban Design International **10**: 3-10.
- Savage, S. and M. Betts (2005). Boyer Reconsidered: Priorities for Framing Academic Work. Higher Education in a changing world: Research and Development in Higher Education. A. Brew and C. Asmar. Australia, Sydney, HERDSA. **28**: 462-470.
- Sullivan, W. M. (2005). *Work and Integrity: The Crisis and Promise of Professionalism in America* (Second ed.). San Francisco: Jossey-Bass.
- Sullivan, W. M. and M. S. Rosin (2008). A New Agenda for Higher Education. San Francisco, Jossey-Bass.
- Webster, C. (2006). "Practice-bounded Knowledge." CEBE Transactions **3**(2): 1-8.
- Williams, A. (2005). "Industry Engagement in the Built Environment." CEBE Transactions **2**(1): 1-5.