BUILT ENVIRONMENT EDUCATION, RESEARCH AND PRACTICE: INTEGRATING DIVERSE INTERESTS TO MAKE AN IMPACT

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The role of the academic in the built environment seems generally to be not well understood or articulated. While this problem is not unique to our field, there are plenty of examples in a wide range of academic disciplines where the academic role has been fully articulated. But built environment academics have tended not to look beyond their own literature and their own vocational context in trying to give meaning to their academic work. The purpose of this keynote presentation is to explore the context of academic work generally and the connections between education, research and practice in the built environment, specifically. By drawing on ideas from the sociology of the professions, the role of universities, and the fundamentals of social science research, a case is made that helps to explain the kind of problems that routinely obstruct academic progress in our field. This discussion reveals that while there are likely to be great weaknesses in much of what is published and taught in the built environment, it is not too great a stretch to provide a more robust understanding and a good basis for developing our field in a way that would enable us collectively to make a major contribution to theory-building, theory-testing and to make a good stab at tackling some of the problems facing society at large. There is no reason to disregard the fundamental academic disciplines that underpin our knowledge of the built environment. If we contextualise our work in these more fundamental disciplines, there is every reason to think that we can have a much greater impact that we have experienced to date.

Keywords: education, practice, research, university, vocation.

INTRODUCTION

The purpose of this keynote presentation is first, to examine how built environment education and research inform each other. Second, it is about how they both inform and are informed by practice. Third, it is about the extent to which these things together can inform not only built environment research and practice, but wider academic disciplines and, perhaps, society as a whole. Built environment is anything that is not the natural environment, and therefore encompasses buildings and infrastructure, in their design, management, operation and disposal.

RECONCILING THE IRRECONCILABLE

To a certain extent, the topic I have chosen involves a fool's errand in attempting to reconcile the irreconcilable. First, it may be stating the obvious to assert that built environment education is about education, but too often it is seen by many people as being about training

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for a vocation. There is a key distinction between education and training. Second, research is often carried out by people who do not teach, as well as by people who are not sufficiently experienced at research to come up with findings that are interesting and useful. Third, practitioners, like many people in society generally, often fail to appreciate the role of the university in society, and therefore get frustrated when their expectations are not met. So, across these three special interests in the built environment, there are hugely mis-matched expectations that lead to a great deal of dissatisfaction and mis-guided effort.

These issues are even more difficult to deal with when they are seen in a wider, societal context. We argue among ourselves about how industry might better support our research, how teaching might meet the needs of industry, why our research does not increase the productivity and efficiency of built environment firms, and so on. While we are arguing about how each can better support the other, no one appears to be thinking about how all of us, collectively, might contribute to society. What is happening in the wider world? What is the context that we seek to relate to in order to make our work more meaningful? There have been several changes in recent years regarding the role of professionals of all kinds, particularly in relation to a general decline in trust. This is important, because academics are professionals, and our particular breed of academics is trying to prepare students for a profession. What does it mean to be a professional? What does society expect from professionals that it would not expect from other kinds of people? And if professionalism is in decline, what should we make of the kind of managerialist and so-called "best practice" ethic that appears to be replacing it? These questions hinge around the role of judgement in decision-making and the relationship between experts and non-experts, generally. In other words, I can see a problem here and I am asking myself my favourite question when it comes to defining a problem – what is the general class of problem of which this is a specific example? And through this question, I hope to comment on what our discipline might be able so share with others, both now and in the future.

WHAT IS BUILT ENVIRONMENT EDUCATION FOR?

Clearly, the primary purpose of built environment education is the preparation of people for a vocation in the built environment. Should the universities be more concerned with the pursuit of knowledge for its own sake? Have we lost touch with our traditions by directing so much of our effort to the service of the vocations? I suspect not. Traditionally, universities have focused on preparation for vocations – for example, by the sixth century in Europe, education only existed where the church maintained it. As Patterson (1997: 31-32) points out in her history of the University since Ancient Greece:

> *The church regarded education not as a good in itself, but as a means of training the clergy in the sacred writings and in the performance of their religious duties. Education was therefore restricted within the boundaries of the church's interests and doctrines.*

It is interesting how closely this resonates with a perception that the professions seek to restrict the boundaries of vocational education in the universities, even though most professional institutions, these days, would not seek to have this kind of influence or control. In addition to this view, I would also offer another view, this time from Edward Shils – *Universities have a distinctive task. It is the methodical discovery and the teaching of truths about serious and important things* (Shils 1997: 3).

HOW SHOULD RESEARCH BE DESIGNED AND CARRIED OUT?

Research is a methodical process of discovering new knowledge or facts, and it is usually preferable it these things are interesting or useful. In the built environment, despite the

increasing range of books about built environment research methods, research is still research! There is not a special branch of research methodologies that are exclusive to the built environment. There are many ways of carrying out research, and many of us get terribly confused about what constitutes research. Clearly, it is important to make sure that what we do in the name of research has some meaning and some kind of impact. Two questions about any particular research project flow from this. First, is this the right research method? Second, is the research done well? Apart from the obvious problems of inappropriate methods, one problem that I frequently encounter is poorly designed research. For example, students frequently distribute their survey questionnaires through email lists. Typically, these lists consist of academics from many countries, but usually, the survey questions are based on a set of assumptions that reveal a complete lack of understanding.

One recent survey was an interesting case in point, from an American doctoral student interested in how construction employers deal with the risks associated with terrorism when their professional employees work on overseas projects in trouble spots. His first question, to an international list of construction academics, was: "Have you ever worked on a construction project outside of the United States?" It is clear from the context of this question that he identifies overseas as being outside the United States. But, clearly, if I had never worked overseas, I would have to answer yes to this question, since I only worked on projects at home, in UK. So, having answered yes to this question, because I have worked on projects outside the United States, the next screen asked a whole load of questions with drop-down options that made little sense to me, but clearly made a great deal of sense to the researcher. I particularly wondered about the question "Have you worked in any country which was affected by terrorism?" I guess that the UK has been affected by terrorism – but is this really what the researcher is looking for, given that his next question asks if my family travelled with my while I worked abroad? This was very confusing. Until this point I was answering questions about working on sites in the UK, a country that has been affected by terrorism. But when asked a question about taking my family with me while I worked abroad, I had to think about when my family came with me when I travelled as an academic to countries that were not affected by terrorism. In other words, all of the questions about my working abroad elicited answers that were nothing to do with what the student was investigating. So I aborted the questionnaire half way through. Given what I know about survey questionnaires, I was struck by a series of questions about this research: How do you write up a survey when you have not defined a sampling frame? What would you state about the population, the sample and the return rate? This student clearly had no idea who the survey went to, how many people even looked at it, what to do with the data once collected, or anything meaningful. There is nothing to be learned from this exercise, and what really worries me is that one day the work might turn up in a conference or as a paper submitted to a journal. What will the researcher make of this random set of opinions from a random set of people?

Before sending surveys out to mailing lists, students and researchers should be encouraged to think about the traditional steps in designing surveys. I wonder what we are teaching our students that leads them to make so many errors in the design of a simple survey. One thought that frequently occurs to me is that these construction researchers simply do not realize that they are carrying out social science research. Many people imagine that because they are researching in the construction sector, they are carrying out something other than social science. There are so many good books on this topic, such as Oppenheim (1992), Fink (1995), Converse and Presser (1986), Moser and Kalton (2001), to name but a few, that I sometimes wonder whether research students are being directed to this extensive literature on how to carry out research. Again, I question whether the absence of the word "construction" in these social science research texts makes them invisible to people in our field.

This phenomenon is one of the most frequent problems that I find with papers submitted to *Construction Management and Economics* as well as to papers submitted to numerous conferences with which I am involved. If our researchers are not basing their research design on the literature about research methods, what are they basing it on? There are some reasons to think that the two key influences in much of this work are newspapers and consultants.

The media frequently publish the results of market research and focus group research, most of which is centred on either marketing or politics (is there a difference?). I recall reading one article in a construction magazine that should remain nameless in which the editor was writing about a survey of managers in construction firms. He wrote how 28% agreed that the situation was serious, 54% felt that the government should intervene, 86% thought that they were going to change something about their approach… I soon noticed that every result was a multiple of one seventh (14%). In other words, this fellow had called up seven of his friends and asked them what they thought about a series of issues, then reported the result as if he'd carried out a survey! That was bad enough. But what makes it worse is when other people emulate this, thinking that they are doing a survey. Another common misunderstanding is what is meant by "case study". Again, there is a strong literature about what case studies are, what you can do with them, how you might go about them. It is depressing to have to say that one interview is not a case study! Too often, the views of key respondents are accorded too much significance.

Consultants are widespread in the construction sector. It is what most of our vocational training is preparing people for. And most of the lecturers in our field were (or still are) consultants of one kind or another. To what extent does the education of architects, surveyors and engineers prepare them to carry out or teach research methods? Many of the research projects that we see proposed or discussed at conferences are not research projects at all, but consultancy projects, geared up to do something practical, solve a particular problem of the kind that would normally be dealt with by consultants. By getting universities to carry out this work in the name of research, it is quite possible to get some free or cheap consultancy. I understand how this comes about, but that does not make it research. Simply being a practitioner does not help us to add to the sum total of knowledge about what practitioners do and why they behave in the way that they do. Indeed, I commented on this in feedback about last year's inaugural WABER event, as follows:

First, there was clearly some confusion as to what constituted academic research. Many presenters were clearly setting up a piece of consultancy work. When it was pointed out to them that this was not research and would not satisfy the requirements for a PhD, there was some confusion. In the end, we simplified the message down to "if you are doing what practitioners do, you are doing consultancy. If you are examining or analysing what practitioners do, it is research". This was something that had to be hammered home, but is also a regular problem in CM research the world over. Second, few presenters had come across the idea of research methodology. As usual, the word was bandied around a lot as a heading, but as usual, it heralded a discussion of methods. The distinction between methods and methodology was as difficult to get across here as anywhere. One metaphor that seemed to work was cooking - a recipe is a list of steps that are to be used in preparing a dish, but the recipe does not tell you why these steps work. Such is the difference between explaining what steps were involved (research methods) and explaining why they were chosen and how they generate data and information that will usefully address the questions (research methodology). Another frustration with research methods was the preoccupation with survey questionnaires and the notion of preparing some kind of model. It is a common feature among new researchers to assume that social science research requires a questionnaire survey. It doesn't. There are so many research methods that might be used, and the lack of variety in

approaches to hugely varying questions indicated that few of these researchers were aware of the literature on research methods. So we frequently pushed people to carry out some review of research methods before they did their fieldwork, and in many cases we told them that a questionnaire survey would simply not answer the questions they were asking.

In my opinion, the simple answer to the question about how research should be designed and carried out is that it should be done along the lines of good research practice, rather than along the lines of journalism or consultancy. In other words, there is something known as "academic rigour" that appears to be missing from many of the studies that I see.

HOW DO UNIVERSITIES CONTRIBUTE TO INDUSTRY?

Built environment practice does not, of course, take place in the universities, but in the building industry. In thinking about practice, therefore, the focus must be on the connections between universities and industry. Recently, I have had the experience of being involved with a group of senior practitioners, at a policy-making level, and their reactions to suggestions about what universities might do are generally dismissive and impatient. I have been surprised by the strength of their reactions when I suggest various ways in which universities (not just mine) might be able to help act as a repository of knowledge, a problem-solving resource, some kind of ideas exchange or enabler. These ideas have been dismissed out of hand as being distracting, counter-productive or just plain useless. This has resulted in a few heated discussions, of course. And what we have come down to is that their feeling is that academics typically think of all the reasons why something should not be done, when something definitely needs to be done. Is this a fair assessment? I have noticed that we do spend a lot of time thinking of why something should not be done, or why something is just wrong. I also understand just how important it is for the academic to be sceptical; to doubt everything. Is there some useful ground between academic scepticism and industry pragmatism?

If universities are not contributing to how policy-makers think, then what are we doing? Clearly, there is a very strong expectation from business that we shall continue to prepare people for vocations. In many places, this is becoming almost the only purpose of a university. If a programme of study does not contribute to increased efficiency of some business or other, then, presumably, it has no purpose. Clearly, this is an absurd statement, but it does seem to underline much of the rhetoric we see in the media, especially in the UK when it comes to discussions about the extent to which students should be expected to pay for their own education. There is a strange but somewhat fixed idea in the media that graduates themselves are the only beneficiaries, as if university education provided no benefits to the rest of society. But this has become such a truism for many of us that we may have forgotten how universities contribute to society generally, and how built environment departments contribute to the construction industry specifically. Indeed, some countries are more enlightened than this, and in places like Sweden, for example, university education is free. Presumably, this is not because the Swedish government simply wants to be charitable to bright people, but because they see that there is a benefit to society in having people educated to this level, and in developing the ideas that will continue to fuel the country's development, in an independent atmosphere.

The question about the contribution of universities to the construction industry is an interesting one, because the study of the built environment, as well as the kind of research that we carry out, is generally not an academic discipline in its own right. Thus, construction practitioners operate at such a practical level, they are successful without theoretical insights. They need to be good at business, and there are plenty of examples of how you do not need to be educated or clever to be good at business. Interestingly, in the health arena, clinical

practitioners have a fundamental need to be up to speed with the latest research from universities. They have a strong obligation to carry out their clinical practice in the light of the most recent thinking and research findings. How much better would our built environment world be if construction practitioners felt that they could not practice effectively without knowing about the latest research findings in our field? Whichever way you look at it, there is a big disconnection between research and practice in the built environment, and that cannot be good for either of us.

In the light of this, I think that there is a problem in deciding what universities can do for industry. If all we are doing is teaching students to be good practitioners, just like the practitioners already out there, then we are destined to destroy the built environment professions by recycling old ideas and preserving outdated practices. In a fast-changing world, we need new ideas from our research that will constantly inform, refresh and change what we teach. The key factor that distinguished universities from teaching colleges is the research that feeds new ideas and knowledge into the syllabus. Graduates enter the industry and (I hope) challenge conventional wisdom, and so we have an influence. More importantly, we should be working closely with clients and contractors, asking searching questions that arise from and contribute to the theoretical frameworks that underpin our practices. Typically, in construction management, these will be social sciences, not engineering sciences. We need constantly to remind ourselves that when we are addressing problems to do with management, economics and law, we are taking a social science standpoint. My vision for the long-term is not just what we can do for construction practice, but the way that we might contribute to new theoretical insights in the social sciences. That would be the ultimate test of our ideas, I feel.

HOW DOES INDUSTRY CONTRIBUTE TO UNIVERSITIES?

In the other direction, there must be something that industry contributes to universities, if this is to be a meaningful, two-way relationship. Obviously, we would expect the professional institutions to accredit our programmes and take part in some aspects of educating students. But, for the reasons stated above, if all we do is replicate today's practitioners, then we are probably failing in our duties as universities. There must be more meaningful and robust contributions from practice to research. Industry contributes by providing access to data for research, by funding research projects and taking part in informing the practical questions to which the research is addressed.

One important issue that arises from these reflections is that the academics in built environment department are typically from the construction industry, often at a professional level. Personal experience is not research, but there is a danger that the personal experience of many of our academic colleagues colours their views about what kind of insights academic research might generate. Furthermore, my feeling is that while we are concentrating on what industry and practice might do for each other, we are losing sight of the bigger question about what the built environment can do for society. We need to figure out better ways of working together. There are two things we can achieve. First, we can improve the built environment in a million different ways. Second, we can contribute to theory-building and provide insights from a complex and difficult industry sector that will help social scientists to improve their understanding of management, economics and law.

THE MANAGERIALIST ETHIC AND THE DECLINE OF TRUST IN SOCIETY

Managerialism in higher education and research seems to be at the root of the problems explored in this keynote. The development of managerialism, of course, is not a problem

confined to education and research, but universities have finally caught up with a trend that has been gathering pace for several decades. The professions emerged, with an ethic of professionalism, over many years, during the emergence of industrialization. Professions offered more than mere trade, and a shared perception that emerged embraced the notion that as well as specialized knowledge and barriers to entry, there would be a code of ethical conduct and the idea of public service, not just working for the highest bidder.

The decline of professionals in construction is a symptom of a wider decline in society, the decline of trust, as described so well by O'Neill (2002), who observed that people are finding it increasingly difficult to accept professional judgement. This underlying pressure has been exacerbated in the built environment by a global shortage of skilled workers, widespread low-tech attitudes, prejudice and ubiquitous workforce problems. In place of professionalism, we seem to be witnessing the growth of something else, a malignant force of managerialism. No walk of life is safe from target-setting, performance evaluation, excessive documentation and objective yardsticks against which output can be measured. This is evident in teaching, medicine, and even the police-public work areas where concerns about the distracting impact of managerialism over the provision of a public service are being increasingly voiced. But who is listening? It is easy to shrug off these concerns because, surely, we all have to account for our actions and decisions? There are two problems with this excessive accountability: 1) it makes professionals focus on their objective knowledge rather than their judgmental skills; 2) it makes them accountable to the wrong people: regulators and bureaucrats instead of the public.

It is not easy for those in positions of power to resist the temptation to wield their power for the purposes of central control over the activities they oversee. Governments could help rebalance the focus, but the trend towards managerialism is seen as an opportunity to develop policies more likely to appeal to the widest possible range of voters. By using performance indicators and conforming to over-simplified measures of output, we can prove that we have done a good job, despite a growing dissatisfaction with our work.

A couple of decades ago, Kanter (1983: 22) was warning us about this problem:

> *... the aspect of productivity that needs serious attention is not the mechanical output of a production facility; it is, rather, the capacity of the organisation to satisfy customer needs most fully with whatever resources it has at its disposal ... But mechanical notions of productivity lead often to product that meet ever more refined minimum standards, frequently resulting in a decline in customer satisfaction with them. The former thrust calls out for innovation—indeed, for innovative thinking on every level of the organisation's affairs—while the latter confines innovation to a marginal and unexciting role.*

This is still a strong statement of the problem. It seems that an organization's activities can be disaggregated, simplified and sequenced so that the room for human error is all but eliminated. But this also eliminates the need for discretion or judgment from the worker -- ironically one of the strongest human attributes, by contrast with machines. By concentrating on the connection between what customers want and what each of us can do, the organization can be much more confident about quality, and therefore about success. But this notion should concern industrial manufacturing; the possibility of it being applied, even indirectly, to a professional field like architecture is frightening. One would stumble at the first hurdle, just by having to identify who the customer is. One significant problem that is too rarely discussed in built environment research, especially in policy development, is the problem of identifying the "customer". For whom are we providing the built environment, and why? I have explored these ideas in more detail elsewhere (Hughes 2003) and it is clear to me that

the role of judgement is severely downplayed in all of our working lives, to the detriment of everything that we do.

CONCLUSIONS

In conclusion, it is clear that the built environment has an interesting and important role to play in confronting many of the major problems facing society, all over the world. We need to help people to understand that the built environment is not only an employer, not only a producer of built facilities, but also an enabler of processes that are housed in built facilities and a potential source of new ideas and stronger theories about how people interact and behave. Our impact in studying and researching in the built environment should be oriented towards the problems confronting society, not just the problems of making buildings more efficiently. This is a message that should be hammered home in built environment education at all levels. Not only that, but also our education programmes should be based on research into the phenomena that we observe. Our theory-building and theory-testing needs to be connected to more fundamental academic disciplines, not developed in isolation. This way, we have a chance to influence more than just built environment education and practice. But to make these contributions, we have, at the same time, to acknowledge that there are areas of expertise that are more strongly developed than ours, and that if we seek to influence others, we have to stop "re-inventing the wheel" and learn about how to conduct and report robust research. My hope and belief is that conferences like WABER can help us to understand how we can contribute to some of the important questions that confront humanity.

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