

Ryder



PlanBEE
Campaign for Change in Built Environment Education

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Introduction

Ryder Architecture celebrated its 60th anniversary in 2013. Founding partners Gordon Ryder and Peter Yates were radical and entrepreneurial when they established one of the few multidisciplinary design practices of the day - practicing architecture, structural and services engineering from a single team.

With the advent of more collaboration and interdisciplinary working, largely facilitated through BIM and greater use of off site manufacture, the industry will require people with a broader spectrum of education, able to forge careers suitable to a variety of roles, irrespective of specialist discipline, and who can evolve and adapt in an entrepreneurial way as their careers progress.

In addition to the wider scale adoption of BIM, 2013 saw the publication of the government's industrial strategy for the sector - Construction Strategy 2025 setting out how industry and government will work together to put the UK at the forefront of global construction.

“Our industry is extremely diverse and offers great opportunities for those committed to working hard and succeeding in their field. As a sport team needs a variety of players performing well as a unit, so construction relies on people of all capabilities coming together and doing their bit to deliver successfully.”

Kevin Louch, Managing Director Stanford Industrial Concrete Flooring

The UK has a world class science and research base supporting the development of innovative solutions in a number of priority areas for construction. Construction 2025 calls for the industry to:

- Invest in smart construction and digital design
- Bring forward more research and innovation
- Reinvigorate the image of the industry
- Increase capability in the workforce

“Industry must embrace technological progress to meet the demands of a rapidly changing world. Innovations like digital engineering and design for manufacture and Assembly will be fundamental to delivering a higher quality, more sustainable built environment for future generations.”

Anna Stewart, Group Chief Executive Laing O’Rourke

More recently to Construction 2025 we have seen the publication of **The Farrell Review**.

A key recommendation of The Farrell Review is for schools of architecture to establish the undergraduate degree as one that opens up many career paths. Project based learning and the ability to make both artistic and scientific decisions will be well received by employers at all levels and in all industries. Another recommendation extends this direction of travel calling for courses to be linked with a common foundation courses with classes across disciplines.

“Quality design is an invaluable part of the construction process and I hope my architecture review will bring the industry even closer together. We should capitalise on the success of British architects abroad which brings numerous advantages and export opportunities, as well as sustainable city making in the UK.”

Sir Terry Farrell

The medical profession has been enhanced by others contributing and the boundaries becoming blurred. In recent times, healthcare has expanded to include physical fitness, diet and mental health, and increasingly we are self monitoring and self diagnosing, thanks to the Internet. It is no longer just the British Medical Association, Royal College of Physicians and Royal College of Surgeons that are involved in public health, and this is a signpost for the architectural profession. In his presentation to the SCHOSA AGM, Terry Farrell argued that architects should prepare for other professionals in urban planning, engineering, surveying and landscaping, as well as the general public, getting more involved in architecture.

“The medical professions have increasingly recognised the benefits of sharing what they do and learning from the public, not just prescribing what they think should happen, but listening to patients self-diagnosing and understanding their own bodies.”

Sir Terry Farrell

“Our gated road to registration was designed 55 years ago and is simply no longer fit for purpose. New education models are emerging - offshore campuses, embedding professional practice earlier in programme or more intensive training and faster access to title. Internationalism is not an option, but a necessity. An architect’s practical training can take place anywhere, and in all design disciplines. All of these points are converging now for a serious rethink of our educational structure in architecture.”

David Gloster, Director of Education RIBA

“Many students find out architecture isn’t what they thought it would be, and we should allow more flexibility for students who want to diverge to other related disciplines.”

Dr Charlie Smith Liverpool John Moores University

The vision for construction in 2025 is an industry which:

- Attracts and retains a diverse group of multi talented people, that has become a sector of choice for young people inspiring them into rewarding professional and vocational careers.
- Leads the world in research and innovation, transformed by digital design, advanced materials and new technologies, fully embracing the transition to a digital economy and the rise of smart construction.
- Drives and sustains growth across the entire economy by designing, manufacturing, building and maintaining assets which deliver genuine whole life value for customers in expanding markets both at home and abroad.
- Has clear leadership from a Construction Leadership Council that reflects strong and enduring partnership between industry and government.

The Architects' Journal 2014 student survey revealed some concerns about architectural education – a lack of technical awareness, construction costs and programmes, no understanding of the impact of politics on architecture and the industry, and no guidance on how to present to clients or deal with contractors – many of which we understand are common complaints from students in other construction disciplines too.

At Ryder we believe the following proposal has the potential to inspire the current generation of technologically inspired school children to consider an exciting, stimulating, rewarding and ever changing career in construction.

Campaign

In June 2012 Ryder convened a group of construction industry leaders from academia and business as a steering group:

- Peter Buchan, senior partner, Ryder (chair)
- Tristram Carfrae, global building chair, ARUP
- Alison Coutinho, director, The What Now? Collaborative
- Murray Fraser, professor of architecture and global culture, Bartlett School of Architecture, UCL
- Alison Heron, head of student recruitment, KPMG
- Gordon Murray, professor of architecture, Strathclyde University
- Mark Richardson, head of human capital (Europe), Laing O'Rourke
- Alex Wright, head of architecture, University of Bath

A consensus was determined and after meetings with several organisations a new approach to education, inspired by the medical profession amongst others, for the next generation of built environment professionals was tabled at the January 2013 steering group and has provided the basis for the course outline for discussion with a number of universities.

In spring 2013 the steering group secured the support in principle of key industry professional institutes:

- Chris Blythe, chief executive, CIOB
- David Gloster, director of education, RIBA
- Stephen Matthews, chief executive, CIBSE
- Alan Muse, director of built environment professional groups, RICS
- Tara Page, education director, CIAT
- Martin Powell, chief executive, IStructE

Course Outline

Property, Architecture, Construction, Environment (PACE)

Degree - BA, BEng, BSc

Students will cover the following modules with an emphasis on creative project based learning:

- 1 Economics, property development and planning
- 2 Architecture, urban design and landscape
- 3 Environmental science and MEP engineering
- 4 Structural and civil engineering
- 5 Construction
- 6 Facilities management

In year 1 there will be an equal emphasis on all modules. In year 2 students may focus on fewer modules prior to choosing their preferred discipline(s) for their year in industry in year 3. In year 4 they could specialise in either property, design or construction. Equally, students could maintain a diverse education throughout. Years 1, 2 and 4 would culminate in an integrated project with exams in each module studied.

Students graduating with a minimum 2:1 will be eligible for a masters degree.

Topics such as leadership, project management, cost and risk management, manufacturing, problem solving, sustainability and BIM/digital engineering will feature in all modules rather than being specialist bolt ons. An awareness of topics such as law will also be provided throughout.

Each module carries 20 credits so, to achieve the annual requirement of 120 credits, modules could be selected tabled below:

	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Year 1*	20	20	20	20	20	20
Year 2		30	30	30	30	
	30	30	30	30		
			30	30	30	30
Year 3	year in industry possibly three month cross discipline placements carrying credits					
Year 4		40	40	40		
			40	40	40	
	40		40			40

*mandatory

Depending on the balance of study students will graduate with one of the following:

- BA – property development and facilities management
- BArch - bias towards art and architecture developing design responses and the history of architecture
- BEng - more technical and diverse skills from computer and materials engineering and construction

It is not the intention for these courses to replace the existing traditional offering. Instead they will provide a broader alternative preparing students for a richer more diverse career path.

This proposal is based on the conventional mode of study over two semesters however we are in discussions with universities and industry partners utilising a three semester programme over two years of study.

Masters – MA, MEng, MSc

Proposed as three year programmes in the traditional professions studied part time alongside full time employment providing practical experience and exemption from professional exams leading to interview(s) for chartered status with any of the main institutes – eg CIBSE, CIOB, ICE, IStructE, RIBA, RICS.

Students graduating with other related degrees - eg geography, social sciences, mathematics, computer science – could also be eligible for masters programmes following a conversion course suitable to their proposed profession.

“In our view schools of architecture are processing too many graduates, many of whom are ill equipped to enter the profession. The industry needs a higher standard of creative innovators and entrepreneurs - in design and business. The existing two part five year academic process is increasingly difficult to sustain financially and is not delivering value. Construction is a notoriously fragmented industry, there is no recognition that architecture is about more than architects. Our industry needs free thinking, broad minded problem solvers who can contribute collaboratively and creatively from a range of professional backgrounds.”

Mark Thompson, Managing Partner Ryder

Employment

A unique feature of this campaign is that mentoring companies – Arup, Cundall, Gleeds, Laing O’Rourke and Ryder Architecture - guarantee the top graduates a three year training contract to complete their masters and attain chartered status in their chosen discipline.

Students demand shorter courses as higher university fees take toll

AJ survey also reveals fears over lack of practical training in schools

TRAINING Nearly two thirds of students believe architectural education lasts too long.

According to a new survey carried out by the AJ, 64 per cent of those polled thought the route to becoming an architect should be shorter, and 55 per cent of students called for the current Parts 1-3 system to be scrapped in favour of a quicker system.

The results of the survey, which drew responses from 364 undergraduates and postgraduate students, support the RIBA's latest plans to abandon the three-part system and to develop a more streamlined architectural education system (AJ 05.12.13).

Matthew Witrack, a Part 3 student at the University of Kent, said: 'In today's economic climate, and with fees costing so much more than they used to, architectural education has to be shorter. For the length of time you study, the financial rewards are simply not worth it. To ensure we don't become even more of an elitist profession, we must reassess

the system for a new generation.'

Despite taking a minimum of seven years to qualify, only 5 per cent of students thought their studies provided them with the skills needed for practice, while more than a third said what they had learned had minimal use once they were employed.

Scott Bearman, a Part 3 student from Manchester School of Architecture, commented: 'The current system of five years in university with a heavy emphasis and focus on design fails to properly prepare students for the realities of working in practice. Students leave university poorly prepared, without the tools to effectively design and manage projects and still face a minimum of two years before they qualify.'

John Masted, a Part 2 student at Birmingham School of Architecture, agreed. He wrote: 'Universities fail to teach practical elements besides the art of making pretty pictures.'

The survey revealed that most students feel that practical work

experience is vital in gaining the skills needed for practice, with 82 per cent claiming it is 'valuable'.

Despite being in favour of scrapping the parts system, they remained supportive of the year out – more than 80 per cent said they valued it highly.

Studio culture and deadlines remain a controversial issue for students. More than 80 per cent of students surveyed said they had worked through the night, with 41 per cent doing it on a regular basis. The amount of students working through the night varied little as they progressed through the education system. But Part 3 students were more likely to work through the night in the run-up to a hand-in – 48 per cent, compared with 39 per cent at Part 1.

Shaun McLeod, a Part 2 student at the University of Edinburgh, added: 'The amount of work expected to be produced is borderline ridiculous sometimes. No job or university course should have you worrying

about sleep or your health.'

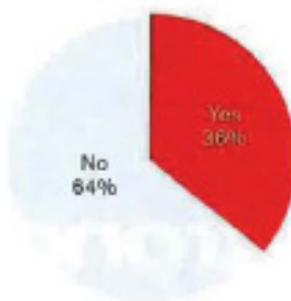
Responding to the findings about excessively long hours, an RIBA spokesman said: 'University is demanding; staying up all night may be part of the experience for many students on all types of courses and might best be considered as part of the professional learning curve. If the profession wants to remain relevant and reflect society, it must develop more flexible ways of working and put a stop to the culture of long office hours – this culture should start in our schools.'

Pay continues to be a major issue for students heading to work in practice. More than a third of students surveyed had worked for free at some point in their early career, and 86 per cent called for the RIBA to provide better guidance on salaries.

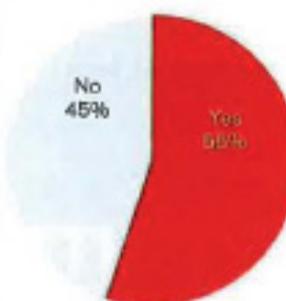
Alexandra Ewart, a Part 2 student at De Montfort University, said: 'While there is guidance on pay, it is clear it is just that: a guide. Some practices are clearly exploiting graduates who deserve a fair wage.'

However, students are surprisingly confident about their job prospects. More than 60 per cent of those surveyed were positive about getting a job when they graduate. *Laura Mark*

Have you ever been asked to work in practice for free?



Should the current Parts 1-3 system be scrapped?



What do you wish you had been taught as part of your course?

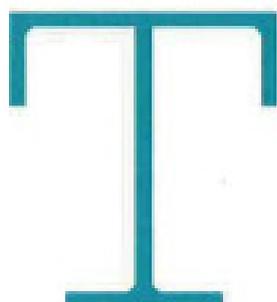
- Technical detailing and spatial perception
- An understanding of politics and how it affects architecture and architects
- Budget constraints and time frames
- Practical detailing of buildings
- How to deal with contractors and how to speak to clients

What are the biggest issues facing the profession?

- Erosion of the architect's role
- Lack of trust and respect from clients
- Becoming irrelevant
- Tuition fees making the profession more elitist
- Lack of innovation
- Poorly educated students

Ryder Architecture is leading a campaign to refocus built environment training at UK universities. **Robert Mallett** looks at the key issues

Degree of collaboration



The UK university system, particularly in England, has undergone seismic change over the past two years. As a direct consequence of 2008's financial crisis, the government introduced a radical new system of student-financed tuition fees for English higher education institutions, which has increased the financial burden on undergraduates, but made no additional government funding available to universities. Nevertheless, one outcome of this albeit controversial fee paying system is that the 'consumers' – students, professional bodies, employers – now expect greater value for money from higher education establishments, even if the latter are struggling to meet such expectations.

Ryder Architecture, along with senior figures from the UK built environment sector, have pinpointed a series of specific weaknesses in the training of

undergraduates destined for careers in architecture and the construction industry (see page 14). During an inaugural Ryder-hosted roundtable on the future of the Built Environment degree last year, proposed improvements to the built environment teaching provision were identified, which would benefit not only graduates and their future employers, but potentially society as a whole. Most notably, the meeting called for greater student training for engagement with industry, more advanced courses with a greater multi-disciplinary emphasis, multiple gateways into the construction industry and, ultimately, a better quality of undergraduate training.

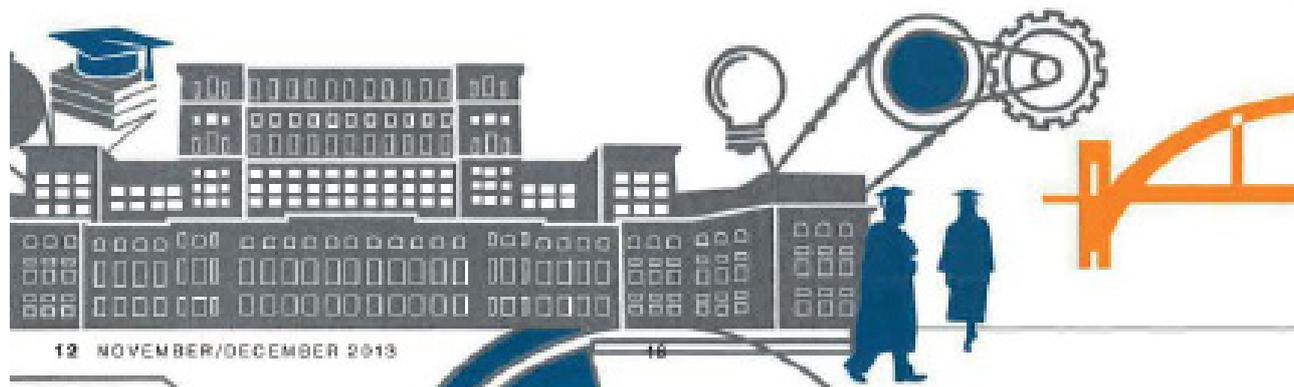
There is no doubt that the campaign has gained a good deal of attention and momentum over the course of the past year, as industry concerns over the quality of training for its undergraduates continue to rise. On 5 June, many of these concerns, along with a number of ideas on how they might be addressed by the higher education sector, were the focus of an RICS-hosted roundtable on the future of industry training held at the Building Centre in London.

Chaired by Ryder senior partner Peter Buchan, and attended by representatives of Gleeds, Arup, Laing O'Rourke, University College London and other organisations, the discussion immediately

focused on the pressing need to develop a new partnership between industry, professional organisations and academe. As Buchan noted in his opening remarks, a great many school leavers do not aspire to a career in the built environment industries, and neither do they appreciate the wide number of specialisms that exist in the surveying profession. As a result, barriers continue to prevail that prevent the creation of the type of construction industry that is now needed, both in the UK and globally.

Plainly, both the industry itself and current university training for prospective construction industry professionals, are still not doing enough to attract greater numbers of high-calibre undergraduates. Neither, as a number of the representatives present argued, were the courses always preparing students to be properly fit for purpose by the time they had left higher education. As Alan Muss, RICS Director of Built Environment Professional Groups noted, the average contact time for an undergraduate enrolled on a built environment degree course totalled just 13 hours per week, not ideal given the complex and highly technological nature of sectors such as construction. Although university funding constraints are plainly a significant factor, UK university contact hours are, generally speaking, lower than in many other countries.

Closer collaboration between universities and industry could potentially act as a sound mechanism for both improving the quality of built environment courses on offer, as well as readying new generations of students for a career in the construction industry. Not only would new recruits to the surveying profession be better placed to work on complex



Infrastructure projects anywhere in the world, but employers would be spared considerable time and expense in preparing them once out of higher education, as is now too often the case.

As RICS Project Management Board member David Reynolds emphasised, the need for better trained professional surveyors was now greater than ever. Whether it be large companies such as EC Harris, or the many small- and medium-sized enterprises that make up the surveying profession, there was a clear need to operate on a global basis and to be technologically proficient as a consequence. Given such pressures, only a far closer relationship between the academic environment and the various built environment industries could develop the high level of training required for today's construction projects, whether large or small.

So how do the various interested parties in the debate plan to bring about the 'massive culture change', as Buchan termed it, needed to strengthen professional competitiveness? In the first instance, greater involvement on the part of industry in shaping the future education and training process was now regarded as an all but essential prerequisite. Each of the representatives present agreed that there currently existed a disparity between what the built environment industry needed by way of new recruits, and what academia was able to produce. Working together, the two sectors could, Muse argued, lead to more a more collaborative form of undergraduate course delivery and, subsequently, to greater levels of

specialism. Naturally, this would require something of a systemic change from a teaching culture that many within the industry claim cannot easily provide students with all of the professional skills needed by modern industry. Such a change would need to fully embrace the concept of a more collaborative built environment degree programme, delivering what the construction sector needed – better trained, highly qualified professionals.

Aside from achieving a closer and binding relationship between industry and academe designed to improve the Built Environment learning experience for UK undergraduates, work placements were also seen by many as a vital ingredient of future study programmes. In outlining his own time as a student, Matthew Saunders, RICS Associate Director for the Built Environment, placed considerable emphasis on the high value of 'hands on experience blended with learning'. The depressed economic climate of the past five years has seen a great reduction in the number of such placements, so greater emphasis on a coordinated scheme as an integral component of all undergraduate programmes, would produce more aware and practically minded professionals.

As Arup's Becci Taylor concluded, the objective of the new approach proposed by the Ryder campaign was 'teaching people how to think'. However, one might also add that increasing the individual student's range of experience while at university would also be the natural objective of such a project. The panel agreed unanimously that this range of experience should include an over-arching framework of global qualifications with a focus on technology, a solid understanding of what being part of a professional discipline involves and a focus on disciplines. It was important, added Reynolds, to impress on youngsters that surveying qualifications offered a 'global

passport, and a good measure of influence abroad.

Transforming the content and focus of existing UK Built Environment degrees, will not be an easy or straightforward matter. In the first instance, it will require detailed planning on the part of universities, industry and professional bodies such as RICS. Running a pilot course would then reveal what, if any, modifications may be required to the curriculum, modes of delivery etc. Built into this process should be a close evaluation of what type of professional the course will be designed to produce: a management-based, industry professional or a more 'technical' professional, or both?

In his closing remarks, Buchan told the meeting that discussions had begun with University College London, and Muse confirmed that RICS would support such a venture which should include all 51 RICS partner universities. Of course, the costs of financing any new degree programme will not be modest. But with the UK government having placed such great emphasis on national infrastructure programmes, would it be too much to expect that state funds be released to produce the next generation of industry professionals, better trained and educated than ever before? In the meantime, the built environment sector could do much to raise awareness about the benefits a career in its industries offers to tomorrow's generation of professionals. ●

Robert Mallett is editor of Construction Journal
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CIOB backs 'Bachelor of the Built Environment' proposal

The CIOB and Laing O'Rourke have given their backing to a group hoping to launch a cross-professional undergraduate degree spanning architecture to construction – a Bachelor of the Built Environment.

CIOB chief executive Chris Blythe has attended meetings of the initiative's steering group, which includes Laing O'Rourke head of human capital Mark Richardson.

The group has already had discussions with the Faculty of the Built Environment at the Bartlett, part of University College London, with a view to launching an undergraduate course in September 2014.

The proposed four-year course, including a sandwich year in industry, would have a syllabus covering economics and property development; architecture and landscape; environmental science; structural and civil engineering; and construction and property management.

"In our view schools of architecture are 'processing' too many graduates, many of whom are ill-equipped to enter the profession. The industry needs a higher standard of creative innovators and entrepreneurs, in design and business."

Mark Thompson, managing partner of Ryder

The idea originated after north east architecture firm Ryder held a debate on the future of built environment education last summer. It was sparked by concern that the five years of university education necessary to become a practising architect nevertheless leaves graduates ill-equipped to work in today's construction industry.

Mark Thompson, managing partner of Ryder, said: "In our view schools of architecture are 'processing' too many graduates, many of whom are ill-equipped to enter the profession. The industry needs a higher standard of creative innovators and entrepreneurs, in design and business. The existing two-part, five-year academic process is increasingly difficult to sustain financially, and is not delivering value. Construction is a notoriously fragmented industry, there is no recognition that architecture is about more than architecture.

"Our industry needs free-thinking, broad-minded professionals who can contribute collaboratively and creatively from a range of professional backgrounds."

Following the debate, Ryder convened a cross-industry steering group from the industry and academia to look at how degree level studies could better fit the industry's needs. The group also includes Arup's global building chair Tristram Carliac, Sara Reading, head of graduate recruitment at KPMG, and Alex Wright, head of architecture at the University of Bath.

Since the beginning of 2013, the group has been actively canvassing support from a number of professional institutes in the industry, including the CIOB, the RICS, the RIBA and the Institution of Structural Engineers.

Chris Blythe's statement in support of the idea says: "The industry needs the best people joining us. So we need to find a cohesive pan-sector approach to make a professional career in the Built Environment seen as second to none, especially in respect to other sectors."

Laing O'Rourke's Mark Richardson said: "We welcome the recommendations to fundamentally reform the quality, standard of training and education in order to bridge the innovation capability gap within our industry. Laing O'Rourke has long been an active sponsor of challenge and change within the engineering and construction industry to advance the effective delivery of the built environment."

Peter Buchan argues that a new Built Environment BSc is essential if the UK construction industry is to attract and train the best quality professionals

Bring back the melting pot

For centuries, buildings from the most simple to the most sophisticated were constructed through a combination of the master builder and the skilled craftsmen organised through guilds. Entry into a chosen craft was through apprenticeship, and the families of young hopefuls paid for the privilege of such training. The system served the industry well until engineering developed into a design process rather than an empirical basis of learning from each building, and architecture into an academic pursuit.

The Grand Tour exposed gentlemen of worth to new civilisations and cultures. Meanwhile, architecture became an art rather than a craft, and 19th-century polytechnics in Paris began to train engineers. The process of separating design from construction had begun.

As life became increasingly complex during the 20th century, more and more professions joined the construction mix – including all of those represented by



Of course we need specialists, but we also need generalists and we certainly need a common platform of understanding that will promote collaboration and, ultimately, seamless interdisciplinary working



RIGS. So, added to the major divide that evolved between design and construction were dozens of sub-segregations, which has now created an industry of silo operations with woeful levels of understanding between them.

Of course we need specialists, but we also need generalists and we certainly need a common platform of understanding that will promote collaboration and, ultimately, seamless interdisciplinary working. A new melting pot of talents and skills is needed to provide the new breed of professionals the construction industry deserves if it is to keep pace with advances in computer and materials technology in global marketplaces. The industry has not really advanced since the middle of the 20th century, and nor will it until we change the ways we train our professionals. If we are to attract the very best young talent into the construction sector, then it needs to be equal to the calibre of young professional entering the aeronautical engineering or computer science sectors.

Here in the UK, we produce great built environment professionals. The country's education standards are well renowned, and its graduates highly sought after. However, the talking shop across architecture education alone has gone on for as long as I can remember, and I find it troubling that we still experience difficulties in promoting cross-disciplinary design, let alone encouraging new breeds of valuable hybrid professionals.

At Ryder Architecture our proposal, which we are developing with industry partners and academics, is for a new kind of 'melting pot' degree namely, a 'Bachelor of the Built Environment'. Many school leavers have no comprehension of the range of disciplines that currently contribute to our built environment discipline, which is hardly surprising given the UK's complex professional structures. Such a degree will make it rather more comprehensible, raise its status, so attracting even better students and more importantly, allowing individuals to find the route into the industry and the area of expertise that is right for them.

A better choice of modules will allow for gradual specialism through this first degree. Where appropriate, a Masters can be undertaken while in employment that will lead to chartered status in a chosen profession. This process will naturally provide a range of generalists and specialists, and serve as a breeding ground for better informed, more collaborative professionals, as well as fostering new hybrids. We could conceivably produce the 'environmental computer scientist' or economist to take us close to where it all started, with the 'architect engineer'. Who knows? ●

Peter Buchanan is a senior partner at Ryder Architecture
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Let's update industry education

As other professions' education systems keep up with modern technology and ever-changing industries, the architecture and construction systems are getting left behind. But there are many ways of updating the industry's teaching practices

Education: it's time for a big change. Paradoxically, while the UK delivers some of the best architecture and engineering courses in the world, they are not fit for tomorrow's construction industry. Meanwhile new, disruptive technologies offer huge opportunities for how education and training can be delivered at low cost and high quality.

Sir John Armit hosted a lunch debate at the Institution of Civil Engineers last week where Ed McCann, director of Expedition, explained how engineers have a problem as their degree courses don't teach basic construction anymore. So, he and Imperial College put together a few five-minute YouTube videos on basic things, like how to do a slump test. Next, they got their leading soil mechanics expert to create some short videos covering all the basics of that more-specialised science. These videos quickly went viral worldwide with tens of thousands of views. Just think, a teenager could sit in a remote village in India and be taught by the best

engineers in the world - at virtually no cost. My mind went immediately to how this could help young architects who generally have no clue about construction as they are not taught it at university. A suite of video "easy guides" to first-class practice could be funded for around £50k, which could then be downloaded for free.

But it's not just at the prosaic end of the scale that new technology is revolutionising education. One of my clients runs medical schools that teach everything virtually, including anatomy and dissection. No longer will medical students have their own corpse to cut up, it's all virtual

“ Just think, a teenager could be sitting in a remote village in India and be taught by the best engineers in the world - at virtually no cost

reality. Harvard offers more than 600 online courses. No application and no vetting of prior qualifications are required, which democratises access to Ivy League-quality education. Sure, there is criticism that the best education needs contact and interaction with tutors. I can see that in architectural education the design stream needs personal interaction, but I would have loved to have been taught history and theory by the world's best via a well-cut video.

This all comes at a time when the professions' education looks outdated. We educate in silos while we design in multidisciplinary teams, which increasingly need to be integrated with the construction supply chain.

Architecture has been a popular course and we have some of the best schools in the world. But it badly needs reform. Only one in fourteen first degree entrants go on to qualify as architects and those that do take an average of 9.7 years to do so. In an era of increasingly high course fees, and high expenses on the course, architecture can

only be afforded by well-off kids from middle-class homes. Graduates are not equipped to immediately function in an office, they have no business skills and they enter one of the lowest-paid professions. A recent Financial Times article revealed how over 30 years architects' and engineers' earnings have plummeted compared with medics, lawyers, accountants and other major professions.

Diversity is the first casualty of this. It's not only a rich kids' game, it's sexist. How can a young woman expect to balance work and family life when she is unlikely to make much headway in her career until she is in her mid-to-late thirties - her ideal time to have children? No wonder so many top female architects are childless. My two eldest daughters are entering the profession. Their school chums have gone into other major professions and already earn proper salaries in their late twenties. My daughters look at me aghast saying, "What have we got into?"

The Royal Institute of British Architects has

“ In an era of increasingly high course fees, and high expenses on the course, architecture can only be afforded by well-off kids from middle-class homes

recognised that architectural education has to change and is drafting radical proposals for consultation. Academics, who have often resisted requests for change, need to be prepared to embrace new ideas. Architectural education needs to fast-track a route to qualification, embrace integration with the construction industry and include business education.

I would favour an intensive full-time three-year degree focusing on design, as this needs to be interactive with tutors, followed by a part-time three-year architectural MBA with summer schools achieving full qualification within six years. Our young professionals could be immersed in work by the time they are 25 with lower-fee debts, be fully qualified by 28, business savvy from the start and well established in their careers by the time they're 30. This would attract a diverse range of entrants, including more young women, and produce a more relevant profession.

Jack Pringle is principal, managing director SINEA at Pringle Brandon Parkins + Will



A website of the CIOB



construction study centre

www.constructionstudycentre.co.uk

Tel: 0845 313 3414

Latest on built environment BEng degree

CIOB-backed group plans to hold discussion event soon

Further details have emerged on a CIOB-backed proposal to offer a new cross-disciplinary undergraduate degree course — the so-called "Bachelor of the Built Environment".

A working group initiated by Ryder Architecture, with the backing of a spread of industry employers and professional institutions, has drawn up an outline of the proposed course.

It has already had discussions with the Bartlett at University College London, and the Universities of Northumbria and Strathclyde have also expressed interest.

All students would take six modules in their first year: economics, property development and planning, architecture, urban design and landscape; environmental science and engineering, structural and civil engineering; construction; and property management.

In the second year, students would narrow their focus to four modules, allowing them to select an employer relevant to their likely specialism in their sandwich year. In the fourth year, students would take three larger modules.

"We're changing the ways we do business so I think the education process should change to reflect that."

After graduation, students find a job, then complete a masters degree on a day release basis over the following three years. This would lead to charterhip in their chosen discipline, eg MCIQB, MRICS, MCIBSE. Each institute could vary the amount of study in the masters phase.

Mark Thompson, managing partner of Ryder, told CM: "We know this model has been looked at in Australia, I think the whole world has similar issues. In terms of BIM and offsite manufacture worldwide we're changing the ways we do business, so I think the education process should change to reflect that."

He added: "The normal routes [to MCIQB and others] would still exist — this is aimed at people who might not know yet which discipline they want to be in on day one." The Ryder working group now plans to host an event in the near future to bring together all the interested parties.

Statements of Support

“The Institution of Structural Engineers applauds the initiative being led by Ryder and others to examine the preparedness of graduates entering professions in the Built Environment sector. Whilst the initiative is looking at how additional breadth might be built into qualifications, the reality for many chartered professional examination bodies is that competence is founded on depth of knowledge and understanding in their chosen discipline. Commenting on the initiative, chief executive Martin Powell said the Institution of Structural Engineers has been wrestling with the dichotomy. “We recognise that employers want well rounded graduates but at the same time our research suggests that broadening the curriculum may also reduce concentration on core competencies in structural behavioural understanding which is also a pre-requisite of employers. The question is where and when is the appropriate time to focus on developing breadth? Given that graduates wishing to take our chartered examinations come from around the globe and therefore from a wide academic base, we are confident that we will be able to find an appropriate route to chartered membership from the exiting broad based degree programme being advocated by Ryder Architecture”.

Martin Powell, Chief Executive, Institution of Structural Engineers

“The industry needs the best people joining us. So we need to find a cohesive pan sector approach to make a professional career in the built environment seen as second to none, especially in respect to other sectors”.

Chris Blythe, Chief Executive, CIOB

“Drivers of future change in construction are centred around collaboration, technology and skills. We believe that an inter disciplinary context is essential to meet these challenges. This course has the potential to deliver a broader academic training, which students can use as a platform to develop into more rounded, global, professional practitioners.”

Alan Muse, Director of Built Environment Professional Groups, RICS

“In order to design, modify and deliver a better built environment, we need flexibility in our approach to education. The education of built environment professionals should be provided jointly by academia and industry and offer wide ranging and flexible learning journeys so that we benefit from diverse views and approaches. Regulation must be sufficiently adaptable to accommodate this and to permit creative, entrepreneurial and communicative professionals to collaborate and improve the world that we live in.”

Tristram Carfrae RDI, Leader of Building Design, Arup

“We welcome the recommendations to fundamentally reform the quality, standard of training and education, in order to bridge the innovation capability gap within our industry. Laing O’Rourke has long been an active sponsor of challenge and change within the engineering and construction Industry to advance the effective delivery of the built environment.”

Mark Richardson, Head of Human Capital (Europe), Laing O’Rourke

“Represented by students and young graduates, The What Now? Collaborative is very encouraged by the inclusive approach to the initiative. The need for fundamental reform has never been greater and I fully endorse the manifesto.”

Alison Coutinho, Director The What Now? Collaborative

“The opportunity for a review across built environment education has arisen, enabling excellence to be delivered across all its partnerships. Both the industry and higher education can work in unison, to review and achieve the change required to deliver outstanding future built environment professionals.”

Alison Heron, Head of Student Recruitment, KPMG

“The higher education environment has seen dramatic change over the last few years and universities are eager to respond to meet the aspirations of students and the professions. The basic structure of our education system was established in the middle of the last century. It’s time it was reconsidered, with a view to developing forms of education which are better suited to current needs and future practice.”

Alex Wright, Head of Architecture, University of Bath

“The fluidity of society and economics today across the globe is demanding new kinds of built environment professionals and new forms of education to train them, not least here in Britain. Architectural education has always been incredibly supple in changing to meet new conditions and more and more we need to integrate with others in the construction industry on these important matters.”

Murray Fraser, Professor of Architecture and Global Culture, Bartlett School of Architecture, UCL

“Throughout its existence Ryder has sought to form partnerships with schools of architecture and the built environment, with varying degrees of success. We have developed our own apprenticeship and bursary programmes to nurture talented students and seen them develop highly successful careers. The time is right for a new synthesis between academia, professional bodies and the wider construction industry to fundamentally re-examine both the skill sets required and the means by which we achieve them.”

Peter Buchan, Senior Partner, Ryder

“As architects, focusing on creativity and innovation and its corollary – design - is essential. If we are to develop further as a nation given increasing levels of international competitiveness, it can only be based on embedding creativity and innovation in our education and thus in our commerce and industry. If creativity and innovation are to be placed at the core of our education system, that system must be based on the holistic nature of human development, the artisan must be recognised as well as the artist. This requires greater diversity in routes to qualification and recognition of a multiplicity of skills. This initiative is a step towards enabling a pan industry debate leading to reform of all aspects of built environment education in the UK.”

Gordon Murray, Professor of Architecture, Strathclyde University

Research

Mind the Gap

The ongoing debate for fundamental change within the construction and engineering sector is proving a catalyst for greater collaboration and investment into research and innovation, perhaps in the same way that the automotive and aerospace sectors have revolutionised¹.

The construction industry accounts for 6.3% of the UK's gross domestic product² with a potential value of £10bn. The national infrastructure plan foresees £375bn of investment in public and private infrastructure to 2030 and beyond with the majority of this investment in energy and transport. Construction 2025 also anticipates growth and states the global construction market will grow by over 70% by 2025³.

The scale and immediacy of this government driven reform is creating complex issues for both business and education. In order to enable the supply of industry ready and fit for purpose graduates, and to ensure the appropriate up skilling of the existing workforce, collaboration between education and business is essential.

It is estimated that the UK market for building information modelling (BIM) related services will be an annual £30bn by 2020. In a global context, UK based firms already export £7bn of architectural and engineering services⁴ and we are destined to see additional growth in export potential. In January 2014 the European Parliament made a decision to modernise European public procurement rules by recommending the use of electronic tools such as BIM for public works contracts and design contests in all member states⁵. The UK, Netherlands, Denmark, Finland and Norway already require the use of BIM for publicly funded building projects.

This is immediately shaping the industry to be smarter, leaner and more efficient which presents complex challenges to the way the business of education is delivered, encouraging new models of delivery and new opportunities for collaboration.

Northumbria University is now working in collaboration with other universities on a project to engage with engineering and construction industries to identify the potential for global engineering and construction education to support a digitised construction sector.

- 1 Digitising the Construction Sector, 2014, p1
- 2 www.ons.gov.uk, 2014
- 3 HM Government, 2014
- 4 A Digital Tool for Building Information Modelling, 2014, p1-2
- 5 <http://info.bimobject.com>, 2014

A national campaign to reach talented students who want to shape our cities, towns and communities. If you have a natural aptitude in design or engineering you can play a key role transforming your surroundings. From buildings like London's Shard to Dubai's Burj Khalifa to your own homes and schools or the transport and energy networks that join us together. These projects make a huge difference to all our lives.

Students with interests in travel, IT, problem solving, working in teams and design are in demand to develop the built environment for future generations.

PlanBEE is proposing to develop a new suite of undergraduate and postgraduate courses to ensure these opportunities are accessible to the right students who are dedicated to making a difference. This very short survey can be anonymous and aims to gather feedback from sixth form and college students considering a university degree to inform the design, content and promotion of new courses. You do not have to be considering a career in the built environment to complete the survey as we are interested in the views and opinions of all students, it should only take five minutes to complete.

Sponsored by Laing O'Rourke, the largest privately owned construction company in the UK, and leading architectural practice Ryder Architecture, we are holding a prize draw for participants of the survey. To be in for a chance to win an iPad, all you have to do is complete this survey by 31 October and enter your email address at the end. The winner of the draw will be announced in December.

Questionnaire

1 Are you?

Male
Female

2 What is your ethnic group?

White / British
Mixed / multiple ethnic groups
Asian / Asian British
Black

3 Are you considering going to university?

Yes
No

4 What are your predicted grades?

360+ UCAS points (AAA at A level)
300+ UCAS points (BBB at A level)
240+ UCAS points (CCC at A level)
180+ UCAS points (DDD at A level)
Below 180 UCAS points

5. To what extent have the following influenced your choice of degree?

	Large extent	Moderate extent	Neutral	Little extent	None at all
Family					
Career advice					
Own skill set					
Friends					
How the industry is portrayed					
Cost of course and living expense					
Length of course					
Distance form home					
Personal role model					

6. If you are not considering built environment careers, what sectors are you considering and why?

7. How important are direct links with professionals and employers in a degree course?

- Very important
- Important
- Neither important nor unimportant
- Unimportant
- Very unimportant

8. Which of the following do you consider to be a professional role in the build environment?

- Architecture
- Construction
- Economics
- Environmental science
- Facilities management
- Landscape design
- Mechanical electrical and plumbing (MEP) engineering
- Planning
- Property development
- Structural and civil engineering
- Urban design

9. Have you considered a degree in any of these subjects?

- Yes
- No

10. If yes, which?

- Architecture
- Construction
- Economics
- Environmental science
- Facilities management
- Landscape design
- Mechanical electrical and plumbing (MEP) engineering
- Planning
- Property development
- Structural and civil engineering
- Urban design

11. How important are the following in your choosing your career?

	Very important	Important	Neutral	Unimportant	Very unimportant
Location					
Professional qualifications					
Problem solving					
Project based learning					
Team working					
Design					
Engineering					
Job certainty					
Career progression					
Flexibility					
International travel					
Digital technologies					

12. I think the built environment is a profession that (choose as many as apply)

- pays well
- does not pay well
- is a predominately male industry
- has few senior professionals from non-white ethnic groups
- entails long working hours
- encourages creativity
- supports female professionals
- entails manual labour
- is innovative
- requires intellectual rigour
- does not require intellectual rigour
- contributes towards the community
- offers a god work / life balance
- is unfashionable
- is fashionable
- could make me famous
- is entrepreneurial
- encourages a cross section of UK cultures

13. Many thanks for taking the time to complete this survey. Please add your email address to enter the iPad prize draw.

Thank you.