

Professional Studies in Architecture: Architectural Education and Work-based Learning

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Abstract

This case study considers the integration of work-based learning into the full-time curriculum of architectural education. It discusses the approach adopted in the Department of Architecture at the University of Edinburgh, which we believe will be of interest to colleagues in other schools of architecture and to educators concerned with more general courses of practical training allied to the built environment.

The study looks briefly at the origins of architectural education in the United Kingdom and its historical relationship with the Royal Institute of British Architects and its more recent relationship with the Architects Registration Board. The current position is examined with regard to the balance between full-time education and work in practice. A detailed account is then provided of recent developments at the University of Edinburgh, with a focus on professional studies.

Good Practice Points:

- Practical training is fully integrated within the degree structure
- Each student has a placement tutor who maintains e-mail contact with the student whilst on placement
- Placements are monitored in practice by a placement supervisor
- Placements are coordinated in the university by a placement coordinator
- Students attend courses by the Careers Guidance Service to help them to prepare their CV and perform well at job interviews
- Each student maintains a log book of work experience to count towards professional accreditation as an architect
- Each student writes a comprehensive report at the conclusion of the placement that counts directly towards the final degree assessment
- The students' understanding of professional studies is enhanced by an intensive series of advanced lectures on all major aspect of work connected with the built environment
- Students are prepared for the final 'Part III' professional examination in architecture held under the auspices of the Association of Scottish Schools of Architecture

Introduction

This case study considers the general question of how to integrate work-based learning into the pattern of full time architectural education. In particular it describes the approach adopted in the Department of Architecture at the University of Edinburgh. In this text, the term case study is assumed to have a more general meaning than normal and here includes the description of a series of work-based placements and supporting lecture courses. To place the subject of work-based learning into the wider context of architectural education, a few introductory remarks are made concerning the origins of the professional training of architects in the nineteenth century.

Historical Context

In the nineteenth century, trainee architects acquired their understanding of the architectural profession by becoming the articled pupils of an established architect. Thomas Hardy is a good example of such a 'gentleman architect', although now more famous as a novelist and poet. At this period, academic instruction was available at schools of art whose curricula were modelled on the French *École des Beaux-Arts* system which placed an emphasis upon the architecture of classical antiquity - notably Greece and Italy. With the increase in the complexity of practical building requirements, and particularly of methods of building construction, other institutions such as technical colleges and mechanics institutes came into being to provide evening class instruction in the more technical aspects of architecture. Keeping a watchful professional eye on all of this was the Royal Institute of British Architects (RIBA) which had been founded as early as 1834 and was, until very recently, the supreme controlling authority of the architectural profession throughout the UK. It now shares this responsibility in partnership with the Architects Registration Board (ARB) in the form of a body known as the Joint Validation Panel (JVP).

By the 1920s the study of architecture was evolving into a five-year period of full-time study, with the Liverpool University school of architecture and the Architectural Association in London leading the way. Matriculated students received the BArch degree and non-matriculated students were awarded a Diploma in Architecture. Vestiges of the old pupillage system still remained, enabling prospective architects - mostly men at this time - to combine practical training in an architect's office with periods of formal instruction. This, the most exacting of all routes to qualification, could take almost a decade with candidates being required to submit 'testimonies of study', as evidence of their professional competence, as well as being required to pass the requisite examinations. In 1947 a formal requirement for professional training was introduced as a condition for qualifying to become an architect. All this was placed on more secure academic basis in 1958 following an epochal event known as the Oxford Conference (on architectural education) which transferred responsibility for the transmission of knowledge in architectural education to the universities, and a few sister institutions - notably the colleges of art, and in effect removed state-funded Higher Education altogether from architectural practice. By 1962 all courses of study were required to be of five years duration (known as RIBA parts 1 and 2) combined with a minimum period of two

years of practical training in an architect's office, together with a final examination (known as RIBA part 3).

Throughout the 1960s and into the 1970s the schools of architecture, as they are collectively known, restructured their somewhat monolithic five-year courses in favour of a more flexible curriculum. Typically these consisted of, and to this day retain, the following structure: an initial period of three years full-time study (RIBA Part 1) leading to a BA or BSc degree in architectural studies; a period of one year of practical training in architectural practice - the 'year out'; two further years of full-time study (RIBA Part 2) leading to a BArch degree or Diploma ; and, finally, a minimum period of one further year of practical training (RIBA Part 3) leading to registration and conferment of the title 'architect'. The academic part of the programme of study is known by the shorthand description of '3 + 2'. In Scotland, as will be explained, things are a little different since we have a four year MA first degree. Irrespective of such variations, throughout the UK it currently takes a minimum period of seven years from leaving school as a matriculated student to admission to ARB's register of architects.

The Current Position

The structure of architectural education as outlined above with its balance between education and practice has, in the author's opinion, served the architectural needs of society and the parallel requirements of the built environment reasonably well. Critics would perhaps say this is too generous an assessment. Be this as it may, the architectural profession is not itself complacent about standards of teaching and learning and the RIBA recently commissioned a review of architectural education by the distinguished practitioner Sir Colin Stansfield Smith.¹ His report makes the following key recommendations (amongst several others): a seven-year continuum of credits to replace the RIBA parts 1, 2 and 3; the promotion of specialisms and research; practical and management skills to be integrated into the curriculum; and the promotion of interdisciplinary project work in the design studios as part of the core curriculum. The report has been generally well received by the heads of the schools of architecture. The modularised seven-year credit system has the potential to give students of architecture an even broader education than at present, embracing a variety of specialisms bearing upon the proper conduct of the built environment. Conversely specialisation itself is promoted within the new course structures envisaging interdisciplinary learning with, for example, such areas of professional responsibility as project management.

These are early days, post Stansfield Smith, and much detail has still to be worked out and assimilated within the schools. Notwithstanding, ARB has welcomed the emphasis that Stansfield Smith and his colleagues place on the value of practical training for architectural practice.

In addition to the JVP, previously mentioned, the Quality Assurance Agency for Higher Education (QAA) now conducts 'Subject Reviews' across the whole range of disciplines in Higher Education. The remit of the QAA is to report on 'academic standards' and 'the quality of learning opportunities provided' by a particular institution. The QAA has its origins in the 'Quality Assessments' undertaken a few years ago in England by the Higher Education

Funding Council (HEFCE) and here in Scotland by the equivalent body, the Scottish Higher Education Funding Council (SHEFC). Together then with the JVP and QAA, architectural education in the UK can be said to be well and truly monitored.

The JVP and QAA systems are already up and running. Indeed my own department has just experienced its quinquennial reviews under the auspices of the revised JVP and the QAA. At the period of their visit these two sets of colleagues worked independently but, wherever possible, they shared the same documentation. This was an attempt to achieve a 'lighter touch' than was possible in the past under the accreditation visits conducted by the RIBA Visiting Board or the Quality Assessment undertaken by HEFCE/SHEFC which, despite everyone's good intentions, could be very demanding on departments. As to the JVP/QAA outcomes in my own department - confidentiality precludes my sharing with you the generous things they have to say about us!

Professional Studies in Architecture at the University of Edinburgh

Change and Innovation

Irrespective of the external influences precipitated by external bodies and their ensuing reports, the schools of architecture do much to control their own destiny - if only for the reason that, as the philosopher remarks: 'The unexamined life is not worth living'. Imbued with such a spirit, about five years ago we asked ourselves in the Department of Architecture at the University of Edinburgh how we could better integrate practical training and work-based learning into the pattern of full-time architectural education. Before proceeding to the details of our revised scheme, let me first say a word or two about our five-year course structure, as it then existed, which is somewhat different from the generic course structures in other schools of architecture.

In Scotland the first degree awarded in non science-based subjects by the so-called 'ancient' universities is an MA. This is conferred after four years of study. Despite the nomenclature the MA is an undergraduate qualification. Students taking the MA in architecture (RIBA part 1) used to proceed to a Dip Arch (RIBA part 2) with one year of practical training sandwiched in between. Completion of a minimum of a further year of practical training and success in the professional practice examination in architecture (RIBA part 3) led to architectural registration. We wanted to make two improvements to this programme of study. The first was our wish to strengthen our partnership with practice and thereby to endeavour to exercise more influence over what students actually do during their periods of practical training. The second consideration was of a more pedagogical nature, namely, to make the practical training period an integral component of the MA degree, thereby enabling us to reward the student who had worked hard and done well, as opposed to his or her counterpart who had, so to speak, merely gone through the motions. Let it be said there are not many in the latter category, since the work ethic within architectural practice imposes its own high demands on 'year out' students.

Before I proceed, it will be helpful to explain these concepts more fully. We were looking for a system of practical training that would give us, in the university, better insights into what the

students were doing in practice. We now think we have achieved this. Each placement student has a tutor with whom email and telephone contact is maintained throughout the placement period. The advantages of this are that the student can raise issues with the nominated member of staff - placement tutor - and the tutor can be reassured that the student's placement is going well - or not, as the case may be. Concerning the second consideration I mentioned, we feel we have now integrated the work undertaken for the placement much more fully into the structure of the MA degree - the placement counts as a full component and can thereby contribute significantly to the class of degree awarded. It has to be acknowledged that there are resource implications. Each member of staff has responsibility for three or four placement students and the burden of reading and assessing the completed reports is quite considerable - but we believe the benefits justify the extra work entailed.

Over the last five or six years that we have been running our revised placement scheme we have established good working relationships with a wide range of architects' offices, several of which regularly accept our students for periods of work experience. Resource implications have so far precluded our visiting offices on a regular basis. To be frank we are not convinced that visiting offices would secure tangible benefits over and above what we are presently able to achieve by maintaining close contact with the students themselves. Having said that, we most certainly value our rapport with offices. As I have implied, we have good working relationships with several offices, indeed, our 'register of practices' now runs to several pages and is consulted regularly by our students in the early stages of securing employment.

With these broad propositions in mind we embarked upon a complete rethink of our MA and Dip Arch curricula. Here is a summary of the principal changes bearing upon professional studies and work-based learning:

MA Professional Studies Placement (RIBA Part 1)

We replaced the practical training 'Year Out' with two periods of Placement experience and combined them with a third period of work-based experience taken over the long vacation between the Third and Fourth years of study. The intention here was to develop a work-based learning model that forms an integral part of the MA degree. In this way, the work a student does whilst on Placement counts towards the final class of degree that the student is awarded. In the typical 'Year Out' model, the work done for the employer does not count directly towards the student's degree — although it can, of course, count towards the RIBA Part 1 Log Book of Practical Experience. In fact, here at the University of Edinburgh, the Placement now accounts for about 15% of the MA degree in Architectural Design.

In order to make this change in the curriculum effective, each student is assigned to a tutor who maintains contact with the student by e-mail throughout the period of the Placement. The student is also required to submit a detailed academic report of his/her work experience that, as remarked, counts towards the final MA degree. We believe this to be superior to the

conventional Year Out model in that it achieves a better integration between the architectural practice and the university.

BArch 1 Professional Studies Placement

We recast the Dip Arch into a BArch degree, extended the course from one to two years of study (BArch 1 and BArch 2) and created a further Placement in the Autumn term of the BArch 1 year of study. The first term of the BArch degree is spent in architectural practice in order to further strengthen the students' Placement experience. It should be noted however that, at the time of writing, this aspect of the curriculum is being revised as the BArch degree is currently being re-designated as an MArch degree. (For the most recent curriculum developments, the reader is invited to contact the author.)

BArch 2 Professional Studies (RIBA Part 1)

We strengthened the teaching of Professional Studies with an intensive series of advanced lectures contributed by external lecturers.

Professional Studies (RIBA Part 3)

Modifications were made to the programme of Professional Studies for the RIBA Part 3 examination in response to external requirements stimulated by the RIBA and ARB.

Each of these innovations will now be discussed with brief comments about their principal features.

[More detailed information is given in the accompanying Appendix.](#)

Undergraduate Placement: MA (RIBA Part 1)

The Placement in the MA degree is defined as a continuous period of recognised employment during which the student undertakes a programme of directed study in a work-based context. The outcome is a written and illustrated report of prescribed form and size which constitutes part of the work for the MA degree in architectural design. Placements occupy the ten-week periods of the Spring and Autumn terms and may be spent in the same or different occupations. A Placement may also extend to occupy the long vacation. Thus the total period of work engagement in a Placement may be up to forty weeks or thereabouts.

Placements fall into two categories: periods of paid employment (the majority) and periods of private study, including travel and research. Because of the financial implications of the latter, only a few students are able to undertake this form of Placement. Employment typically equates to conventional 'professional training' in architectural practice but it also includes working for other professions and organisations connected with the building industry and the built environment. Also acceptable is work undertaken for government and voluntary agencies concerned with the provision or conservation of buildings, or for organisations dealing with historical records and archives, or activities concerned with information retrieval and research. Students are encouraged to undertake a wide range of work experience but it

is recognised that at the end of the day they may have to accept whatever (legitimate) employment is available. Placements typically fall into one of the following categories - the topics listed are for illustrative purposes only and are not comprehensive:

Architectural and related Professional Practice

Environmental Design and Building Performance Studies

Construction Systems, Technology and Manufacturing Processes

Building Surveys and Conservation

In their search for employment students are understandably drawn to the offices of the big names or the 'signature architects' as we now call them. But there are noteworthy exceptions. A student completed a period of work contributing ideas for set designs for the film about *Harry Potter and the Sorcerer's Stone* - that is all I can say since we are pledged to confidentiality by the film company!

Each student is assigned to a Placement Tutor who provides guidance on the development of a programme of study and contributes expertise in the assessment of the student's progress and outcomes. A special feature of the student-tutor relationship during the placement period is supervision through e-mail contact - a form of distance learning. The Placement Co-ordinator (myself) has responsibility for the overall day to day management of Placements. Within the offices themselves we try to identify individuals who are prepared to act as Placement Supervisors who agree to 'look after' the students and provide them with guidance appropriate to the placement type. These individuals are affectionately known as 'office uncles' - or 'aunties' as the case may be! We give these individuals a copy of our handout *Notes for Placement Providers* to assist their understanding as to how periods of practical training are incorporated into our degree structure. This prompts me to remark that many Placement Supervisors throughout architectural practice are old hands at looking after students and we in the architecture schools are much indebted to them.

From what has been said it can be seen that the placement scheme at the University of Edinburgh replaces the traditional architecture student's 'year out'. However it does retain one of the fundamental aspects of the professional training year, namely, the Record of Experience or 'Log Book'. This is in effect a diary of the work undertaken by the student which is required to be recorded on a regular basis throughout the duration of the Placement. The student's record sheets are signed by the Placement Supervisor and are additionally countersigned by the student's Practical Training Supervisor. In this way the student accumulates a body of practical experience which forms an essential part of his or her work-based accreditation. More will be said of this later. By way of general interest, it may be remarked here that some years ago the schools of architecture in Scotland united to form the Association of Scottish Schools of Architecture (ASSA), one of the achievements of which has been the publication of the ASSA Logbook. This is now well established and is used by all students of architecture north of the border for keeping records of their work experience. Whilst it is desirable that the MA Placement should satisfy the RIBA/ARB/ASSA practical training requirements, this is not imposed on the student as an absolute condition when

selecting a Placement - for the very reason that we are more than willing to encourage students to experiment and undertake 'unorthodox' activities - like dabbling in the magic of Harry Potter! All students are reminded however that they must complete a minimum of at least two years of 'approved' Professional Training before they may apply to take the final (RIBA Part 3) Professional Practice Examination.

It is expected that students will make a valued contribution to their employer's office commensurate with their academic training and experience and will be remunerated accordingly. The fact that students have to produce a written report based on their Placement is seen as reinforcing the value of the training they receive in providing a clearer focus on one or more aspects of practice and thereby improving motivation and performance. To elaborate a point already made, each student has to perform a minimum of two, ten-week periods in Placement. These can be carried out in the context of two different Placements or may run concurrently as one. So, a Placement can start in mid March and run right through to the end of December. Thus an employer can engage a placement student for a minimum of ten weeks and a maximum of forty.

To assist students to secure employment, the department maintains a detailed record of all the offices who have employed previous students. This database now lists the names of several hundred architectural practices and other employers representative of several sectors across the built environment - both within the UK and overseas. Students are also encouraged to do their own research using, for example, the *RIBA Directory of Practices* and the *RIBA Directory of International Architects*. Inevitably students find out about which are the most 'congenial' practices by consulting with older students who have been through the process. In addition students are encouraged to be self-reliant in checking for vacancies in the ads of such professional papers as *Building Design*. This is doubly advantageous in providing current information concerning the 'going rate' for remuneration. Before applying for jobs, students are strongly urged to try sort out in their minds what type of work they hope to find and to ask themselves such questions as: Are you interested in 'social' buildings (housing, schools, community buildings) or in a more general range of work? Do you want to learn more about green issues and sustainable architecture, or about high-tech buildings? Would you prefer a small office? Is there a particular architect or practice whose work you admire? Are there personal factors affecting your choice or your freedom to choose?

Before applying for a job students receive professional guidance from the University's Careers Service on the all important subjects of writing a CV and an accompanying letter of application. We are very fortunate at the University of Edinburgh in having a team of colleagues with careers guidance experience across a wide range of employments and professions. We hold a 'Preparing for Placement' morning at which each student receives a copy of the Edinburgh University *Careers Guide* and specimen CVs and job application letters are discussed. Trainee architects are fortunate insofar as they can incorporate into their CV-documentation images of their student design projects - to considerable visual effect. Polishing one's interview technique has its place in these sessions. This often involves role play - with much ensuing humour! Levity usually reaches a climax when discussing preparing for an interview concerning such matters as personal appearance and

how to dress - viz. does the occasion warrant power dressing or something more relaxed? The reader concerned with these, and the more general issues of helping students to prepare for their first period of practical training in an architect's office, should consult an admirable publication on this subject by Roger Harper. ²

I have said earlier that in developing our MA Placement we were guided by the wish to better integrate practical training and work-based learning into the full-time degree curriculum. This leads me to say a few words about the next aspect of our students' experience, namely the Placement report. At the conclusion of the Placement, each student is required to submit two copies of a Placement report, one copy of which is retained in the department's Library and the other, after assessment, is returned to the student. The format and nature of the report will vary according to circumstances, but broadly speaking two alternatives are encouraged:

- A written report of not less than 5,000 words — including some illustrations.
- A set of drawings and other visual images with a written commentary of not less than 3,000 words.

Before leaving their Placement, students are urged to ensure they have all the necessary material assembled before it is too late - it's a long way to go back if you have left something behind in N. America or Australia! Equally important is securing the employer's consent to reproduce copyright images or to quote from confidential documents. In the writing of the report, close collaboration with the Placement Tutor is encouraged, especially in the production of draft texts in advance of returning to the Department. It has to be confessed this is difficult to achieve in practice but things are improving with the increasing use of e-mail. Each report is read by the Placement Tutor and a second reader to achieve a final grade which then forms a full component of the MA honours degree. On this basis, we feel we have achieved our objective of more effectively combining practical training with more conventional academic study.

Since we embarked (1996) on our curriculum changes at the University of Edinburgh, the Quality Assurance Agency for Higher Education (QAA) has come into being and has issued a number of guidance documents. Three of these are worthy of brief mention here since they are directly concerned with assisting educators concerned with professional study for the built environment. The first document concerns the setting of what are known as benchmark standards touching upon such themes as subject knowledge and understanding, specifications, a knowledge of detailed design and so on.³ A follow-up document has a particular focus on placement learning and amounts to no less than a code of recommended practice. ⁴ The Code is structured into a series of precepts with accompanying guidance. It discusses institutional policies and procedures concerning placement learning, comments on the role of placement providers (architects' offices), defines the roles of institutional staff (tutors) and highlights expectations in the form of learning outcomes. It is a very good template document and I only wish that I had had it to guide me five years ago when I was given the task of contributing to revising our placement structure. The third document from the QAA which I have selected for comment is of a more general nature. This is the QAA

guide to institutions and departments in higher education concerning what takes place during a 'subject review'.⁵ The procedures outlined are a direct development of the activities of the subject-review panels pioneered by HEFCE and SHEFC. The questions and issues raised in the guide are a useful stimulus to academic planning and cover all conceivable aspects of the curriculum.

Professional Studies Placement: BArch 1

Students who complete the MA in architectural design at the University of Edinburgh have the option of proceeding to the advanced degree of BArch. Some students elect to leave us with a view to resuming their studies at another school of architecture. By the reciprocal process we gain new students from other institutions. The BArch degree is of two years duration and has a particular focus on professional study. To strengthen this aspect of the course, the first term of the first year of the BArch is spent in Placement. At this level of study an implicit commitment is assumed on the part of students to wish to progress to registration as an architect and to practice in one or other spheres of the built environment.

With professionalism in mind, the BArch Placement has been devised to provide students with opportunities to investigate a range of aspects of the architectural profession with an emphasis on the different forms of practice. The principal objective of the BArch Placement is to encourage our graduate students to develop a specific interest in practice affecting the quality of the professional service offered to a client - including the quality of design. To strengthen the connection with practice, our BArch Placement Tutors are all practising architects. Within the overall theme of 'Quality and the Client' we have identified three broad study themes - the three 'Rs' namely:

Resources

Relationships

Responsibilities

We invite the student to consider this aspect of his or her placement study from one of three possible approaches as follows:

Case Study Approach

Anecdotal Approach

Academic Approach

During the BArch Placement, the emphasis is upon self-management with some e-mail guidance being provided by the team of tutors. At the conclusion of the Placement, a report is required from each student. Furthermore, each student presents a draft version of his or her report in verbal form at one of a series of class seminars. Individual presentations last about 15-20 minutes and offer practice in developing transferable skills of communication - to use the QAA jargon. Students typically make use of slides, overheads and CD ROM images in support of their presentations - some of the latter are very slick and professional. The final

version of the report is required to be bound, make proper citation to sources of reference and to be appropriately illustrated. About 5000 words is required. Students with particularly good IT skills are encouraged to present their work in CD ROM form.

Students undertake the BArch Placement in the Autumn term, but this creates a difficulty for those students new to the University of Edinburgh, coming from other institutions.

Understandably, they want to resume their academic studies as soon as possible within the University of Edinburgh, not to be away on a Placement. Accordingly for these students - typically about a dozen - we offer a modified 'in-house' design-based BArch Placement. In effect, members of this group are required to write a report based on their first term's design project work. The theme is 'The Design Process' requiring analytical comments concerning: historical and aesthetic considerations (relating to the chosen site), the design philosophy adopted with comments about influences (architects and building types), and scheme design (plans, sections and technical details). This is the first year we have tried this approach with our new students so the jury is still out regarding its success. I can report however that one of the groups has just received joint first prize for its design work in an international competition!

Advanced Professional Studies: (RIBA Part 2)

Students in their final year of study for the BArch degree at the University of Edinburgh (BArch 2) receive advanced instruction in professional studies as a component of the RIBA Part 2 study requirements. The activities of this part of their professional training are grouped around the following events:

- Lectures and Seminars
- Professional Studies Essay
- Building Contracts Forum
- Building Contracts
- Building Economics

[A brief description of all these activities is given in the Appendix.](#)

Building Contracts Forum

The Building Contracts Forum is essentially a game of question and answer, the purpose of which is to assist each member of the BArch 2 class to become familiar with the *Standard Form of Building Contract, JCT 98 Private with Quantities Edition and Amendments*. This is one of the essential professional studies documents relating to building contracts and forms the subject of the *Building Contracts Examination* - see below. The questions raised in the Forum are typical of those which the student will encounter in his or her professional life. Some latitude, and occasional levity, is introduced by way of making the questions more entertaining. The year is divided into six teams who vie with one another to see who can achieve the highest score of correct answers to the questions which are set by the lecturer in building contracts - a former student and now a co-director of a large firm of architects. A

total 36 questions are set and the Forum last about four hours - quite demanding. The prize for the winning team is a bottle of wine. (This circumstance has been known to provoke the student observation: 'The team which loses receives two bottles of Dr. Russell's wine.!) The questions are grouped around three broad aspects of running a job. Each member of the class has to imagine himself or herself to be the job architect and to say, in response to a particular question, what action they would take, to define their responsibilities, to outline the contractual implications and to be able to quote the relevant clauses from the *Standard Form of Building Contract*. A selection of typical questions is reproduced from this session's Forum to illustrate the nature of what is expected of the students.

General Guidance to Each Student

The student is asked to consider a number of circumstances as they relate to a building project executed under the terms and conditions of the *Standard Form of Building Contract, JCT98 Private with Quantities Edition and Amendments*. The student is then required to indicate what actions should be taken in each case in the role of Job Architect. Additional questions are to consider the responsibilities to any of the parties involved and to discuss their contractual implications. The broad themes examined are:

The Carrying Out of the Works

The Programme of the Works

Financial and Contingent Matters

To give an extra dimension to the Building Contracts Forum, the students give their answers to these questions as best they can and then listen to the lecturer give his 'textbook' version. In addition they make notes of his replies which are often elaborated to take account of other related circumstances - such as: 'What if the skeleton found on the site is that of a Roman soldier?' Furthermore the students' notes form a useful source of reference material for the open-book contracts examination.

Building Contracts

The subject of Building Contracts is examined by a formal written examination for which the Building Contracts Forum, discussed above, is seen as essential preparation. The point of interest here is that the examination is of the 'open book' style. This means that students can take with them for consultation in the examination their course lecture notes and any other relevant reference materials. The justification for this is that the examination is not intended to be a test of memory but rather is aimed at assessing the students' grasp of reference documents which apply when an architect is confronted with the typical day to day issues when running a job. Students are required to have a good working knowledge of the following documents which, as remarked, they are allowed to have with them for consultation in the Building Contracts Examination:

- Standard Form of Building Contract (JCT 98) including Amendments 1 and 2 with Amendment 3 (January 2001)

- Scottish Building Contract with Quantities (SBCC Scottish Supplement May 1999 as amended March 2001)
- Scottish Conditions of Appointment of an Architect (SCA/2000)
- NJCC Code of Procedure for Single Stage Selective Tendering

Building Economics

One of the most dominant of the building professions to emerge in the post war era has been that of the chartered surveyor. The chartered surveyor - 'quantity surveyor' - has always been an important member of the building team and this is especially so today when buildings can cost many millions of pounds and must be delivered within strict cost limits to tight time schedules - with the ever present threat of litigation for cost overruns or delays. The lecture course in Building Economics initially traces the origins of the quantity surveying profession from the time when its members were 'measurers' to the present day when the quantity surveyor - the 'QS' - draws up the complex Bill of Quantities embracing the work of the various trades involved in constructing a building.

The increasing proportion of work undertaken by building sub-contractors of all kinds has resulted in an increased need for management and control during the building construction process. The building industry has expanded together with an increase in the complexity of building, leading to circumstances where discrepancies between estimated costs and contract prices have become much more significant than in the past. The QS with his (and sometimes her) techniques for analysing building designs for estimating purposes has found a new role as 'cost planner'. Methods of measurement are used to build up a more accurate estimate of building costs and can be augmented by the accumulation of records of costs from past work to further increase the accuracy of prediction of future costs. More recently, with further developments in data handling affecting cost planning, the QS has extended his activity into cost control often providing advice on broader aspects of building economics and contractual relationships. Cost planning has assured the QS of a continuing important professional status. In yet more recent times, increasing attention has been placed on the need to manage the building construction process to optimise speed and efficiency. Management Contractors, who do not employ any tradesmen directly but who co-ordinate the activities of a large number of sub-contractors, are replacing Main Contractors on many projects. Management Contractors work as agents of the client and control the overall process of construction primarily to ensure that cost budgets and completion targets are achieved. (The reader interested in tracing the history of the profession of the chartered surveyor will find the work of F. M. L. Thompson of considerable interest.⁶⁾

The young architect must become conversant with all of these things - and more besides - at least in general terms. Some architects in fact go on to specialise in building contract procedures and project management. With this in mind, this year we made our Professional Studies course available to selected students from outside the department who were seeking additional instruction in this subject. A few students participated and all the signs indicate further potential for developing this aspect of our professional studies curriculum.

So far I have described professional studies in the foundation degree (MA) and the advanced degree (BArch) which together confer professional recognition of RIBA Parts 1 and 2. I will now turn to the activities that feature in the final phase of professional qualification leading to the RIBA Part 3.

Professional Studies: The Final Examination in Professional Practice (RIBA Part 3)

It has long been recognised that professional training is an essential aspect of architectural education. The formal requirement for professional training to be introduced into the curriculum, and for taking the so-called 'Part 3' examination, was introduced as long ago as 1947. The minimum overall period of study of two years was set in 1962. More recently the profession has recognised that the prescription of specific minimum periods of training is less important than the actual quality of the training received. It is also recognised that individuals differ with respect to their learning aptitudes and temperament. The capacity to find employment appropriate to the needs of the Part 3 Exam (more properly the *Examination in Professional Practice Part 3*) also has a bearing on when a candidate can and should come forward to sit the exam. In this respect candidates are expected to exercise their judgement and assess their own readiness to take the final examination and to have responsibility for securing appropriate and effective training.

The Scope of Professional Experience

The following list of topics provides an indication of the scope of subjects expected to be encountered in professional training - the list is essentially a selection of topics for illustration purposes:

Job Management: The Realisation of Design

Procurement of Buildings

Role of the Profession and the Construction Industry

Practice Management

Contemporary examiners expect candidates to have made a detailed study of at least some of the topics identified above and to have some familiarity across the whole range of subjects.

As previously intimated, in Scotland the Association of Scottish Schools of Architecture (ASSA) has responsibility for the conduct of the final Examination in Professional Practice which, when successfully completed, is recognised by the RIBA and ARB for registration and the conferment of the title of architect. I will now briefly describe what is involved and how the scheme operates.

Candidates with UK Qualifications

Although the ASSA final examination in architecture evolved with the needs of Scottish students in mind, the examination conducted by the University of Edinburgh, under the auspices of ASSA, is open to other suitably qualified candidates from the UK at large. As a first step these candidates are required to provide written evidence from their university or equivalent institution that they have passed the Parts 1 and 2 examination. A letter is normally also required from their Professional Studies Advisor agreeing to the transfer to the University of Edinburgh. As already intimated, candidates are required to give evidence of the scope, range and quality of their experience, of at least two and preferably three years duration, combined with exemption from Parts 1 and 2 of the professional examinations. The Part 3 examination, to use its short title, is the gateway to corporate membership of the RIBA and RIAS and to registration with ARB. Only the latter is actually required to be a practising architect although active membership of the RIBA and RIAS is strongly encouraged to maintain the vitality of the institutions. (To 'catch them whilst they are young' the RIBA currently offers Student Membership for £13 and the RIAS operates a similar membership incentive.) During 1996 the RIBA and the Architects Registration Council of the United Kingdom (now replaced by ARB) undertook a review of the criteria and procedures under which their Joint Validation Panel (JVP) operates in considering courses in architecture for recognition by the two bodies. As a result revised procedures were introduced in September 1997. These procedures are set out in three comprehensive booklets published by the RIBA covering Parts 1, 2 and 3 of the curriculum in architecture.⁷

There are four components to the Examination in Professional Studies Part 3 as undertaken at Edinburgh University:

- *Record of Professional Experience — Log Book*
- *Evaluation of Experience*
- *Case Study*
- *Practice Paper*

Record of Professional Experience – Log Book

As previously mentioned, students in Scotland are required to keep a record of their professional experience using the ASSA 'Log Book'.⁸ The first section of this document consists of *Guidance Notes for Employers and Candidates* and explains the essential features of the scheme, notably, the importance of the trainee architect participating in: meetings, briefings, investigations, specification writing, schedules, contracts, inspections, accounts, statutory authorities, and relationships with contractors. The core part of the document consists of the Monthly Record Sheets and companion Quarterly Summary Sheets which, as the names imply, are used to maintain records of the relevant professional activities undertaken by the trainee architect. These have to be signed by the employer's Practical Training Supervisor and by the university's Professional Studies Advisor. To strengthen these procedures, since December 1998, ASSA has ruled that records that are not signed after a lapse of three-months will not be accepted as valid experience. This ideal,

although well founded, is proving difficult to maintain in practice. The Log Book is a vital document which is trusted for its veracity and to ensure that it is completed correctly it includes several pages of specimen entries duly completed in an 'ideal' way.

At the time of writing it should be noted that the RIBA is currently introducing its Professional Experience and Development Record (PEDR) which it is anticipated will ultimately replace the traditional Log Book. The PEDR is an electronic record of a candidate's professional experience and is in two parts; the first contains a guide to the Professional Experience regulations and worked examples, the second, consists of electronic templates with which candidates can record their professional experience and achievement of learning objectives. For the present, candidates can combine the traditional Log Book method of reporting with the new PEDR system.

My understanding is that the RIBA is currently in the process of consulting and receiving views about the merits of the electronic PEDR. Here in Scotland the traditional Log Book is still firmly in place. However, I am indebted to my colleague Mrs. Fiona McLachlan (see Acknowledgements) for informing me that a pilot study of the PEDR has been undertaken with a small number of students who have reported very favourably about the system. My instincts are that just as e-mail has now supplanted 'snail mail' in our maintaining contact with students when on Placement, so the PEDR will eventually replace the conventional Log Book - but at this stage that's just an inspired guess.

Evaluation of Experience

To accompany their Log Book documentation candidates are required to write an Evaluation of Experience document of about 1500 words. In effect this is a self-appraisal of the full range of the candidate's experience and provides the examiners with evidence that the best use has been made of the opportunities presented and the extent to which their professional implications have been grasped. With this in mind, candidates are urged to regularly monitor their own training, to keep a diary of office activities and to regularly discuss their progress with their office supervisor. Interestingly, even negative or downright unfortunate experiences can be turned to advantage if they are reflected upon maturely and objectively evaluated.

Case Study

The Case Study - more correctly the Professional Practice Study - has two aims. The first is to encourage the candidate to develop an interest in a subject related to professional practice which has both intrinsic value and also establishes a basis for discussion in the Oral Examination. The second is to allow the candidate to demonstrate the ability to investigate in some depth an aspect of current architectural practice. Examiners stress the educational value of the study in addition to its use for assessment. Moreover the study can often result in a piece of work which is of lasting value to the employer. Students frequently undertake a project-based study of a building under construction, recording the progress made and formulating conclusions about problems and their solution. Another approach is for the candidate to undertake an in-depth appraisal of an employer's working methods such as:

contract administration, office organisation, building appraisal and feedback procedures, design team working and project documentation. These subjects can raise issues of confidentiality and require early approval with the employer - responsibility for which lies with the candidate. One pitfall is for subjects to become too detached from everyday reality so the following advice is given:

Avoid becoming too academic and theoretical. The exam is concerned with practice and the examiners need to draw out contractual or professional implications from your work. Make this the prime objective of your study. Although the theory may interest you its practical application is more likely to lead to problem-based discussion allowing you to demonstrate an ability to act decisively and effectively.

A successful working method is for the candidate to extract a theme from the job files and to elaborate this with contextual details - in effect a 'case history' approach. This works well provided texts are not padded with irrelevant material or burdened with weighty appendices. Good graphics - charts, diagrams and photographs - are encouraged to enliven the report. Candidates are set a target of about 6000 words for their Professional Practice Study.

Practice Paper

The purpose of the Practice Paper is to provide candidates with a further opportunity to demonstrate their competence in professional practice. The examination is taken by all candidates in the Scottish Schools of Architecture and therefore provides the examiners with a fair and consistent measure of achievement across the schools. The paper is prepared by the ASSA Professional Studies and Training Advisory Panel and is administered on a rotating basis by the participating schools. The paper covers practice and project management and the required professional attitudes to these. The candidate has to imagine that he or she is a job architect responding to a circumstance in practice that raises a range of professional issues. Candidates are issued with the job 'scenario' and then have 48 hours to research the answer(s) making use of any reference sources. The paper requires a calculation to be made, reports to be prepared, letters and memos to be drafted and statements to be compiled - in effect a microcosm of a 'day in the life of a typical office'. A further 24 hours is allowed for the candidate to refine the presentation and to bind the submission. Deadlines are mandatory. Although the Practice Paper is not marked, it is scrutinised by the examiners and can form the basis for questions at an oral examination.

Update Course in Architectural Management

To assist candidates present for the Part 3 Examination in Professional Studies an updates course is held annually and extends over a three-day period. It is fitting that so long a period of training as seven years - or more in some cases - should culminate in a group learning activity that has a strong social element. Young trainee architects descend upon Edinburgh (or other venues in some years) not only for three days of intensive update learning but also to share their experiences with one another and, that most congenial of activities, to reminisce. A detailed description of this course is beyond the scope of this article but brief details are given in the [Appendix](#).

The Update Course in Architectural Management is by no means a passive lecture-based activity. Case studies form an essential feature in the sessions to elucidate additional points and to engage the participants in role play and simulation exercises. The final day concludes with the students' individual presentation of their Log Book, Case Study and Practice Paper - not forgetting a well deserved conference dinner in the evening.

Summary and Self Evaluation

This case study has considered the nature of professional training in architecture with a particular emphasis upon how work-based learning can be integrated into the formal pattern of academic study. The issues raised are typical of those confronted by all schools of architecture. The approach described is that currently followed in the Department of Architecture at the University of Edinburgh. Without wanting to sound too virtuous we believe our approach has a number of strengths. The integration of the Placement into the MA degree in architectural design offers a good measure of control over what our 'Year Out' students do. This has also strengthened our partnership with practice. Work-based learning is integrated much better into the academic curriculum to the extent that the students' Placement now contributes about 15% towards the MA degree. All students who undertake a Placement are required to submit a Report describing their work experience which is, of itself, a valuable learning outcome. Indeed, we have observed a considerable improvement in the quality of student report-writing in recent years. In addition, our collaboration with colleagues in practice has improved. For example, we now maintain a Register of Architectural Practices based on those firms who have provided employment for our students. This serves as a valuable data-base for other students who, in their turn, are seeking work experience. We also believe that our curriculum changes have improved student motivation bearing upon seeking a Placement. To help them, the Department of Architecture, in liaison with the University of Edinburgh Careers Service, now provide courses of instruction bearing upon Preparation for Job Interviews, CV writing and Portfolio preparation — all by way of ensuring that the student is best prepared for obtaining employment. These activities have greatly enhanced our working-relationships with our Careers Service and have integrated our work-based learning procedures much more effectively into the general pattern of the work of the University.

The additional Placement in the BArch degree gives an added dimension to professional studies with a focus upon the specifics of roles, relationships and responsibilities. The final year of the BArch course brings a range of additional specialist expertise into the department in the form of the Professional Studies lectures and related activities - notably the Contracts Forum. In turn these are a good preparation for the culminating events of the Examination in Professional Studies Part 3 and its supporting Update Course in Architectural Management. Having said all that the reader may well ask is there a downside and what are the problems? I will conclude with a brief mention of these.

The JVP documentation takes a great deal of time and effort to complete - especially the questionnaire concerning a school's response to Professional Studies. If your school is due for a JVP review my advice would be to start working on the documentation without delay.

Concerning our MA Placement: in the early years we were too enthusiastic and required our students to complete two reports - one for each placement period. This resulted in 'report fatigue' for both staff and tutors. The single report is now a much improved learning vehicle. Concerning the standard of report writing, our external examiner has complained that the grades we have awarded are too bunched near the top of the scale. We have since analysed the distribution and have concluded things should stay as they are - our students write good reports! Concerning the BArch 2 professional studies course, students frequently make the request 'Can we do this kind of thing earlier on in our training?'. My feeling is that this would be premature but there is some validity in the students' point of view. This is that you cannot start too soon in inculcating the broad concept of professionalism in an architect's training be it related to design, technology, planning or any other aspects of the curriculum. Turning to the actual placement activity, in its recent documentation the QAA has raised the question of the health and safety of students when engaged in work-based learning. Beyond exhorting students 'to be careful' it is not easy to offer effective supervision to students who are away on Placement. Clearly there is an obligation upon employers accepting trainee students to adopt safe working practices. Notwithstanding, I am currently attempting to improve the guidance we offer to our students and I hope to learn from the experience of colleagues in our Faculty of Medicine who have similar concerns for their students when they are engaged in placement learning. By way of general interest, I will add here that we hope shortly to give added professionalism to our BArch degree by re-styling it as an MArch to better reflect the advanced nature of the work carried out. Additionally we are currently in consultation with other of our colleagues in the Faculty of Science and Engineering (Civil Engineering) to consider possible future collaboration in the form of joint courses and possibly a joint degree in Project Management allied to the built environment. This is consistent with the current outlook within the University of Edinburgh which is to promote synergy between disciplines that share common subject boundaries.

Perhaps the ultimate test of the success of the ideas and concepts implicit in this article is the record of student achievement in the Examination in Professional Practice Part 3. I am pleased to be able to report that in the most recent examination (November 2000) 22 out of 23 candidates succeeded (19 men and 3 women) and that previously (November 1999) all the 21 candidates were successful (16 men and 5 women). This is as much a testimony to the industry and application of the students themselves as to the course of education and professional training they have received. With this in mind, allow me to conclude by saying that architecture is a demanding profession. All those who beckon to its calling must trudge down Ruskin's 'stony path of learning'. The Greek physician Hippocrates had the same idea when he observed *ars longa vita brevis* which for our purposes can be taken to mean 'The life so short the craft so long to learn'.

By way of a final summary, the following is a listing of the general benefits that have been achieved through the implementation of revised procedures in work-based learning allied to professional studies in architecture at the University of Edinburgh:

- By combining work-based learning (placement) within the academic degree structure, a better quality of integration is achieved between practical training and more formal academic studies.
- By acting as the tutor to a group of students, each member of staff involved has a direct hands-on contribution to make to student learning when the student is away from the department. The adoption of distance-learning procedures (notably e-mail) enables students to keep in touch with their tutor and thereby to resolve issues that require tutor-guidance and input.
- This in turn makes staff within the Department of Architecture feel they have fuller possession of student learning than was the case under the previous year-out system when staff had little or no contact with students.
- By requiring students to write a report about their placement experience, students are obliged to reflect analytically upon their work in architectural practice and to critically evaluate their practical-training achievements.
- The written reports that students submit at the end of their placement have raised the quality of student work related to work-based learning. In addition, the students' work is preserved in the departmental library where it can be consulted and serves as a guide to other students when they are planning their own work-experience
- Since the introduction of our revised teaching and learning procedures, closer working relationships have been established with the architectural practices who participate in our placement (work-based learning) scheme. A register of these practices has now been compiled and serves as a valuable resource to students seeking work experience.
- Student preparation for placement has been greatly improved through the adoption of the training skills made available to our students through the University of Edinburgh Careers Service.

Postscript: Recent Developments

Since the first draft of this paper was written the University of Edinburgh has now given its approval to the introduction of the MArch degree which now therefore replaces the BArch degree to which reference has been made. There is a point of wider interest for the reader. The Quality Assurance Agency (QAA) has now completed academic reviews of three Scottish schools of Architecture; Edinburgh College of Art, Edinburgh University and Robert Gordon University. A report on this experience, together with practical guidance on preparing for the QAA review, has been published by CEBE.⁹

Acknowledgements

A number of individuals have contributed to the ideas contained in this article and are deserving of acknowledgement. Professor Robert Tavernor did much to pioneer the concept of integrating supervised placement learning into the MA degree curriculum during his tenure

of the Forbes Chair in Architecture at the University of Edinburgh. My colleague Mr. Andrew Gilmour has contributed substantially to the furtherance of the teaching of professional studies over a period of several years as Practical Training Advisor. I am indebted to him for his legacy of guidance notes on this subject from which I have benefited in the writing of my text. I am similarly grateful to another of my colleagues Mrs. Fiona McLachlan by citing from her work undertaken in her capacity as our Professional Studies Advisor with responsibility for the Examination in Professional Studies Part 3 and the supporting Update Course in Architectural Management. More generally I am grateful to all my departmental colleagues for their contribution to the team of tutors who do so much to underpin the concept of work-based placement learning.

Footnotes

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5. Quality Assurance Agency for Higher Education. 2000. *Subject Review*. [A handbook describing methods used for the review of quality and standards at the subject level.]
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7. The guidance notes to which reference is made in the text are set out in full in *Procedures and Criteria for the Validation of Courses, Programmes and Examinations in Architecture - Part 1: Procedures for Validation and Part 2: Criteria for Validation* (1997). Guidance on the Part 3 qualification is provided in the companion publication *Guidance Notes for the Schools of Architecture on Examinations in Professional Practice* (1998).
8. *ASSA Record of Experience*. Edinburgh: RIAS Publications.
9. Centre for Education in the Built Environment. 2001. Academic Review: The Scottish experience and preparing for academic review, *News Update*, 4, p.4.

Appendix

Undergraduate Placement: MA (RIBA Part 1)

As remarked in the paper, a Placement is defined as a continuous period of recognised employment. Placements typically fall into one of the following categories — the topics listed are for illustrative purposes only and are not comprehensive:

Architectural and related Professional Practice

- planning and design of buildings and interiors
- briefing procedures and client-architect relationships
- office management procedures
- IT and the use of computers in practice
- building controls

Environmental Design and Building Performance Studies

- environmental impact assessment and predictive methods
- energy efficiency and passive design techniques
- ecological issues and material specification
- climate and design

Construction Systems, Technology and Manufacturing Processes

- contracting arrangements and management
- component design, off-site fabrication, testing and quality control
- innovative use of materials

Building Surveys and Conservation

- survey methods, measured drawings and recording buildings
- archival research
- traditional craft processes, specification and conservation techniques
- innovatory design and technology

Professional Studies Placement: BArch 1

The three 'Rs' referred to in the paper have the following meanings:

Resources:

Office organisation and procedures, the implications of the size of an architectural practice and its bearing upon the work undertaken, IT, and working methods.

Relationships:

Procurement methods and contracts, client-design relationships and team-contractor relationships.

Responsibilities:

Professionalism (standards, integrity and aspects of good working practice), registration, codes of conduct, legislation and site safety.

As stated in the paper, we invite the student to consider this aspect of his or her placement study from one of three possible approaches as follows:

Case Study Approach:

This entails first-hand involvement with an aspect of office practice.

Anecdotal Approach:

This involves developing ideas and understanding through discussions with practitioners and related professionals.

Academic Approach:

Here the emphasis is upon the use of primary sources - drawings and technical reports - with access to good library and archival resources.

Examples of BArch Placement Experiences and Typical Placement Report Topics

The following topics are provided to illustrate typical BArch Placement experiences and topics written-up by students for their Placement report:

Resources:

- How might the size or nature of a professional office affect the service offered to clients?
- Can private offices provide all the services needed to serve the public interest?
- How might the extension of information technology affect architectural practice?

- How might the extension of IT within the building industry affect working methods?
- What factors should be considered when deciding to set up practice?

Relationships:

- How does the nature of the client-architect affect the role of the architect in developing the brief?
- What are the implications of joint working relationships in architectural practice?
- What are the implications for offices sub-contracting work to other offices?
- How do forms of practice which limit professional liability deal with protecting the public interest?
- What are the arguments in favour of fee competition between professionals?

Responsibilities:

- Should individuals or practices be registered?
- What more should the profession be doing about continuing professional development?
- What were the objectives underlying the reform of ARB and are they being met?
- What are the implications of the Private Finance Initiative (PFI) for architectural practice?
- How is design affected by changing trends in the character of building control?

Advanced Professional Studies: (RIBA Part 2)

Students in their final year of study for the BArch degree at the University of Edinburgh (BArch 2) receive advanced instruction in professional studies as a component of the RIBA Part 2 study requirements. The activities of this part of their professional training are grouped around the following events:

- Lectures and Seminars
- Professional Studies Essay
- Building Contracts Forum
- Building Contracts
- Building Economics

A brief description of these activities follows.

Lectures and Seminars

This course used to take the form of a long thin sandwich extending throughout the final year of the course (BArch 2). In response to student questionnaire responses - we do our best to respond to student comments about the curriculum - we now prefer to concentrate lectures in three intensive periods. The following gives an outline of the principal lecture themes:

December course:

The Architectural Profession (introductory lecture by a distinguished practitioner), The Architect in Practice: The Public and Private Sectors, The Architect as Developer, Architecture, Funding and Quality, Outline of Planning Law, The Appointment of the Architect, and Insurance Services.

January course:

Professional Conduct, The World of Business, The Marketing of Architectural Services, Information Handling, and Building Control.

March course:

Law for Architects, The Architects Registration Board, Building Contracts (8 lectures), and Building Economics (4 lectures).

A number of aspects of this course are worthy of comment. In total the lecture courses are of three weeks duration. The lecturers are mostly partners or managing directors of well established Edinburgh architectural practices - including several of my former students! All contribute their time free of charge - actually for coffee and biscuits - for which I am much indebted. (In real terms the lecturer fees would be several thousand pounds.) For the legal part of the course we receive support from the Faculty of Law of the University of Edinburgh - a good example of cross-faculty collaboration. The students are encouraged to take detailed notes by way of preparation for the writing of a short paper (1500 words) on one of the lecture themes (see below). This is known as the *Professional Studies Essay* and, with the

end of session examinations, it contributes 10% to the award of the BArch degree. The lectures are very intensive and 'serious' but notwithstanding they are well received by the students who recognise their importance in setting them on their way to qualify as architects.

Professional Studies Essay

The Professional Studies Essay required of final year BArch 2 students is conceived to explore these and related issues. There is another reason for setting students this exercise. In architectural practice, skills in oral and written communication - for example when presenting schemes to clients - are most important. When a complex set of considerations have to be analysed, options identified, and judgements made, these skills are as important as the ability to sketch or draw - or to present ideas with the aid of computer media. Practising professional writing skills is therefore an important aspect of the Professional Studies Essay. To illustrate this aspect of the advanced professional studies course a list of typical study topics follows with examples of essay themes from which each member of the class is required to select and develop a topic.

Serving the public interest

When architects discuss the broader issues of professional practice they tend to do so from the viewpoint of their own interests. But many issues such as fee competition, limited liability, protection of the title of architect, directorships, competence, and so on, affect the public interests at large. It is in the public interest that the profession as a whole should provide the skills and forms of organisation (e.g. private firms, local authority offices, R & D groups etc.) that are best able to offer the range of architectural services that will help society to get the kind of built environment that it wants. What exactly is the public interest is a matter for judgement, made in the light of what is perceived to be a general consensus. Present-day concerns with all kinds of consumer protection mean that judgements about where the public interest lies must pay regard to change in this consensus, resulting from pressures successfully exerted by various agencies ranging from individuals and minorities to international business and government organisations.

The Title of Architect

- The de-regulation of the title architect, proposed by the government in 1993 - but later abandoned, would have enabled anyone to call themselves architect.
- What protection and assurance should the profession give the public in respect of competence?
- Should a distinction be made between, say, the right to the title 'chartered architect' (which could be enjoyed by anyone qualified by examination, inexperienced or not) and a license to practice?
- Should the title of architect be 'for life' or should it be periodically renewable on evidence of maintained competence?

- What is the current attitude of the profession towards CPD (Continuing Practice Development), and is this satisfactory?

The Privatisation of Architectural Services

Can private architectural practices satisfactorily provide all the services that are needed to meet the public interest? In responding to this question students are asked to consider such forms of architectural service as:

- Research and development.
- Maintenance and recycling of public property - schools, health clinics, public libraries etc.
- Urban planning and development.
- Advice to government on policies affecting the building environment.

Professional Liability

Decisions in the courts remind us that professional liability can be very considerable in time and cost. The Code of Professional Conduct allows architects to practise as limited liability companies. The RIBA introduced a bye-law for members seeking to regulate such companies, in particular ensuring adequate professional indemnity insurance, but does this protect the public interest satisfactorily? Are there dangers in adopting protectionist professional attitudes such as this?

Fee Competition

Some years ago, the Monopolies Commission and the government abolished any form of mandatory or recommended fee scale, saying that competition between architects should be on a competitive fee basis. The efficient architect should, argue the government, be able to provide the architectural services at less cost than the inefficient one and consequently charge a lower price while still making enough profit to stay in business. But does this take sufficient account of the following:

- The need for the client to have as clear an idea as possible in advance of what fee he will have to pay?
- Fee competition is meaningless unless comparative estimates of fees can be obtained before choosing the architect?
- The architect's difficulty in estimating costs in advance?
- If a fee percentage of building costs is quoted in advance, the lowest bidder can design an expensive building without having to provide any extra service.
- Can a better basis be found? What actions should fees cover?

The Architect in Practice

- The public and private sectors
Discuss the essential nature of architectural practice considering such aspects as

architect-client relationships, office procedures and relationships with other professionals within the built environment.

- **The Architect as Developer**
What do you understand by this expression? Discuss the freedoms to practice as an architect-developer since the changes to the Code of Conduct.
- **Development Control**
What do you understand by this expression? Discuss the essential features of Building Control. How do the following help to ensure quality in the built environment: Policy Guidance, Planning Advice Notes, Structure Plans, and Local Development Control.
- **The Appointment of the Architect**
Discuss the appointment of the architect with particular reference to the Code of Conduct, scope of architectural services, fees, liability and insurance.
- **Communication**
Discuss how an architectural project evolves, bearing upon briefing, plan of work, evolution of the project, team meetings, information handling, and solving design and technical problems.

Building Contracts Forum

The following are typical questions asked of each student during The Building Contracts Forum:

The Carrying Out of the Works

- During site excavations the Contractor discovers a skeleton and notifies you requesting instructions.
- During a site visit the Clerk of Works mentions that there has been no site agent on site for the past eight days but that the foreman bricklayer seems to be in charge.
- The Contractor informs you that the lever handles specified for the doors are no longer available. A suitable alternative has been selected and delivered to the site.
- The nominated Landscape Sub-Contractor telephones to complain that the Main Contractor's Site Agent refuses to dig the pits for the new trees.
- Your client phones to ask that you inform the Contractor that an artist he has commissioned wants the scaffolding to remain in place for the next three weeks so that he can execute a mural.
- The Contractor notifies you that part of the drainage layout does not comply with the building inspector's interpretation of the Building Regulations so he has altered the layout as directed by the Inspector.

The Programme of the Works

- The Contractor notifies you in writing that because of heavy snow in the last week of February his ground floor brickwork has been delayed and he therefore claims an extension of time of one week.
- Progress over the past six weeks has fallen well behind the Contractor's programme and in your opinion this is due to the inability of the Site Agent to organise and control his workforce.
- The client notifies you that he wants to change the vinyl floor tiles in the kitchen to quarry tiles. You check with the Clerk of Works and learn that the concrete floor has already been screeded for vinyl.
- Two weeks have elapsed since the commencement date for plastering shown on the Contractor's programme but the plasterer has not yet appeared on site.
- Two weeks before a housing rehabilitation scheme is due to be handed over (early in January) you learn that extensive damage has been caused by pipes bursting during the ten day Xmas-New Year holiday period. The Director of the Housing Association claims that the Contractor was negligent in not taking obvious precautions and the Contractor is now asking for an extension of time.

Financial and Contingent Matters

- When preparing the tender documents in consultation with your client he asks for advice on the procedure to be adopted if the Quantity Surveyor discovers arithmetic errors in the computation of the lowest tender received.
- The lowest tender received is about 15% above the cost limit imposed by your client.
- During a site meeting you are told that your car which is parked in the space allocated to you adjacent to the Site Office has been badly damaged by a pre-cast concrete unit falling off a truck.
- The vibration due to earth-moving machinery on site is found to have damaged some rare Phoenician glass in the basement of an adjoining museum building but the Contractor's insurers deny liability.
- Payment for 40 doors has been authorised but you notice that the joiners are experiencing difficulty in hanging them because they are not of the correct sizes.

To give an extra dimension to the Building Contracts Forum, the students give their answers to these questions - as best they can - and then listen to the lecturer give his 'textbook' version. In addition they make notes of his replies which are often elaborated to take account of other related circumstances - such as: 'What if the skeleton found on the site is that of a Roman soldier?' Furthermore the students' notes form a useful source of reference material for the open-book contracts examination (see following).

Professional Studies: The Final Examination in Professional Practice (RIBA Part 3)

The Scope of Professional Experience

The following list of topics provides an indication of the scope of subjects expected to be encountered in professional training - the list is essentially a selection of topics for illustration purposes:

Job Management: The Realisation of Design

- Identification and satisfaction of client needs
- Achievement of design standards
- Maintenance of budgets and programmes
- Effective integration of production information
- Knowledge of planning and development legislation

Procurement of Buildings

- Knowledge of traditional and alternative ways of working, project management, tendering procedures, forms of contract and good-practice documentation
- Familiarity with site organisation and briefing responsibilities
- Competence in issuing architect's certificates
- Experience of making valuations and payments
- Awareness of liabilities, indemnities and insurance

Role of the Profession and the Construction Industry

- Architect's appointment and services
- Codes of conduct and practice
- Knowledge of member organisations in the construction industry including advisory and consultative bodies

Practice Management

- Roles, relationships and responsibilities associated with practice
- Familiarity with internal structures of organisations and different forms of practice
- Management of people within organisations
- Efficiency and quality control
- Implementation of practice policies and objectives
- Financial aspects of practice: viability, profitability, cash flow and budgeting

- Legislation affecting professional services: registration, trades description, employment contracts and arbitration

Update Course in Architectural Management

To assist candidates present for the Part 3 Examination in Professional Studies an updates course is held annually and extends over a three-day period. Details of this three-day event are as follows:

Day 1

- *Clients*
This opening session explores the client-architect relationship in all its diversity touching upon the nature of clients, their expectations, the services architects can offer and the more formal/legal aspect of the professional and contractual relationship.
- *Practices: The architect's office - size and capabilities*
The themes of this session are: Management structure - partnership v company; ownership, banking and funding; offices structures - hierarchical v flat structures; marketing and negotiation; capabilities, skills and credibility. This session also includes the consideration of financial matters with worked case studies for a medium-sized practice - how to stay solvent!
- *Teams*
All projects require the combination of skills that a team can contribute. This session considers the dynamics of group working relating to: the range of skills applicable to a job, collaboration within the team and externally, the nature of the design team (viz. architect, engineers - mechanical, civil and structural - and QS), how different skills are used at different stages in the design process, and how teams work (leadership, personalities, the use of complimentary skills etc.)

Day 2

- *Jobs*
This session starts by exploring the all important job, the brief and what clients want - or think they want. Some clients are inexperienced at commissioning buildings, others have a wealth of experience about certain building types and their design (e.g. senior managers of supermarket chains). Issues explored here are; how clear is the brief, what is the programme like (time constraints), the procurement route (lump-sum tenders, design and build projects or 'PFI' projects), budgeting and funding (the key to any project is money!) and design management - doing one's best in a competitive financial environment against the background of a strict legal framework with litigation risks.
- *Rules - procedures and regulations*
The architect's standing is not high in the estimation of the public with regard to management and organisational skills. Architects often appear to work to their own

(creative) agendas with secondary regard for commercial propriety. Management training is essential for the profession: rules and procedures dictate these agendas. This session examines: quality of procedures, professional service obligations, carrying out business, working practices, management of design and construction, responsibilities of the designer and risk assessment.

Day 3

- *Contract*

This session examines some of the key factors bearing upon the smooth running of a contract including: contract administration - site meetings, inspections, architect's instructions and dealing with claims; problem solving - resolving design issues and establishing the balance of information required to solve the design problems; documentation - understanding the relative contributions of drawings, specifications and bills of quantities; defects - the purpose of inspections and the defects liability period; feedback - learning from one's mistakes (and successes); liabilities and records - the need to keep project documentation as evidence in the event of litigation; and risk - the essentials of risk management (cost, time, safety, design quality etc.).

The Update Course in Architectural Management is by no means a passive lecture-based activity. Case studies form an essential feature in the sessions to elucidate additional points and to engage the participants in role play and simulation exercises. The final day concludes with the students' individual presentation of their Log Book, Case Study and Practice Paper - not forgetting a well deserved conference dinner in the evening.

The Author

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His principal published writings include: *Forty Years On: Life and Work at The Central Technical School, Sheffield* (Pickard Communication); *.Bibliographical Index: A subject guide to Architectural Publications* (University Microfilms International); *The Built Environment: A Subject Index 1800-1960* (Gregg Publishing); *Architecture in the Encyclopédie of Diderot and d'Alembert: The Letterpress Articles and Selected Engravings* (Ashgate Publishing); *The Encyclopaedic Dictionary in the Eighteenth Century* (Scolar Press); and *The Napoleonic Survey of Egypt: Description de L'Égypte* (Ashgate Publishing).