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# **Can Universities Help in Bridging the Skills Gap in Building Conservation Surveying.**

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## **Abstract**

This paper comes from the author's deliberation over a question delivered to a RICS Conservation forum, which highlighted a skills shortage in the field of building conservation surveying. It was suggested by Brian Gowthorpe the forum convener that implementation of specialist conservation modules by universities might enhance conservation practice knowledge amongst commercial building surveyors. That raised the question of how effective a single university module might be. The conditions required for such a module to be effective are established. Enquiry based learning which if delivered in line with current educational research can effectively change a 48 hour duration taught module in to a 12 week long student centred project. The latter is deemed as having greater potential effect, allowing a single module to engage a learner to attaining levels of advanced skills and knowledge, with learners potentially being stimulated to continue developing beyond the 12 week period. A building conservation module delivered at a UK university to predominantly undergraduate building surveyors is evaluated, and using its academic output and learner perception data was found to be potentially a model for a successful vehicle. Conclusions acknowledge this and concur with the view that a specialist module can have a significant impact, albeit not by itself enough to ensure future professional competency, upon the skills shortage if they are creatively delivered, using a learner centred pedagogy.

## **Key words**

Building Conservation Surveying, Skills Shortage, Student Centred Learning

## **Introduction**

Brian Gowthorpe of the Arup Group was answering questions on behalf of the Royal Institution of Chartered Surveyors, (RICS), Conservation Forum. Of the many questions dealt with it was question 4 which caught the author's attention and became the basis for this paper.

*Question 4 "How could an approach based on the heritage sector making it easier for owners/applicants to assess skills be taken forward? Do delegates consider that accreditation schemes have the potential to assure the quality of advice, and develop the skills base of heritage consultants? If so how could take-up by applicants and professionals be increased?"*

*Answer "In my view the limited take up by professionals arises from a combination of the relatively high level, specialised skills required and relatively low fees characteristic of the sector. The work is interesting but many of those concerned are*

*older enthusiasts and are either sole practitioners or in small firms. This is particularly the case with building surveyors who can often command relatively higher fees than architects, particularly for commercial work. As a result conservation surveyors cannot usually form strong profit centres within larger firms and, similarly, the overheads of larger firms make conservation surveyors within them uncompetitive. Perhaps the accreditation bodies could approach the universities providing degree courses in the relevant disciplines and encourage them to provide more modules on building conservation and heritage issues. Some existing accredited professionals might be willing to teach on such courses to sow the seed early.” (Gowthorpe 2016).*

If Brian Gowthorpe is correct then he makes a compelling case for why the specialist conservation surveyor is often part of a small or solo practice, where love of the work exceeds financial reward. This indeed could be why, the author who is involved in overseeing graduate employability, Arcadis apart, rarely sees any of the large multi-office practices in the UK advertise for a specialist conservation surveyor. This view was reinforced by looking down the RICS list of accredited building conservation surveyors, where sole trader practices were common and with the exception of Brian Gowthorpe’s Arup, the larger national practices were generally not represented, (RICS 2016)

Logically if there isn’t the employment opportunities or financial rewards of commercial surveying, then it might be difficult for universities to recruit economic numbers of students into specialist undergraduate conservation surveying courses, which would additionally be resource intensive to deliver. Would the incorporation of specialist conservation modules into an existing surveying curriculum, as advocated by Brian Gowthorpe, provide adequate amounts of knowledge, to actually help towards bridging Brian Gowthorpe and the RICS’s perception of a building conservation skills shortage in UK surveying practice. This paper investigates a successful conservation module delivered as part of a currently running RICS accredited BSc Building Surveying course, to establish if a single specialist module can impart a usable amount of specialist knowledge, which can be taken forwards with further learning in to practice.

### **What Skills Make A Building Conservation Surveyor**

The international Council on Monuments and Sites the premier voice on built environment conservation issues, believe that there is a need to impart knowledge of conservation attitudes and approaches to all of those who may have a direct or indirect impact on cultural property, and said the following;

*“There is a need to develop a holistic approach to our heritage on the basis of cultural pluralism and diversity, respected by professionals, crafts persons and administrators. Conservation requires the ability to observe, analyse and synthesize. The conservationist should have a flexible yet pragmatic approach based on cultural consciousness which should penetrate all practical work, proper education and training, sound judgement and a sense of proportion with an understanding of the community's needs. Many professional and craft skills are involved in this interdisciplinary activity.” (ICOMOS 1993).*

They went on to list 14 required skills that they consider essential in a building conservation surveyor.

1. Read a monument, ensemble or site and identify its emotional, cultural and use significance;
2. Understand the history and technology of monuments, ensembles or sites in order to define their identity, plan for their conservation, and interpret the results of this research;
3. Understand the setting of a monument, ensemble or site, their contents and surroundings, in relation to other buildings, gardens or landscapes;
4. Find and absorb all available sources of information relevant to the monument, ensemble or site being studied;
5. Understand and analyse the behaviour of monuments, ensembles and sites as complex systems;
6. Diagnose intrinsic and extrinsic causes of decay as a basis for appropriate action;
7. Inspect and make reports intelligible to non-specialist readers of monuments, ensembles or sites, illustrated by graphic means such as sketches and photographs;
8. Know, understand and apply UNESCO conventions and recommendations, and ICOMOS and other recognized Charters, regulations and guidelines;
9. Make balanced judgements based on shared ethical principles, and accept responsibility for the long-term welfare of cultural heritage;
10. Recognise when advice must be sought and define the areas of need of study by different specialists, e.g. wall paintings, sculpture and objects of artistic and historical value, and/or studies of materials and systems;
11. Give expert advice on maintenance strategies, management policies and the policy framework for environmental protection and preservation of monuments and their contents, and sites;
12. Document works executed and make same accessible;
13. Work in multi-disciplinary groups using sound methods;
14. Be able to work with inhabitants, administrators and planners to resolve conflicts and to develop conservation strategies appropriate to local needs, abilities and resources;

(ICOMOS 1993)

On a practical day to day basis the RICS have a building surveying pathway to their assessment of professional competency, APC, which leads to chartered surveyor status. The level 3 competencies for conservation and restoration are;

1. Preparing and presenting a conservation management plan
2. Preparing and implementing a sustainable/ justifiable philosophical approach to guide both present and future works (repairs and alterations)
3. Preparing schedules of work in detail for a variety of situations for client approval, (non-standard)
4. Undertaking a programme of works
5. Providing advice on appropriate repair methods
6. Providing advice on appropriate works to ensure continued use of a building, or to bring back into use a redundant building
7. Advising upon alternative repair methods • Advising upon non-standard approaches to repair and re-use
8. Advising on situations where incompatibility of materials is found to be detrimental to the future of the structure or element
9. Negotiating e.g. where conservation is perceived to be a barrier to the future use of a building and/or restoration such as with statutory bodies

(RICS 2015)

Looking at both sets of criteria, provides quite a tall order for a single undergraduate module to cover. It needs to incorporate material which embodies the ICOMOS principles of cultural significance as outlined at the Burra Charter, (Walker & Marquis-Kyle 2004). ICOMOS requires skills in research and interpretation of historic places. Both criteria require specific knowledge of building pathology, traditional technology, materials and processes of decay, with an appreciation of appropriate repair and adaptation techniques. RICS are looking for a flexible sometimes non-standard approach to specifying work, and an ability to work with conservation's statutory authorities so those statutes do not "*become a barrier to the future use of the building*", (RICS 2015). This theme of working with administrators, planners and conservation legislators is echoed by ICOMOS. ICOMOS highlight a need to know boundaries of knowledge and when to bring in other experts and craftsmen, (ICOMOS 1993). To summarise the requirements of both bodies, the building conservation surveyor must be well versed in the philosophy of building conservation, be an advanced technical specialist, able to work with other viewpoints to building conservation, able to correctly interpret and evaluate sites, produce the specialist reports at a level appropriate to the reader, and also be able to bring all the other vocational skills of a chartered building surveyor to the table.

### **Can Single Modules Address the Conservation Surveyor Skills Issue?**

Looking at the volume of skills required over and above those of a commercial building surveyor then a traditionally taught undergraduate module would seem barely able to scratch the surface. Even if the learning material of the module to be evaluated were tailored exactly to address the skills and knowledge required by a building conservation surveyor in the UK, it would still represent a maximum of just 48 man

hours of traditional teaching. The question might however have a different answer if the module was not just 48 hours of classroom time, but rather twelve weeks of fully supported activity working on a real life building conservation project. The pedagogy needing to be applied is that of enquiry based learning. The activity in order to cover the ICOMOS knowledge and skills would need to, focus upon a real life building and scenario, requiring the production of industry accepted conservation reports and proposals for the future of the building. These should be mindful of its listed building status, its cultural significance and the views of the building owners. Realistically for a learner to find it vocationally effective beyond purely passing a module it would need to engage them to self-learning well beyond that possible in 48 hours of tuition, and hopefully a continued desire to learn beyond the 12 weeks.

The approach adopted by the module is by using an industrial simulation which is part of a family of action focused approaches to learning. These include enquiry based learning (EBL). There has been a significant amount of research, including that undertaken by the author in to the use of EBL, (McLean 2010). EBL uses student focused learning to achieve success in completing any given task. EBL is described by the Centre for Excellence in Enquiry Based Learning, (CEEBL), as an environment where the process of enquiry is owned by the student. They go on to state that the process involves a scenario being set, which is supported by a facilitator, and allows students to identify their own issues and questions (CEEBL, 2009). Students can then utilise resources provided for them or sourced by themselves to research the topic. One feature of enquiry based learning is that it might involve a small scale investigation involving field work and a case study adapted to meet the disciplinary contexts (CEEBL, 2009). This definition mirrors the activities described within the case study module.

Self-directed learning as advocated by EBL is believed by many educational researchers to be a superior form of vocational training in comparison to traditional teaching. The reasoning being a belief that the things a learner has discovered through experience are more likely to be retained (Park et al, 2003). It is however the belief of the author that this experience needs to be realistic, and ideally a real scenario. In EBL the role of the tutor changes to facilitator (Bradbeer, 1996), as the learners take ownership of their own learning. In terms of vocational skills training, industrial simulation exercises can contextualise any prior learning into an industrial context, where it is of value to future employers (Khan & O'Rourke, 2004). It reinforces

past learning as the learner can test knowledge against a real life scenario, i.e. previous technology and pathology knowledge. By using the knowledge to resolve problems the learner is afforded access to a whole new canvass for that knowledge, which gives it a greater value. It is also cited as preparing a learner for the life long learning required to adapt to the constantly changing nature of professional life (Dempsey et al, 2001). This form of learning would appear suitable when stated outcomes are the embodiment of key specialist vocational skills. The use of a small scale simulated industrial exercise as cited by Khan & O'Rourke appears ideal when seeking to focus learning directly in to a disciplinary context (Khan & O'Rourke, 2004). Conventional education theory would, it seems, suggest that industrial simulation in the given context could deliver a dual outcome of academic and vocational learning, providing it can deliver an equitable means of learning for all participants.

In summary this enquiry based learning approach could change a 48 hour duration traditional module into a twelve week work based experience, which should given the other stated advantages of the pedagogy advocated, provide a greater amount of useable conservation expertise, for a graduate surveyor. Perhaps as importantly it could provide the learner engagement to trigger the desire for further learning, (Mclean 2010).

### **Description of the Module & Learning Pedagogy.**

This module was delivered to a predominantly building surveying cohort, with some participants, (architectural design and real estate students), from other construction disciplines. A copy of the scheme of study is included below. Apart from existing surveying skills the diet is a blend of the ICOMOS and RICS requirements with tuition on completing UK industry accepted documents.

# **SPECIALIST CONSERVATION MODULE**

## **SCHEME OF WORK 2015-6**

<b>WEEK No</b>	<b>TOPIC</b>	
<b>1</b>	<b>Introduction, Cultural Significance Conservation Area Activity</b>	<b>LECTURES</b>
<b>2</b>	<b>Surveying Historic Buildings Practice Schedule of Condition Survey</b>	<b>LECTURES/PRACTICAL SESSION</b>
<b>3</b>	<b>Assessment Field Visit</b>	<b>FIELD VISIT</b>
<b>4</b>	<b>Conservation Legislation &amp; Bodies Standing Building Orders, (site interpretation) Appropriate Repair</b>	<b>LECTURES &amp; WORKSHOP</b>
<b>5</b>	<b>Conservation Statements Assessment Workshop</b>	<b>LECTURES &amp; WORKSHOP</b>
<b>6</b>	<b>Buying Listed Property, (Managing Expectation) Conservation Plans &amp; Management Plans Re-use and Development of Historic Bldgs</b>	<b>LECTURE &amp; PRACTICAL</b>
<b>7</b>	<b>Architectural History, (Age, style, evolution) Recording and Researching Recording Exercise</b>	<b>LECTURE &amp; PRACTICAL</b>
<b>8</b>	<b>Disabled Access to Historic Buildings Practice Access Audit</b>	<b>LECTURE &amp; PRACTICAL</b>
<b>9</b>	<b>Designing in Historic Environments Design and Access Statements</b>	<b>WORKSHOP</b>
<b>10</b>	<b>Archaeology and Biodiversity Working with Different Conservation Bodies</b>	<b>LECTURES/DISCUSSION</b>
<b>11</b>	<b>Practical Traditional Materials Session</b>	<b>PRACTICAL SESSION</b>
<b>12</b>	<b>BS 7913 Facade Retention &amp; Re-locating Bldgs. Is it conservation?</b>	<b>LECTURE AND DEBATE</b>



The study diet is however not the main vehicle for learning, just supporting material for the main activity. That activity is shown below.

## **1. TASK**

To prepare a conservation statement, condition assessment and management plan for a historic building. There will be a class field visit to a culturally significant historic building at the cross roads of its future development. You will prepare a conservation statement that could be used by the current or future owners to inform plans for the future conservation of the building and which is to be used as the basis for the development of a more detailed conservation management plan.

The condition survey should be fully illustrated, taking the form of a stock building survey, or a photographic schedule of condition.

The conservation management plan should be a separate report, which should be fully illustrated. You should use the Prince's Regeneration Trust publication, "How to write Conservation Reports", and the Heritage Lottery Fund publication "Conservation Plan Guidance" as templates for writing the reports, and examples from RICS chartered surveyors in relation to building surveys or condition schedules.

### **1.1 Additional Links and Further Material**

1. Subject building TBA in a separate case study brief.
2. <http://www.princes-regeneration.org/sites/default/files/files/publication/How-to-write-conservation-reports.pdf>
3. [http://www.hlf.org.uk/HowToApply/goodpractice/Documents/Conservation\\_plan\\_guidance.pdf](http://www.hlf.org.uk/HowToApply/goodpractice/Documents/Conservation_plan_guidance.pdf)

### **1.2 Learning Outcomes**

To complete this assignment you will need to demonstrate the following knowledge and understanding;

Understanding of the philosophic approaches to the conservation of the historic environment

Understanding of the UK legal framework for conservation of the historic environment

Ability to record the condition of a building.

Ability to undertake research into the historic environment

Ability to evaluate the cultural significance of the historic environment

Ability compose effective plans and policies for the care, maintenance and future use of the historic environment

### **1.3 Transferable Skills**

Ability to process information from diverse sources

Ability to carry out evidence-based evaluation

Ability to evaluate different viewpoints on complex and controversial subjects

Ability to write well-justified, evidence-based reports

**CONSERVATION OF THE BUILT ENVIRONMENT**  
**2016 COURSEWORK CASE STUDY BRIEF**  
**BRIDGE COTTAGE .....VILLAGE**

“..... Trust, the charity responsible for conserving and promoting the industrial garden village of ....., has announced that it has just completed on the purchase of Bridge Cottage.

Bridge Cottage is one of the largest and most architecturally significant in ..... It is thought to have been built for the creator of the ..... Empire ..... who lived there on occasion between 1893 and 1900 while his primary residence in ..... was being renovated.

Bridge Cottage has been continuously occupied by someone of important standing within the village and factory communities since 1900, including the schoolmaster, gallery curator, an eminent Dutch scientist, and the ..... company secretary. During the First World War it functioned as a crèche for women working in the factory and in the Second World War it suffered bomb damage after a land mine was dropped close by. More recently, the cottage has been home to the ministers of Christ Church until it was sold to ..... Trust in July 2015.”

***On Friday 19<sup>th</sup> February 2016 you will meet the officers of the ..... Trust on site. You will be given a tour of the historic site and will be able to assess Bridge Cottage and undertake a condition survey leading to producing a photographic schedule of condition. (Any participant not currently studying on a BSc Building Surveying course will undertake this work alongside a Chartered Building Surveyor).***

***On returning to Salford you will undertake further research and complete a Conservation Statement and Conservation Management Report in respect of the cultural significance and the future for this building (use the template for writing these reports advocated by the Princes Trust “How to Write Conservation Reports”).***

***You will be able to glean ..... philosophies in respect of their building stock whilst on site. A main one is that buildings must be financially self-supporting, i.e. the cost of any development works and cost of maintaining the building must be covered by an adequate income stream, (Rent, Fees, increased Tourist Income, etc.).***

***Any proposals must be mindful of the legal status of both building & village, and the planning and conservation requirements***

Above is described an activity which totally meets the specification for an enquiry based learning case study. The activity is fully supported, by a robust regime of imparting vital knowledge, time to practice skills and opportunity to question. It is fully scaffolded, (discrete support of each learner to promote learning and prevent isolation and disengagement), to support all learners as evidenced by the building surveying tasks being undertaken by non-building surveyors being completed alongside a chartered building surveyor. The methodology and rationale behind scaffolding learning can be read in another paper written by the author, (McClean 2011), Learning will take place as the learner evaluates the data from their survey work, against the problem of forging a future for the building. Learners will need to apply the requirements of building, property owners, statutory regulators, planners and village residents. Learning will start to take place as they research the building and site following ICOMOS practice of establishing and applying the principles of cultural significance. Learners will use conservation resources to research solutions to problems and finish by the production of industry accepted report forms, which in itself is skill and knowledge set that would make them valuable in practice.

### **Was it Successful?**

It is impossible to assess how many of the learners are currently embracing conservation work in practice, however there are two main sets of data which can be used to assess the success or not of any taught module. These are the statistics which are produced after evaluating the assessed outcomes, and the statistics produced by learners evaluating the module and its value to them. In respect of the outcome figures, of 30 participants all 30 passed the module. Grades ranged between 50% and 94%, with an average cohort grade of 75%. The tutor who graded the resultant reports noted that in nearly all cases the display of knowledge, and ability to create meaningful reports with valid proposals and conclusions was outstanding. Some reports were cited by scrutinising external examiners as exceeding even an industry professional standard.

Most learners by choice did exceed guideline wordage and completed very comprehensive reports, however learner feedback on the exercise was most positive. In module feedback 100% of learners were satisfied by the quality of the module, 100% agreed that the module was intellectually stimulating, 100% agreed that things had

been well explained, 100% thought the assessment requirements were clear, 100% agreed the module was well organised, 82% thought the module had improved their communication skills, with 18% not sure, 100% thought they had put a lot of effort into the work, and 100% thought their efforts were sufficient to successfully complete the module.

### **Conclusion**

This work started from the author reading a quote from a RICS forum discussion. The sentiment was that as large surveying practices mostly felt that establishing specialist conservation departments is not economic, there is a possibility that the expertise required might fall upon commercial surveyors, leading to a current skills shortage in building conservation work. The suggestion was for more conservation related modules to be delivered during the university phase of a building surveyor's training to improve the skills of future commercial building surveyors in dealing with conservation matters. With a typical university module consisting of 48 hours of tuition it was hard to see such a suggestion making a significant difference, given the volume of knowledge and skills advocated by ICOMOS and the RICS. The author however proposed the use of enquiry based learning which effectively turns a 48 hour traditional classroom experience into a 12 week project, with 48 hours of targeted support.

The author is not suggesting that any 12 week training event can ultimately end in competence in any but the most basic surveying area. The evidence however suggests that incorporation of a specialist conservation module into undergraduate building surveying curriculum, if it follows educational research into enquiry based learning pedagogy, and if creatively delivered can bridge some of the skills gap identified by the RICS forum. As evidenced by Dempsey this hands on form of learning can trigger lifelong learning and a desire to continue to develop knowledge and skills beyond the end of the module, and into practice. The author must agree with Brian Gowthorpe that perhaps the starting point for bridging the skills gap in building conservation surveying should be specialist conservation modules taught on RICS accredited building surveying courses, just not ones delivered in a traditional chalk and talk format.

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