

## Meeting between the JBM and Chairs of Industrial Advisory Boards

27<sup>th</sup> January 2009

The term IAB (Industrial Advisory Board) has been used through these notes, although it has been noted that universities often use other terms.

The JBM meeting with Chairs of Industrial Advisory Panels was held at the Institution of Structural Engineers on the 27th January 2009. A total of 57 delegates representing 37 universities heard presentations from Gerry Parke (Role of the JBM), Chris Nason (Role of an industrial member of a JBM visiting team), Quentin Leiper (role of an Industrial Advisory Panel - My challenges to the Civil Engineering team at Edinburgh University for the coming academic year) and Ed McCann (Opportunities for Industry to engage with Universities).

Informal feedback from delegates on the day and subsequent email communications have said how useful they found the day and have generally been very positive. Including the speakers, 25 industrial representatives attended the event.

The presentations are available to download from the JBM website.

In their discussion groups, delegates were asked to discuss six questions and the following notes are based on the charts produced by the discussion groups and comments made at the meeting.

### **Question 1**

***The JBM has heard from a number of sources that current graduate civil engineers no longer meet the needs of industry. What impact do you feel your IAB has had on the design of degree courses to ensure that graduates have the appropriate knowledge and skills? If none, how can your IAB influence undergraduate curriculums?***

The argument did not resonate with a number of the discussion groups. We need to realise that 35% of the population are now graduates and with the desire by Government to increase the number of students at university this will lead of a longer tail of poor quality graduates. The good graduates are still there therefore companies need to work out who they are interviewing. Some aspects are now better (IT) some worse (English and writing).

It was noted that IAB can necessarily have limited influence, since the University is subjected to many other external forces (e.g. finance, research staff, even UK-SPEC itself which pulls the curriculum away from a fundamental core technical content).

- Disagree (fundamentally).
- It was reported that these findings are supported by ICE CPR and MPR Reviewers.
- The comments were as a result of a questionnaire undertaken by members of the Civil Engineering Employers Training Group (CEETG).
- Potential for tweaking courses for particular industrial needs.
- Training vs. education.
- IAB sounding board in development but leads to incremental change (very useful at helping in new course development – but beware!).
- Get involved – commitment.
- Attend lectures and feedback (into curriculum).
- Presentations/poster days.
- Projects/design.
- Active participation, not passive at meetings or in between – a recurring theme.
- Pair, Lecturers and Industry members.
- Agreed that Engineering principles are weak.
- Emphasis should be placed on JBM core subjects.
- IAB can have an impact on the design of the degree course.
- The amount of influence of the IAB varies between universities.

- IAB influence – this depends on the people involved, the chair of the IAB and the head of school.
- The IAB **can** have some influence, in an atmosphere of gradual evolving change, especially if “course content” is a standard IAB agenda item.
- It was suggested that the professional bodies monitor the 2007 intake to see if they are fit for purpose when they graduate.

Kamel Hawwash reported that he is involved with a European Thematic network and from his perspective he believes that in the UK there is a good level of engagement between industry and undergraduate students. In Europe he believes that the balance of the content of degree programmes is not right and graduates may have good technical skills but they lack team working and some of the softer skills. In the UK we ask students to do more open-ended design but on mainland Europe this is more restricted.

With the move to modular courses many units are taught separately and not integrated and this could be why students do not always recognise how these elements come together.

Industry believes that the universities should provide the hard skills, they will look to develop team working and the softer skills, the basic engineering principles must be taught at university.

The reason for this question could be that when graduates come forward for review they have forgotten what they learnt 7 years ago?

Candidates will have been in industry for seven years so it is not the universities or industries fault that the graduates do not have the necessary knowledge.

We should ask the sponsors why they have sponsored candidates that do not demonstrate this knowledge. It was reported that the ICE's Standards Panel would contact sponsors in certain circumstances.

## **Question 2**

***Are industrial members of IAB's given an opportunity to meet and interact with undergraduate students? If yes, please give some examples. If no, why not?***

Some good informal links are in place but many do not have formal arrangements. Some IAB members do meet the students. However, the number of universities that have student members on their IAB are limited. IAB meetings tend to take place in the evening. Formal IAB activities aside, members of the IAB can have a lot of student contact, e.g. poster day, design projects, lectures etc.

- Generally members of the IAB are given an opportunity to meet and interact with undergraduate students.  
Examples
  - Design/provision of case study material.
  - Projects – judging.
  - Attendance at/giving Lectures.
  - Poster days and presentations.
  - Arranging for site visits.
  - Sponsorship.
  - Placements.
  - Prizes.
  - Careers fairs/presentations.
  - Potential for staff secondments.
  - Some delegates stated that students are members of the IAP and attend meetings.
  - Some 3<sup>rd</sup> and 4<sup>th</sup> year students will be allocated a mentor who would normally be asked to support between 4 and 5 students.

- Student feedback/IAB (where student members sit on the IAB they can bypass academics and go straight to IAB)
- One general comment was that IAB members tend to be senior staff from industry and it was felt that a wider pool of alumni would allow graduates with two to three years experience to become involved and this could be counted as CPD. Recent graduates would be able to help with case study material and support.

### **Question 3**

#### ***What have been the successes of your IAB in 2008 and what are your key targets for 2009?***

IAB success is not really separate from or distinct to University success. Key for 2009; individuals will find it more difficult to devote time to IAB and local branch activities etc; clearly a reduction in graduate employment; university finance will also be down. Success for the IAB would be to help the University to survive this period.

- 1 to 1 relationships between IAB and academia.
- Formalise roles on IAB.
- Increasing IAB membership and involvement.
- Professional qualifications for staff.
- Industrial secondment scheme (Conflict with staff: student ratio).
- Industrial/ staff swaps – short and longer term.
- IAB attendance at lectures.
- IAB presentation on their industry and changes.
- Theme focus e.g. RAE and forthcoming JBM visit.
- Arrange site visits.
- Continuity of members.
- IABs evolve over time.
- 2009 closer link with graduates.

### **Question 4**

#### ***What are the Terms of Reference of your IAB (with reference to composition, key agenda items)? Are these efficient in achieving aims? If no, how can they be improved?***

Terms of reference (TOR), not all have them, but certainly useful as a guideline. IAB's tend to be operating at two levels. High = examine school strategy, inform on staff appointments, etc, similar to a Board of Governors at a School.

Low = teaching steering committee, participating in teaching.

- TOR develop through time and potentially membership.
- Should JBM develop core TOR?
- Linked to JBM guidance note.
- Review regularly.
- 2/3<sup>rd</sup> of Board turn up to each meeting (not always the same people).
- 2 meetings per year and sub-groups as appropriate.
- Composition should be balanced.
- Balance of seniority.
- Balance of committee membership – should you have some members with experience of construction law/project finance?
- Board members should be from different disciplines and they should be willing to be a mentor for a staff member.
- Should be follow-up between meetings and action plans.
- Some IAB's are for the School not just the subject area and would include building surveyors, architects as well as engineers.
- A good mix of members is important.

- Chair should be from industry.
- Ensure that recent graduates are involved in the IAB.

### **Question 5**

#### ***How do you feel the interaction between universities and industry could be improved?***

These vary between universities. IAB can help provide advice on plans, planning individuals can then get more involved, e.g. in teaching. Noted that the IAB itself can push for better interaction between industry and the university. Thought it would be useful if the IAB could be a link between companies and the university, rather than individuals and the university, therefore there should be more consistency and sustainability in company representation.

- One issue is that large companies have delegated this to HR! (more procurement of graduates rather than professional interaction).
- IAB secondments for academics?
- Board representation selected to cover all aspects of course and engineering industry.
- Work shadowing – both ways.
- Ongoing, regular interaction not just formal meetings.
- Lead person from IAB & University to meet or interact more frequently, outside meetings.
- Rotate the chair between industry/university.
- Understand the curriculum road map of course modules and content.
- Minutes/actions circulated with timescales and intermediate checks on action points (chair contact industry or academic as necessary).
- Groupings of universities to share ideas.
- Opportunities to share best practice (such as this event).
- Constructionarium but there is a funding issue with university involvement.
- Need to teach the teachers.
- Universities need to identify the 'value added' by the IAB.
- There should be more engagement between industry and academics.
- How can the involvement by engineers in IAB's be sustained in the future?
- One key area in the future could be a reduction in the demand for civil engineering graduates.
- Should universities put pressure on industry to say this is what we need you to do?
- Universities should ask for industrial placements for students.

### **Question 6**

#### ***Do you consider it important for senior academic staff to be members of one of the JBM member institutions? If so, how can staff be encouraged to gain a professional qualification? What support can IAB members offer to staff to assist them to achieve this aim?***

Definitely the number of academic staff that are professionally qualified should be greater than zero Chartered Engineers, but merely getting staff to be Chartered does not benefit the students. What would be of more benefit is for the academic staff to be able to demonstrate that they have gained practical experience in the industry, not just hold a professional qualification.

- Desirable but not essential.
- Who pays subs?
- Doesn't affect promotion.
- IAB could arrange for Secondments for academic staff.
- All academic staff should be appropriately qualified – CEng, IEng, EngTech.
- ECUK guidance on registration membership for academic staff should be revised to cover IEng and EngTech as well.
- Credibility of course/department.
- IAB mentors for staff preparing for membership.

- Accreditation.
- Perceived barrier for academics in becoming Chartered; the perception is that this is difficult but in reality this is not the case. We need case studies to show how membership can be achieved.
- Academics could be seen as being involved in marketing of membership to students and should therefore have subsidised membership fees.
- Felt it would be difficult to make this mandatory but if it were linked to the RAE then there would be an added incentive for staff to become professionally qualified.
- Yes it is important for senior academic staff to be members of one of the JBM member institutions.
- Need to recognise that the professional bodies and the universities have a common purpose and more events like the one today would help.
- Networking opportunities.
- No recognition of the benefits of being a teacher rather than a 'researcher'. Can 'teacher's' of engineering subjects become professionally qualified?
- No role models to show how this can be achieved.
- The RAEng secondment scheme which was highlighted as an area of good practice but it was felt that the 6-month placement was too short; it should be for 2 years.
- JBM and the RAEng could put pressure on universities to encourage their staff to become professionally qualified.
- There could be a compromise where industry could provide more lectures but they would have to be trained.

### **Other points**

Noted that the Engineering/Construction Diploma for 14-19 will provide funding and reason for more academic and industrial linkage.

Question: How is the JBM competent to undertake accreditation activities?

Response: Each of the four JBM member Institutions is licensed by the ECUK to undertake accreditation activities on its behalf and these processes are undertaken by a joint Committee known as the Joint Board of Moderators. JBM procedures are subject to an annual audit by the four Institutions and each time one of the JBM member Institutions applies for an extension in its licence to undertake accreditation activities by the ECUK.

All new Board members have to attend a training session and will take part as an observer on an accreditation visit before they can become a Team Member in their own right.

Question: How are JBM members selected?

Response: Members are nominated by the four JBM member Institutions. They will normally have been involved in some capacity with their nominating Institutions; this could be as a member of Council. Holding a branch or regional post, and others are Reviewers for a professional review or a Supervising Engineer. The nominations to the main Board are approved by the four Presidents.

### **Areas for the JBM to consider**

Question 1

Should the Institutions monitor a certain intake to see if they develop the appropriate skills?

Question 2

Should the JBM review existing guidance on the role of an IAB to include some advice on the composition of the IAB to include recent graduates and current students?

Question 3

JBM should continue to promote good practice.

Question 4

The JBM and its member Institutions should agree a policy on the minimum number of staff that should hold a professional qualification and circulate this policy to Universities.