Good afternoon.
I would like to talk about using Interactions within the HE sector as an alternative to industrial placements.
I aim to briefly set out what we already know in terms of pedagogy and enhancement of student employability. This will encompass the pros and cons of placements from a University and student point of view. I will then go on to propose alternative activities that can support or replace placements and provide examples of these.
I think we can all agree that placements are a good idea. From the fundamental research that demonstrates that students engage more with real world applications to policy papers there are strong drivers to include placements in degree programmes. Similarly there are numerous papers, some of which are listed here for the interested reader, that show that placements are beneficial to not only the students’ experience but also raw degree marks.

From here on in I will discussing the benefits from the students point of view and leave a discussion of the pros and cons for Universities and Businesses for another time.
This slide is intended to give an overview of the core skills that the previously mentioned papers state that placements are good at developing. Most of them are quite straightforward ... for example ‘self-management’, ‘communication’ etc ... whilst others are a little less obvious, but still important, such as ‘renewed engagement with their degree’. Another that I would particularly like to draw your attention to is ‘business and customer awareness’ which is a key point that businesses have identified as something that current graduates lack.
Industrial Placements … the downsides

- Not every degree course has:
  - Links to commercial partners
  - Resources to pursue these activities
- Commercial partners may not be able to take on students:
  - Mismatch in timescales, expectations/objectives, capacity or projects available
  - Scaled back engagement activities to focus on core business
  - SMEs often don’t have a dedicated point of contact
- Diversity issues (gender, socioeconomic, SEN) surrounding placements, particularly if student driven or in the creative sector (Allen & Quinn 2012)
- May only be available (or taken up) by a limited number of students.

So if placements are ‘all singing, all dancing’ why doesn’t every degree have them? On the purely practical side there are some very obvious reasons why individual Departments and Commercial partners might not be able to make these placements work as elucidated here. Limited time and resources on both sides are primarily to blame, however, there are also significant issues concerning gender, socioeconomic etc issues particularly in the creative sector. Even if placements are available they may be limited in number or uptake.
Many studies show that students who *DO* take part in placements view them in a very favourable light; so why do some students avoid them? Lock et al carried out an extensive study of engineering students, which included interviewing 111 students who elected *NOT* to do a placement. The reasons in the dark green boxes are fairly self-explanatory. I think most people can sympathise with them given the current economic climate such as “I wanted to continue my studies without a break” and “I didn’t want to pay an extra year’s tuition fees”.

The ones in light green were additional comments raised in the interviews and might well explain why these activities are self-selecting for the very organised and academically able students within a cohort.
So, given all of these points I would suggest that there is a way forward with interactions within the HE sector that aim to:

- Replicate the skill acquisition and overall experience of a placement
- Broaden the participation to a wider subset of the cohort
- Make it easier for academics to set up and run them
- And ... allow activities to be embedded into existing modules.

The key is to identify an activity that places the student in a delivery role to some form of a consumer that isn’t just an academic, where there needs to be a constant to-and-fro with some form of client.
So what form could these activities take? Honestly, they could take a wide variety of forms but I would suggest thinking about the following points when you are thinking of ideas for your own courses.

- Think about whether the two student groups will be interacting on an equal footing or whether one will act as the motivator (i.e. the client/consumer role) and the other will act as the producers.
- Do you want both groups of students to be studying the same subject content (which will naturally lead to interactions between different HEIs) or complimentary subjects (which will lead to interactions in the same HEI). I will provide examples of the latter later on in this presentation.
- Similarly do the two student groups need to be at the same progression level?
- And how much staff input do you want there to be ... for example you don’t want to replace an activity that is lightly staffed with one that is intensively staffed.

Activity types

- Will student cohort interactions be of equal ‘weight’?
  - Co-creators: equal balance of input
  - Asymmetric: one cohort acts as client/consumer, other as producer
- Subject discipline
  - Single discipline: Common ground for skills and content
  - Cross discipline: Skills and content are different but complimentary
- Peer group (customer awareness)
  - Same cohort: similar expectations and subject knowledge
  - Different cohorts (i.e. Y3 interacting with Y1): potential for mentoring, differing subject knowledge
- Level of staff input
  - ‘Light touch’: Scaffolding and steering
  - Mentoring: More ‘day-to-day’ or ‘subject knowledge’ guidance
Thus far I have spoken in rather general terms so now I would like to present two exemplars.
The first is an undergraduate e-journal, which I spoke about at last year’s event. The ‘vital statistics’ of the activity are presented on the slide. Essentially it replicates the entire process of a peer-reviewed journal from coming up with the short paper ideas, writing and refereeing the papers. The students also act as the Editorial Board so that have control over what gets published and when.
The author pool is drawn from Leicester Natural Science students and McMaster (in Canada) iSci students. The interaction is somewhat asymmetric as far as workload is concerned as only Natural Science students act as referees and Editorial Board members as their module is compulsory, whereas the Canadian contributions are part of an optional module. It is however co-collaborative (both sets of students are writing the same sort of papers) and pitched at the same subject content and progression level.

Exemplar 1: Journal of Interdisciplinary Science (Undergraduate e-Journal)

- Students act as Authors, Referees and Editorial Board members.
- Uses Open Journal Software.
- Papers
  - 1-2 sides A4; max 3 authors
  - Context should be original & contain maths
  - Not Project work!
- Advised to aim for 2-3 papers.
- Participants:
  - compulsory all Y3 BSc and MSci NS Students (Leicester); 5 Credits
  - optional Y2/3 iSci Students McMaster University (Ontario).
Exemplar 1: Skills matching

- **Self-management:**
  - Module in parallel with Core/Project.
  - Minimal guidance: Weekly Editorial Board & End of Module Deadline.
  - They decide on what is published.

- **Application of numeracy:**
  - Papers are expected to have some form of mathematical modelling.

- **Problem solving:**
  - Identifying and solving interesting problems.

- **Learning how to learn:**
  - Utilise existing skills & forces them to engage with the literature.

- **Application of IT & Communication and literacy:**
  - e-Journal!

- **Renewed engagement & Positive ‘can do’ attitude:**
  - Fun & Students can see novel applications of knowledge

- **Team working:**
  - Named authors
  - General discussion amongst the year group (informally testing out ideas)

- **Business and customer awareness:**
  - Interacting with referees/Editorial Board
  - Anticipating media/general public
  - International mindframe

- **Entrepreneurship/enterprise:**
  - Inspires creativity in general but not business/industrial related.

- **CV writing and interview technique:**
  - Not currently. A larger cohort → applications for the Editorial Board.

**Clients:** Peers

**Consumers:** Peers, General Public

So how does this activity address the skills that a placement would ideally develop? I have taken the skills from the previous slide and colour coded them. Green indicates that this activity is a good match to developing these skills; amber the skill shows some development but it might not be obvious to the student whilst red skills are poorly developed.

You can also see that I have identified the client and consumer roles; they are motivated to carry out this activity for reasons other than ‘you’ve been told to’!

It’s fairly obvious that this activity on its own could not replace an industrial placement but it does address a broad range of skills we would like our students to develop.
The next example is that of a session where Master’s level students prepare and deliver a training session for third year students who are about to start their own projects. This session is intended to provide third year students with an introduction to what it is possible to accomplish in their own projects and is followed by a workshop on effective time management which is based on the Master’s students experiences. The Master’s students are provided with additional training and insight by the LLI and course leaders before delivering this workshop.

This activity was partly motivated by the desire to get the Master’s student to reflect on their previous experiences (and thus help guide their Master’s level project) and partly by the fact that we hoped that the students would be more receptive to advice from their peers rather than from the academic staff.
Again I have colour coded the skills developed, from the Master’s student point of view, using the same scheme as before. Again the same core set of skills are developed, some with greater emphasis than in the e-journal example. For instance team working is much more prominent in this activity. Sadly, there is a similar weakness as far as the very obvious business skills are concerned i.e. the enterprise and CV writing aspect. As before it is a good supporting activity but not a placement replacement.
Its all very well stating what we do but I recognise that neither of these activities may be particularly pertinent to your own courses. Therefore I thought about some other HE interactions that might have potential within our own university. This table shows potential departmental/degree matches and the type of activity that could occur. The idea in each case is that there would be ongoing dialogue between the student groups as the activity progresses rather than one set of student repacking what another group has finished.

- The first example is a partnership between Museum Studies and, for example, Archaeology and Ancient History. The idea would be that the Museum Studies students would help to drive the content of the Archaeology student’s project by asking questions about the progress of the project (so that they can complete the display) and its general impact so that they can effectively communicate this to the public. The project student would then hopefully gain a greater appreciation of why they are carrying out this research.

- The next example is between Law and a science discipline such as Chemistry. Here the ultimate aim would be to replicate a case being presented in a court room. The Law students would learn about preparing Expert witness and how far the evidence can be ‘pushed’ in order to present a case and the science students would gain a greater appreciation of the evidence they are studying and how they communicate the outcomes of their investigation to a lay audience.

- The final example is a collaboration between engineering and media students. A product would be identified by either just the engineers or by both teams of students. As the engineers work towards the product design and delivery the media students would be questioning them about progress and potentially steering the
outcome to something that would be more marketable to a general audience. Not only would the engineers need to effectively communicate the USP of their products to the media students but they would have a real reason to stick to a deadline!
Summary

- Industrial Placements are key activities to enhance employability skills but not all students have access or choose to do them.

- HE sector interactions can:
  - Replicate *many* if not all of these skills
  - Broaden student participation
  - Easier to arrange/manage activities (greater control over environment/process)
  - Can be embedded into existing modules

Hopefully this somewhat whistle-stop presentation has help to convince you that whilst Industrial Placements are excellent drivers of skills development they are not always possible to provide BUT that HE interactions can support these activities or to help take their place.
References

Industrial Placements (benefits)

- Self-management
- Team working
- Business and customer awareness
- Problem solving
- Communication and literacy
- Application of numeracy

- Application of IT
- Positive ‘can do’ attitude
- Entrepreneurship/enterprise
- (CV writing and interview technique)
- (Learning how to learn)
- (Renewed engagement)

- New knowledge/ideas/enthusiasm
- Complete projects with a real business need
- Develops a business ‘mindset’ and skills
- Smooths the University—business transition

- Effective evaluation of potential future employees: cuts recruitment costs
- ‘Halo’ effective of raising company profile
- Develops/strengthens links with HEIs for joint R&D

- Improve student:
  - Satisfaction
  - Recruitment
  - Engagement/Grades*

- Engaging with national/University initiatives
- Improve post-degree employment statistics

The importance of placements have been highlighted in many policy documents e.g.:
- The Dearing Report
- CBI/UUK: Future Fit
- Wilson Review (etc)

(Additional materials for Q&A session)