

Enhancing the student experience in the application of scientific techniques in practice

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QMU Health Sciences

State of the art facilities
for education and
research in the Health
Sciences

QMU graduates have:

*academic, professional
and personal skills for
career management and
personal development*



Employability at QMU

- QMU offers a range of support and opportunities to enhance employability for students embarking on Health Science careers
 - Generic and specific careers advice and mentoring
 - Clinical placements
- Applied Pharmacology (AP) and Human Biology (HB) are the only two non-clinical Health Sciences Programmes
 - Currently no formal science placements



Employability of AP & HB graduates

- Although graduates from the AP & HB Programmes at QMU have traditionally been very successful in their careers, a need was identified to
 - assist students in gaining practical experience of science in the workplace
 - enhance career options in an increasingly competitive environment



Applying scientific techniques in practice

The aim of the project was to

- help undergraduate science students to become more 'work ready' by establishing short-term placement opportunities for students to engage in the application of scientific techniques in practice



Applying scientific techniques in practice

Project objectives

- Develop and evaluate a structured approach for short-term (one-week) science placements in industry, academic and NHS laboratories
- Incorporate science placements into the curriculum to enhance understanding of the theoretical scientific and technical concepts in order to enhance employability



Project plan

Introductory meeting

- introduce the concept of science placements
- gather information about student requirements and aspirations

Careers and placement event

- making the most of the placement experience
- general advice for career planning

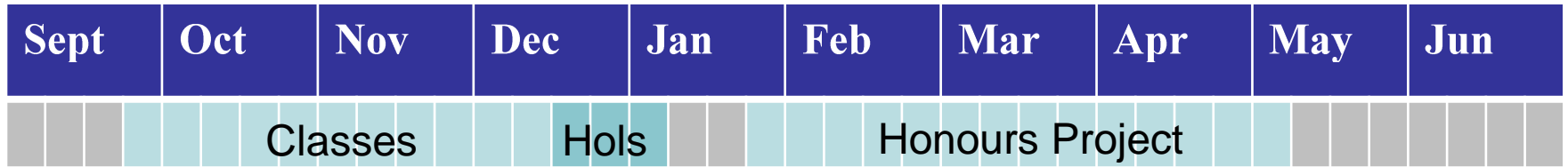
Placements

Student conference



Project plan

Level 4 academic calendar



Proposed timelines



Actual timelines



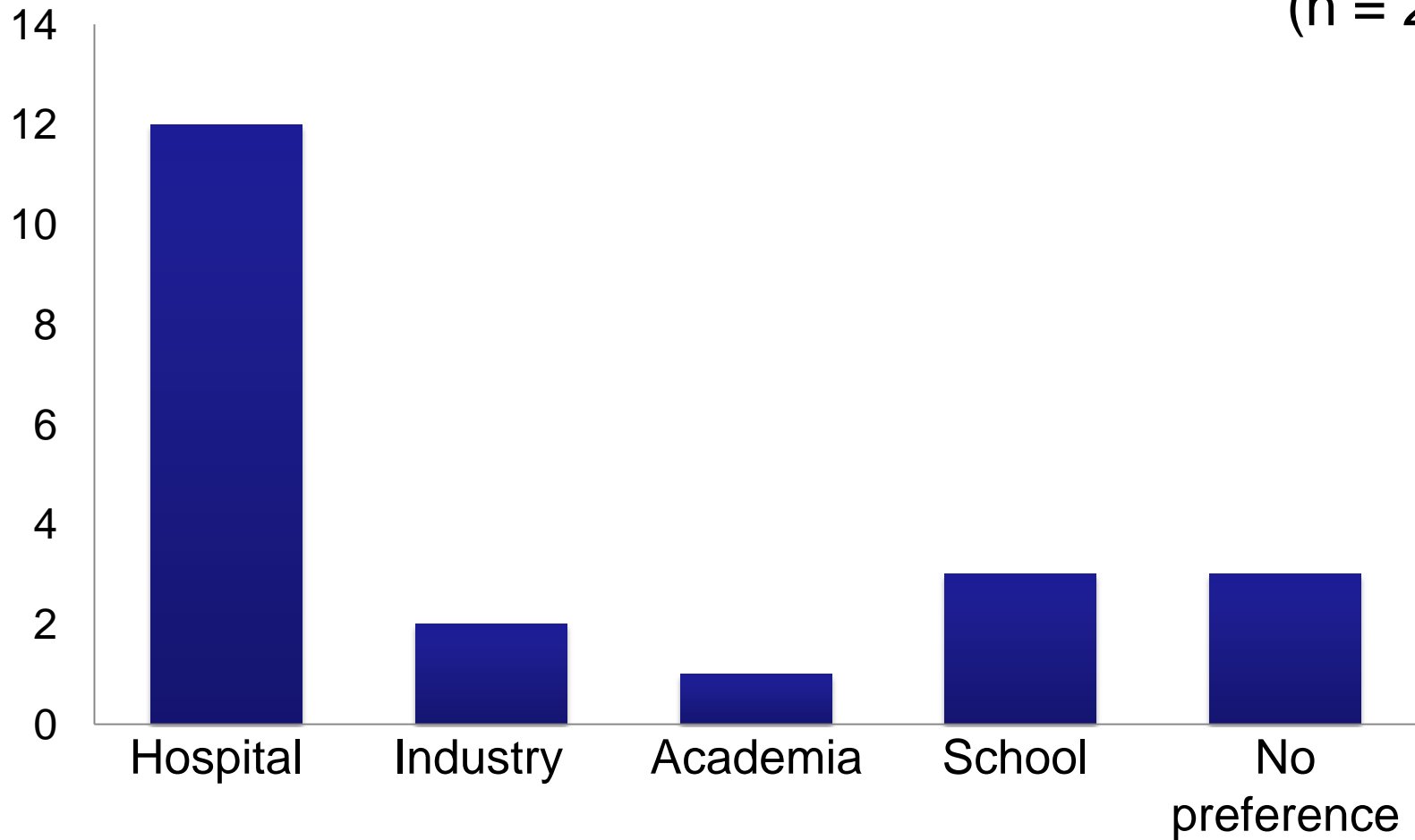
Introductory meeting

- Both level 3 and 4 AP & HB students were invited to a meeting to introduce the project plan and discuss options
- All students were asked to complete a questionnaire asking
 - their preferred location for a placement
 - the expected outcomes
 - the perceived benefits for their career



Preferred location for placement

(n = 21)



Students' perception of the benefits of a short-term placement

- Experience the lab environment
 - the working lab in context
 - roles and responsibilities
 - personal experiences of day to day lab work
 - laboratory procedures
 - method development
 - large-scale analysis
 - SOP's



Students' perception of the benefits of a short-term placement

- Learn practical skills
 - working within a team
 - laboratory techniques
 - standards
 - automated methods
 - specialist analysis
 - problem solving and initiative



Careers and placement event

Prior to embarking on the placement, level 4 students were invited to attend a careers and placement event to

- prepare for placement
- learn how to make the most out of the experience
- understand how to enhance their CV's and job/post-graduate applications



Careers and placement event

The event involved presentations and discussions co-ordinated by

- Careers and student employment advisor
- Effective learning advisor
- Project co-ordinator

- Q & A
- Evaluation



Feedback from the event

- feel better prepared for placement
 - logistics
 - confidence
- the use of reflection (of both positive and negative) to highlight experience and skills
- understand information relevant to CV
- know how to make CV stand out
- can write a covering letter relevant to each opportunity



Establishing placements

- Consultation with stakeholders
 - colleagues/collaborators
 - employers
 - students
- Strategy for optimizing chances of success
 - benefits for employers
 - support for local graduates (extended nationally)
 - influence graduate perceptions of science careers



Establishing placements

- over 40 local employers identified initially
 - NHS laboratories
 - Veterinary laboratories
 - Universities and schools
 - Research institutes
 - Commercial laboratories
 - Pharmaceutical companies
- general guidelines for the students and placement providers were developed



Issues encountered when trying to establish placements

- Limited employer resources for supervision
- Health & safety/disclosure concerns
- Relocation of NHS labs
- Previous placement commitments
- Rescheduling due to the Scottish weather

inclusion of potential placements throughout Scotland



Successful placements

Placements for only seven, out of the thirteen final year AP and HB students, were able to be arranged

All were in academic research laboratories for four or five days

Students completed a reflective report of their experience and verbal feedback from placement providers



Reflective feedback

Key themes identified

- roles on placement were adequately explained
- applied and expanded on academic skills
- increased understanding of the use of specific equipment and techniques
- improved logistics and data handling



Reflective feedback

Key themes identified

- deeper understanding of research processes
- developed confidence in communication and team working
- further development of interests in science and research
- insight into post-graduate options



Embedding placements into the curriculum ?

- There are clearly limited options for short-term science placements and, as economic difficulties stretch resources and student numbers increase, the issues may become more pronounced
- The planning of a structured placements must take into consideration the academic calendar and student workload, in order to allow adequate preparation, focus and dissemination of experience



Summary

- The process of preparing to make the most of placements was considered worthwhile for all students
- Weather and limitations on the availability of placements meant that just over half the level 4 students were able to go on a short-term placement
- The students enjoyed and felt that they benefitted from the placements



Conclusions

- The placements attended were considered successful by students and placement providers
- Difficulties encountered will inform future projects, if considered viable by the University
- Awaiting destination stats and feedback to determine effect on career options



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