

Managing Student Intellectual Property

A National Council for Graduate Entrepreneurship (NCGE) report exploring current attitudes to Student Intellectual Property in Higher Education Institutions (HEIs) in the UK and presenting a framework of support strategies to maximise institutional benefits from student entrepreneurs.

By Paul Freeman, Senior Development Officer, Careers Service, Newcastle University; and

Dr Emma Barron, Business Development Officer, Faculty of Humanities and Social Sciences, Newcastle University



The National Council for Graduate Entrepreneurship (NCGE) is an independent organisation whose aim is to raise the profile of graduate entrepreneurship and increase the number of students and graduates (within five years of graduation) seriously considering engaging in business start-up in all its forms, including self employment.

Foreword

If the UK is to continue to successfully compete in a rapidly changing global entrepreneurial environment, then we need more entrepreneurial individuals and organisations. This means building on our existing best practices and developing Higher Education Institutions (HEIs) to extend student enterprise and provide viable opportunities for graduate entrepreneurship.

The current challenge within academia, business and government is in finding and exploiting more ways in which HEIs can be supported to develop the capacities and capabilities that nurture the entrepreneurial talent that clearly exists within both the undergraduate and postgraduate bodies. This includes the effective management of student intellectual property.

'Managing Student Intellectual Property' presents a guiding framework for exploring options in how HEIs approach student IP. The research, conducted by Newcastle University, outlines best practice in aiding the commercialisation of student IP, in particular postgraduate IP. The report considers key factors: the rewarding of students financially, the reputation of the institution, the 'student experience', and the contribution to fostering the development of an enterprise culture in British HEIs.

This report provides an invaluable framework for practitioners in student enterprise, business development and technology transfer within universities and colleges to consider their next step in improving the effective management of student intellectual property and thereby furthering an entrepreneurial culture amongst students and the institution.

Ian Robertson - Chief Executive National Council for Graduate Entrepreneurship

1. Background

Higher Education Institutions must become more enterprising places; places where the commercialisation of all kinds of ideas is encouraged, enabling students and staff to play an active role in the economic wellbeing of their regions and the national economy. This is an aspiration many university employees have heard over the last few years and the message is becoming louder and clearer: enterprise and entrepreneurship are important to the future of HEIs.

Enterprise activity is increasingly popular with undergraduate students. Now there appears to be growth in the involvement of both taught and research postgraduate students. Institutions are recognising that postgraduate students are closer to the 'cutting edge' of their discipline and can produce novel ideas with commercial possibilities. As a consequence they represent one of the best 'carriers' in terms of taking ideas to market.

It is tempting to think of Intellectual Property (IP) as something that concerns only research-active staff, especially those in science, engineering or medicine. But with unprecedented growth in the number of students engaged in entrepreneurial development and

new venture creation, managing student IP with clarity and care is an issue of increasing concern to all HEIs. With the growth of the knowledge economy, IP is an area in which all graduates need awareness, regardless of their career path.

Issues in relation to IP rights occur regularly across all sectors and have a major influence on business value and growth. In recognition of this, the National Council for Graduate Entrepreneurship (NCGE) has commissioned a national piece of research on how HEIs manage student IP*. This guide is based on that research and aims to assist institutions in recognising their position and provide practical advice on how they can improve their practices around student IP.

As well as the growth of enterprise, student satisfaction with their experience of Higher Education is also high on the agenda. Whilst development of enterprise skills can have a positive effect, poor management or lack of clarity in the area of IP can have a negative impact on student experience and may result not only in obstacles to the development of new ventures but also in damaging long term perceptions of the institution. Although this project had as a focus the student experience, it is important to consider the wider benefits of well managed

* This research was conducted by Paul Freeman and Dr. Emma Barron at Newcastle University, UK.

IP including:

- students possessing value-added knowledge that may enhance employability;
- contributing to regional development through graduate new venture creation and retention;
- increasing staff awareness of entrepreneurship and capacity to deal with the issues effectively;
- potential for revenue generation for the institution and meeting of third strand outcomes;
- the development of a positive perception with alumni and increased reputation of the institution.

As the interest in entrepreneurship grows, so will the potential for students to receive a poor experience and, as a consequence, conflict can arise within an institution if appropriate support mechanisms are not implemented. Managed effectively, the commercialisation of student IP can produce positive outcomes for all parties concerned – including financial return, increased reputation, enhanced employability, contribution to regional development and the development of an enterprise culture.

Recent research suggests that institutions which are most likely to succeed in supporting students through the IP process, as well as achieving positive results in terms of the student experience, are those with clear policies and procedures where student needs are recognised and opportunities can be realised. Recognition that the nature of student needs may be different to those of staff, and developing support materials that are appropriate and accessible to this audience may raise satisfaction levels still further.

The following framework was developed in response to the NCGE research which identified that universities have different arrangements, attitudes, policies and procedures in relation to student IP.

2. Defining the entrepreneurial environment

2.1 Intellectual Property Ecosystems

Ecology is defined as the relationships between living things and their environment. In terms of student IP, the ecosystem is made up of an environment (the institution) and a multitude of species (students of many disciplines with a myriad of ideas) searching for the

resources to help them thrive. As with all ecosystems there may be an ideal environment for some species which at the same time may be unsuitable or harsh to other species, depending on different requirements.

The framework illustrates four ecosystems to assist HEIs in identifying their current situation and to consider their future position about how to change and develop their practice, with associated guidance (see figure one).

The ecosystems develop around two axes. The first takes into account whether the institution has a proactive or reactive stance to the issue of IP. The particular focus here is the extent to which the institution has made a conscious decision on the position it is adopting and its attitude towards risk. The second continuum represents the extent to which attention is focused on the needs of the institution, or those of the students and wider outcomes.

Developing an environment in which students can commercialise and exploit their ideas with personal and institutional benefits is crucial. In examining an institutional stance and planning future developments, the **Four Cs** of clarity, collaboration, communication and commercialisation are a useful framework.

2.2 Clarity

The majority of HEIs now recognise that student IP is an issue that requires attention, particularly in a changing landscape where students are paying a higher proportion of their fees and consequently have higher expectations. There appears to be a trend away from blanket ownership of student IP to a situation where all individuals are dealt with on a case by case basis. In relation to the achievement of outcomes some institutions see the commercialisation of student IP as a means to secure a financial return.

Other institutions value 'broader' outcomes that include financial benefits but also value an enhanced student experience, increased reputation of the institution, regional development and contribution to the development of an enterprise culture.

No single position is 'right' but it is important that each institution is clear about what stance it wishes to take in respect of the IP of its students. Without an underlying clarity about the institutional position, policies and procedures may conflict, opportunities may be missed and confusion and bad feeling are likely to arise.

2.3 Collaboration

Getting the balance right for student IP, as for many things, starts with a sharing of expertise. Collaboration, especially between technology transfer and business development functions and student-facing services such as enterprise centres and careers services, is crucial to the effective management of intellectual property. External collaboration is also desirable in order to broker advice, resources and facilitate access to relevant networks.

The process of developing policies and procedures should not be undertaken by IP experts in isolation but include a range of parties interested in the student experience, e.g. student union, careers service, enterprise centre, to ensure that issues are considered from all interested perspectives.

The extent of collaboration is often influenced by the values and approach to the work of the individuals concerned rather than a stated policy or structure so try to foster links wherever possible and establish the common ground.

2.4 Communication

Clear communication is essential. Students assigning IP rights without the relevant knowledge and understanding raises major legal and ethical concerns. Communication of IP policies needs to be appropriate to its audience and given at an appropriate time in order to engage them with the central messages.

As with all policies and procedures, those relating to IP must be monitored to make sure they reflect current practice in the institution to avoid communicating mixed messages. Students should have ready access to documents and they should be written in a user friendly style.

The education of both students and staff is a key issue in improving the management of student IP. There are barriers to overcome in terms of making such education more accessible including: resistance to the idea that non-experts can input on IP, getting IP embedded in the curriculum, accepting that IP knowledge is relevant in other aspects of employment and research (not exclusive to new ventures or commercialisation), making IP discipline or sector specific, considering the timing of any input and

ensuring content is relevant to needs. **Collaboration** in developing materials and **clarity of content** to address these barriers and **communication** of the materials are the keys to success.

2.5 Commercialisation

Apart from practical support and access to funds for protecting IP, the key issue to address here is the process by which the institution and the student reach agreement to support commercialisation. The effectiveness of this process is determined by the position the institution wishes to take in respect of student IP (**clarity**) the quality of the support and signposting (**communication**), and the extent of **collaboration** between parties.

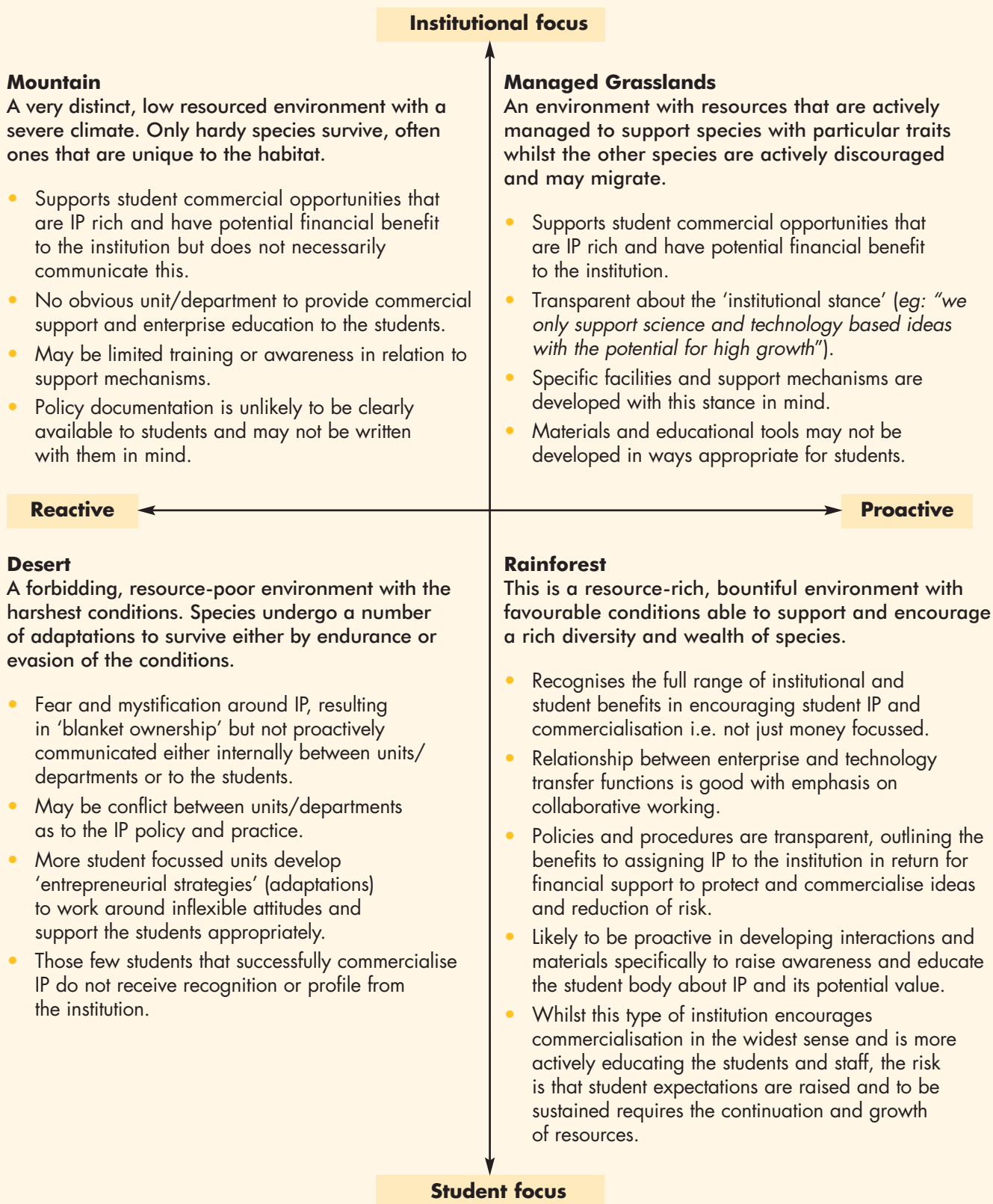
There are a number of benefits to be gained by the student assigning some/all of their IP rights, or providing the institution with a stake in the business to promote successful commercialisation. These include:

- access to facilities, networks, and previous experience of the commercialisation process;
- HEIs can sponsor or support access to early stage funding to support market research, prototype production, feasibility studies etc;
- if the student needs to negotiate with third parties, these discussions may be more likely to generate mutually beneficial outcomes with the weight of the institution behind the individual, particularly when the third party may be a large, affluent corporation or organisation;
- even in cases where there is no formal arrangement between the student and the university, there may be benefits in terms of profile and kudos in acknowledging that the product, service or concept was developed in collaboration with the HEI. This type of acknowledgement may be appealing and relevant to academics.

Institutions also need to be aware of potential conflict from the student perspective between commercial and academic gain. For example, where students are required to give presentations or exhibitions of their work as part of the curriculum, this could be considered disclosure of their IP. The student needs to balance what needs to be delivered to gain a satisfactory mark, and what detail can be omitted in order to prevent disclosure. Mechanisms may be needed such as non-disclosure or confidentiality agreements prior to presentations and degree shows.

Figure One: Intellectual Property Ecosystems

IP Ecosystems presents four categorisations of types of institutional IP environments, using the natural world as an analogy: Mountains; Managed Grasslands; Desert; and Rainforest.



3. Good practice in practice

An ecosystem is complex with many interactions between the environment and the species it contains. Managing these systems can be enormously challenging and small changes in one part of the system can have major impacts elsewhere ('the law of unintended consequence'). Understanding the impact of certain actions to allow for maximising benefits and minimising risks is the key to a healthy Student IP Ecosystem.

Principles of good practice in student IP include:

3.1 Informed Consent

Acknowledging that students should only assign IP rights when they understand the issue is an important legal (and moral) concern. There should be recognition that whilst assignment is an important issue there may be a tendency to focus too much on this because of concerns by the institution over potential loss of revenue. The involvement of students in commercialisation and knowledge transfer can secure other benefits for public good and often substantial indirect financial benefit.

What can be done?

- Produce materials to accompany registration/enrolment forms for students to develop an understanding of IP, why it is important, and the benefits of assigning rights to their institution in return for support in protecting the exploitation of their IP. These materials should not be hidden away in the fine print.
- Consider asking the student to acknowledge they have read the literature, thereby giving informed consent and providing a clear point of contact if they have any queries.
- Be aware of cultural and language differences when dealing with students from different backgrounds and from different disciplines e.g. international students.
- Take into consideration that not all students will own their IP or even have an idea about who does own it.
- Include awareness raising sessions as part of induction programmes that could be delivered by industry, law schools, law firms or enterprise staff.

3.2 Managing Expectations

Transparency in terms of institutional policy and procedures is critical to managing staff and student understanding from the outset of any commercial development.

What can be done?

- Communicating the methods of protecting IP, the costs and likely timescales associated with this and routes to market can reduce unrealistic expectations and help avoid negative perceptions developing.
- Talk to students away from their employer/sponsor/supervisor and re-assure students against the perception that the institution will exploit them. Tell them what the institution will do to support them in commercialising their idea.
- Talk to the academic staff involved and ensure that they too are given opportunities to become more informed and respect their wishes; keep them informed of progress.

3.3 Relationship between Technology Transfer & Student Enterprise

Institutions where there is a positive relationship between technology transfer and student enterprise, and where those functions work collaboratively, appear to have more effective IP management in place.

What can be done?

- Encouraging active dialogue between the two functions (and other stakeholders) is critical to ensure that the whole landscape is understood and that territory disputes don't arise or are dealt with effectively.
- Joint teaching – inside the curriculum or in extra-curricular activity – or involvement in related activities helps share expertise and develops relationships.

3.4 Policy & Procedures

Developing policy and procedures by involving relevant stakeholders and not just relying on legal experts helps to ensure a level of buy-in from those involved. The language and concepts around IP can be complex and a little forbidding; involvement from a range of stakeholders can guard against documentation being unapproachable. The use of plain English is essential.

What can be done?

- Involve technology transfer staff with student enterprise staff, students union and careers service in policy formation.
- Separating a policy statement (shorter) from procedures (longer) allows changes to be made in practice more easily.
- Don't just rely on the institution's web site to communicate policy and procedures – use other relevant student services, e.g. careers service. Include student policy in student handbooks, prospectus, institutional calendars etc.
- Include practical advice around the common issues that most students (and staff) may experience – dealing with disclosure, publication and confidentiality.
- De-mystify IP as much as possible; provide route maps on the decision making process and other sources of advice.
- Provide versions in a variety of formats such as leaflets and case studies for staff, including supervisors, schools or departments and students.
- Personal communication is likely to encourage active dialogue that recognises individual issues and concerns rather than a depersonalised, blanket approach which can lead to 'silo bound thinking'.

4. Where Next

This guide has provided some initial pointers and issues that need to be considered from the Higher Education perspective to ensure that students' awareness of IP is increased, the potential for conflict is reduced and that commercial opportunities are supported where appropriate. These resources are useful for further information:

www.ncge.com/communities/research

For full paper on the NCGE IP research.

www.patent.gov.uk

Useful information about all types of IP and free downloadable resources.

www.intellectual-property.gov.uk

UK Government site with useful information about all types of IP.

www.own-it.org

Offers free IP advice for London's creative people.

www.epigeum.co.uk

Provider of the course 'Intellectual Property (IP) in the Research Context' which is suitable for staff, students and spin-outs.

www.ideas21.co.uk

Useful information about all type of IP and for those interested in the cultural and creative sectors.

www.unico.org.uk

Unico Practical Guide 5, Students and IP

A practical guide on University contracts – a resource for Knowledge Commercialisation Professionals in the UK.

5. Authors

Dr Emma Barron

Faculty of Humanities and Social Sciences
Newcastle University
NE1 7RU
Emma.Barron@ncl.ac.uk
0191 222 5925

Paul Freeman

NStar Finance and Business
16-18 Hood Street
Fourth Floor
Newcastle upon tyne
NE1 6JQ
paul.freeman@nstarfinance.com
0191 230 6370

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