

ENCOURAGING EMERGING INVENTORS: A NEW LOOK AT INTELLECTUAL PROPERTY AND STUDENTS

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Trends

- Generation of students aware of the financial and personal benefits of entrepreneurship
- Need to prepare students for a new economy where smaller companies are increasingly a source of jobs
- Accreditation driving integration of more “real world” experiences into educational programs
- Creating more entrepreneurial universities able to generate revenues by engaging with the private sector

Courses

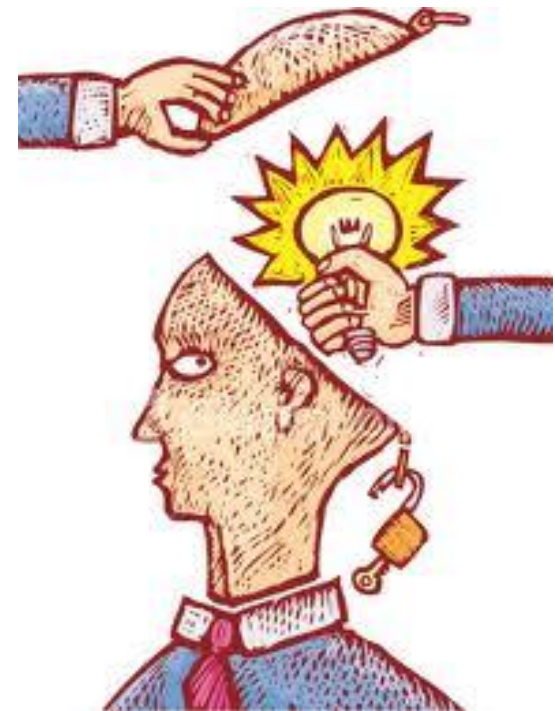
Experiential
learning

Commercialization

Incubators and
tech parks

Our Observations

- When IP policy is perceived by students to be in favor of the institution, it can inhibit innovation and prevent them from obtaining assistance that could help advance their innovations or ventures
- Need to clearly articulate policy to students and faculty, which can be challenging
- Mishandling can have negative consequences



Other Issues

- Some institutions lack a specific policy for undergraduates
- Technology Transfer Offices (TTOs) “turn a blind eye”
- Lack of an accurate understanding of IP policy among students and faculty Silvernagel, C., R.R. Schultz, S.B. Moser, and A. Marie (2009)
- Students do research for credit not money, so are not covered under “workplace doctrine” Nordheden, K.J., and M.H. Hoeflich (1999)
- Curricular alternatives can be made available for students not wishing to be in an industry-sponsored capstone course
- Definition of “use of significant university resources” varies by institution

Where Undergrad IP is an Issue

Context	IP Questions
Entrepreneurship courses or related experiential learning programs (e.g. business and product development competitions)	<ul style="list-style-type: none"> - Does the university assert any ownership over products developed as part of a class assignment? - How does an institution distinguish what a student develops as part of his or her academic program as opposed to what is developed in his/her dorm room?
Non-industry sponsored engineering, science, or technology-related capstone product development courses	<ul style="list-style-type: none"> - Does the university assert any ownership over products developed as part of a class assignment? - How to measure the contributions of team members and/or those of faculty? - What agreements are needed?
Industry-sponsored engineering, science, or technology-related capstone product development courses.	<ul style="list-style-type: none"> - What agreements are needed? - Do students need to be offered equivalent curricular alternatives so that they don't have to work on creating IP for a third party? - How to balance the interests of all parties?
Undergraduate research	<ul style="list-style-type: none"> - Do students need to sign special agreements? - Is IP ownership affected by whether a student does research for money or for credit?

Survey of Tech Transfer Directors

Purpose: To inform our own policies and practices

RESEARCH QUESTIONS

- What is the extent and nature of undergraduate involvement with technology transfer offices?
- What are universities' specific policies related to undergraduate IP?
- What are general (unofficial) attitudes and practices related to IP involving undergraduate students?

Undergraduate IP activity was growing at approximately half of the universities surveyed

Factors driving growth:	Disagree or strong disagree	Agree or Strongly agree
Entrepreneurship or product innovation-related competitions	9%	91%
A general increased emphasis on entrepreneurship and technology commercialization on your campus	6%	94%
Engineering design/product development courses	16%	86%
Entrepreneurship courses offered on campus	16%	84%
Entrepreneurship-related clubs or student organizations	16%	84%
Seminars or workshops related to entrepreneurship and intellectual property (not semester-long)	22%	78%
More students pursuing entrepreneurial careers	22%	78%
Undergraduate participation in research	34%	66%
University intellectual-property success stories	44%	56%

Specific policies related to undergraduates

- 33% had specific policy for IP developed by undergraduates
- 25% of universities instituted programmatic changes to accommodate undergraduates
 - 63% had not, 13% in progress
- 75% considered “use of significant university resources” when assigning IP ownership to undergraduates

Informal TTO Attitudes Toward Undergrad IP

Attitudes	Disagree or strongly disagree	Agree or Strongly agree
We should be more involved in working with undergraduates	41%	59%
We don't have the resources to meet the needs of undergraduates	50%	50%
Undergraduate IP yields very little return on investment of time or money	38%	62%
Undergraduate students are primarily generating IP that is not within the scope of the university IP policy	28%	72%

Conclusions

- Case studies and best practices must be developed
- Improve communication of policies and practices to improve TTOs ability to intervene on undergrad IP activities that have greater likelihood of returns

