

Forest Products/Wood Science Education in the United States...Past..Present..Future?

[Onward & Upward—Recruiting & Retention Ideas from a National Workshop]



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The Challenge

- ▶ Wood is a key raw material worldwide. Its continued **efficient** and **effective** use depends upon ongoing development of scientists and engineers educated in wood and cellulosic science.
- ▶ Given the trend of **declining** enrollment in university programs dedicated to Forest Products/Wood Science (FP/WS) education, the development of future scientists in this critical field appears to be at **risk**.

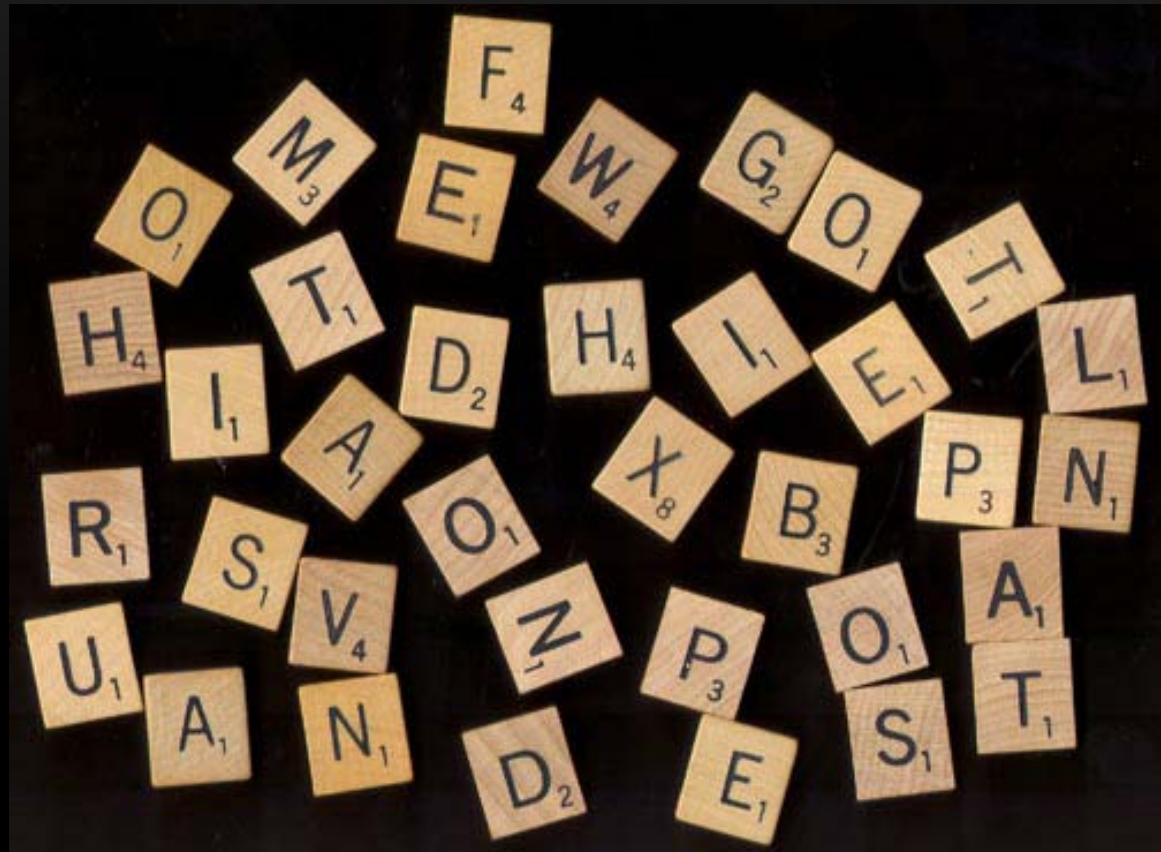
The Trend

- ▶ Traditional Forest Products/Wood Science (FP/WS) programs have been curtailed and/or merged into other programs at many universities during the last 10 years.
 - ▶ Current economic challenges throughout the nation are continuing this trend
- ▶ This trend is somewhat alarming
 - ▶ Considering the implications for education and development of the next generation of scientists in this very critically important field.
- ▶ If proper training programs and adequate professionals are not available
 - ▶ The conservative, wise, and perpetual utilization of renewable natural resources could be compromised for future generations.

Where are all of our students?

The things we don't know are the history we haven't read

Truman



Prior art

...low student enrollment in wood science programs may create difficulties in administrative justification for programs on the basis of high cost per student.

A small student body is one of the greatest problems facing administrators and educators in the field of wood science. Ellis 1964.

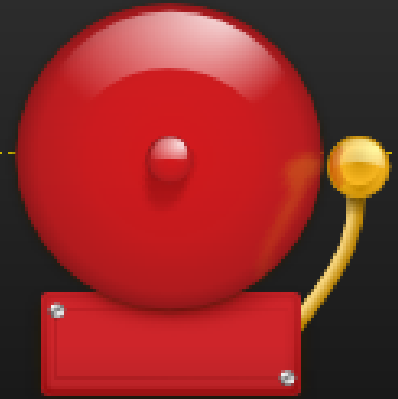
Prior art

...many recruitment efforts have been tried and are currently active...

The fact that the attempts so far have not been notably successful is obvious. [Ellis 1964](#).

Prior art

I can't imagine the university without a College of Natural Resources. **Provost, Bob Bruinicks 2001.**



All universities have English and Chemistry Departments. Small programs like Forestry help differentiate us. Its hard to imagine our university without those. **Provost Peter Rabideau 2006.**



Prior art

Changes are driven by...a number of national and global trends in the forest and energy sectors as well as rising expectations within the university of excellence and improved fiscal performance. *Bowyer & Ramaswamy 2005.*

Insanity: doing the same thing over and over again and expecting different results.

Benjamin Franklin



With a 50 year backdrop of struggle, what is a program to do?

National FP/WS Undergraduate Education Strategic Planning Workshop

- ▶ Held at MSU FPD in December 2009 to Assess the Current FP/WS Educational Trends in the United States
- ▶ Objectives
 - ▶ *Evaluate* current and future needs for forest products undergraduate curricula and education strategies
 - ▶ *Identify* key issues, purposes, goals and objectives of future education content and delivery
 - ▶ *Develop* the elements of a baseline document for forest products-related undergraduate education
 - ▶ *Determine* the collective action steps and paths for moving forward to implement education strategies

Common Thoughts

- ▶ New and creative ways are needed to recruit and educate students in FP/WS disciplines.
- ▶ Industry needs to be engaged in subsequent planning to ensure that sufficient numbers of graduates have the skills necessary to contribute to the future product and process development and management.

Industry Trends

- ▶ Public policy is increasingly impacting the marketplace due to growing pressure on public resources
- ▶ Sustainability thinking and “green” strategies have become mainstream priorities in the private and consumer sectors
- ▶ The industry is experiencing major shifts due to globalization, technology, competition and changing demand for wood
- ▶ An unfavorable image of the forest products industry is negatively impacting recruitment of the next generation of professionals

Educational Trends

- ▶ Skill sets of graduating professionals are not aligned with the needs of industry employers and partners
- ▶ University silos, tuition, rules and faculty incentives complicate efforts to quickly and effectively respond to student and industry needs
- ▶ Traditional recruiting barriers and a negative industry image are inhibiting attraction of students.
- ▶ Education strategies are not currently in synch with preferences and needs of millennial generation students and professionals

Roadmap for Developing a System to Educate Future FP/WS Professionals and Educators

- ▶ *Transform* industry image
 - ▶ Engage in marketing and branding to promote the forest products industry as green, global, innovative and significant. Proactively improve the industry image, defend markets and take steps to attract a new generation of professionals.
- ▶ *Innovate* in student recruitment
 - ▶ Attract more students to enter the forest products field and education programs that prepare them for successful careers.
 - ▶ Improve recruitment through targeting key audiences and reaching them through multiple means and gateways.

Roadmap for Developing a System to Educate Future FPWS Professionals and Educators

- ▶ *Restructure* forest products professional education
 - ▶ Restructure and revamp the undergraduate forest products curriculum to align with the needs of the emerging forest products industry.
- ▶ *Expand* wood education to non-majors
 - ▶ Appeal to a broader audience and offer wood/forest products education to professionals in other disciplines including teachers, managers, engineers, architects, builders, chemists, arborists and others who are key players in the industry and community.

Roadmap for Developing a System to Educate Future FPWS Professionals and Educators

- ▶ *Incorporate* real-life experience
 - ▶ Require real-life industry experience within formal studies by expanding and diversifying opportunities for students to acquire expertise through problem-solving and applied learning in public, private and community work situations.
- ▶ *Update* education and communication methods
 - ▶ Modernize teaching and communication methods in order to appeal to next generation students, hold attention, foster retention, and assure an accessible and effective forest products education for the global industry.

Summary:

Wood Science
education has a rich
professional history

Factoid: The two stone
pillars of the Brooklyn
bridge rest on 22-foot thick
southern pine caissons.



Summary:

The future is full of opportunity and the continuation of FP/WS programs are very important for the good of society



Summary

- ▶ National Workshop provided a valuable first step to addressing the needs for change in FP/WS undergraduate education in the US
- ▶ The diversity of organizations represented in the workshop and associated strategic planning session enhances the credibility of findings, providing a firm foundation for further discussion.
- ▶ Follow up workshop is needed to keep the dialogue moving.

Summary:



Many, many challenges exist. To survive and thrive we must change with the market.

Budget and administrative constraints will likely elevate the issue.

We Must Reach Higher & Keep Focused!!!



Questions??



Answers??

