



## FURNITURE HIGHLIGHTS

### Work force's faces will differ



Steve Taylor, professor of management speaks at the First Workforce Solutions Conference hosted by Tupelo's Community Development Foundation.

Companies spend about \$60 billion a year on training, or about \$817 per employee. But whether the training works—and how it's measured—is difficult to determine.

To become a better organization should be the reason for training, not to chase some fad.

G. Stephen Taylor, a professor of management at Mississippi State University and institute member, said training for a changing work force is just as important.

"At the end of the day, the reason why you train is to change the organization's results—did we get better?" he said during the third and final day of the Workforce Solutions Conference at the Advanced Education Center in Tupelo.

Employers today are faced with the double whammy of older workers and younger workers entering the work force.

Older workers, Taylor said, learn slower, make more errors and need more encouragement. These aren't indictments; rather, they're facts that trainers must keep in mind.

"Hey, we're all getting older," he said. "When you have younger trainees, you throw everything after them rapid-fire, and they can handle it. They're good at multi-tasking. If they're not doing that, they get bored."

However, Taylor noted that older workers tend to be more reliable.

"We show up for work, and we're not late" he said.

Companies like Home Depot and Walgreens have partnered with AARP to bring more older workers to their company. A lot of companies are discovering they need people with experience, Taylor added.

In Mississippi, employers also must deal with more women, unhealthy workers and a more diverse labor pool.

"A lot of our work force is female, and they're the workers of the future," he said. "We have to think of innovative ways to train them, such as how to do a budget, how to handle stress and other family-friendly programs."

Companies that promote such programs usually fare well with employee retention, he noted.

About 29 percent of the population in Mississippi is disabled and about 25 percent are obese. The state also has the third highest smoking rate in the country, the third highest diabetes rate and third highest infant mortality rate.

"It all goes to the bottom line," he said. "The healthier your employees are, the less they go to the doctor or the hospital, which impacts your health insurance costs."

Northeast Mississippi Daily Journal

### 2 INSIDE THIS ISSUE

Job satisfaction and worker demographics

### 3

Design education and the furniture industry

### 4

Leaner means better for furniture manufacturers

### 6

Sustaining competitive advantages for small furniture companies

### ANNOUNCEMENTS

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# Job Satisfaction and Workforce Demographics

Zi Wan and Liam E. Leightley

Workforce is the most important factor and the only sustainable long-term competitive advantage of an organization. In today's intensive global competing forest products markets, there is a strong demand for workforce participation so as to enable the achievement of higher productivity of an organization. One aspect of workforce participation is job satisfaction. Understanding job satisfaction is critical to the success of an organization.

A study of 23 independent nationwide surveys from 1972 to 2002 administrated by National Opinion Research Center at the University of Chicago explored the effect of personal demographic characteristics (income, education, occupation, age, and gender) on job satisfaction. The study was designed to assist managers in making decisions relevant to employee job satisfaction in the U.S. forest products industry, including the U.S. wood furniture industry.

In this study, 688 responses to 23 independent surveys representative of the U.S. workforce in lumber and wood products, furniture and fixtures industry, and paper and allied products industry, were used.

Job satisfaction, the dependent variable, was measured by the response to the question: On the whole, how satisfied are you with the work you do? The independent variables were the personal demographic characteristics: income, education, occupation, age and gender. Scientists found that almost 85 percent of the respondents were moderately satisfied or very satisfied with their job.

The findings of this study indicated that higher levels of income and occupational position were related to higher job satisfaction levels. Job satisfaction increased with age as well. No evidence was found however, that higher levels of education resulted in higher job satisfaction. There were also no differences in job satisfaction levels across male and female workers.

The study concluded that in the U.S. forest products industry, including the U.S. wood furniture industry, workers with higher income, white-collar jobs, and elderly workers had the highest job satisfaction. Education and gender did not have a significant impact on job satisfaction.

A workforce with high job satisfaction leads to an improvement in the quality of work and productivity, and creates satisfied loyal customers. Job satisfaction directly influences organizational competitive advantage. Given the importance of job satisfaction, it is imperative that managers in the U.S. forest products industry determine methods to improve the job satisfaction of lower income, blue-collar, and younger workers.

## JOB SATISFACTION UPDATE

A recent report by The Conference Board indicated that Americans are growing increasingly unhappy with their jobs. The report was based on a survey of 5,000 households and found that the decline in job satisfaction is widespread among workers of all ages and across all income brackets. The report cited rapid technological changes, rising productivity demands and changing employee expectations contribute to the decline in job satisfaction. The report discovered that the most content workers are in the East South Central Region where close to 59% of residents claim they are satisfied with their jobs. The Conference Board is a not-for-profit organization working to help businesses strengthen their performance and better serve society.

# Design Education and the Furniture Industry

Shilpi Kumar

Faculty often play a dual role at a university; one as instructors where students learn to become better professionals in the field of design, and the second as researchers where various issues and concerns of Mississippi in the global competitive market are investigated. Because of the complex nature of this duality, it is expedient to fulfill both goals simultaneously. With this in mind, the College of Architecture, Art and Design initiated a course on furniture design as a step towards educating and spreading awareness as well as concern about the value of design in the furniture industry.

The course titled ***Furniture: Design, Manufacturing, and Marketing*** was offered for the first time in the spring of 2005 by the college. Since this was a first time offering and somewhat experimental, the target was a maximum of five students, with design experience, for the course.

Four students enrolled in the course, all of whom had previous design experience, either architectural or interior design. Shilpi Kumar, visiting assistant professor in architecture, taught the course with assistance from Jilei Zhang, associate professor in forest products. The constraint of a semester—four months—turned out to be a crash course on furniture design.

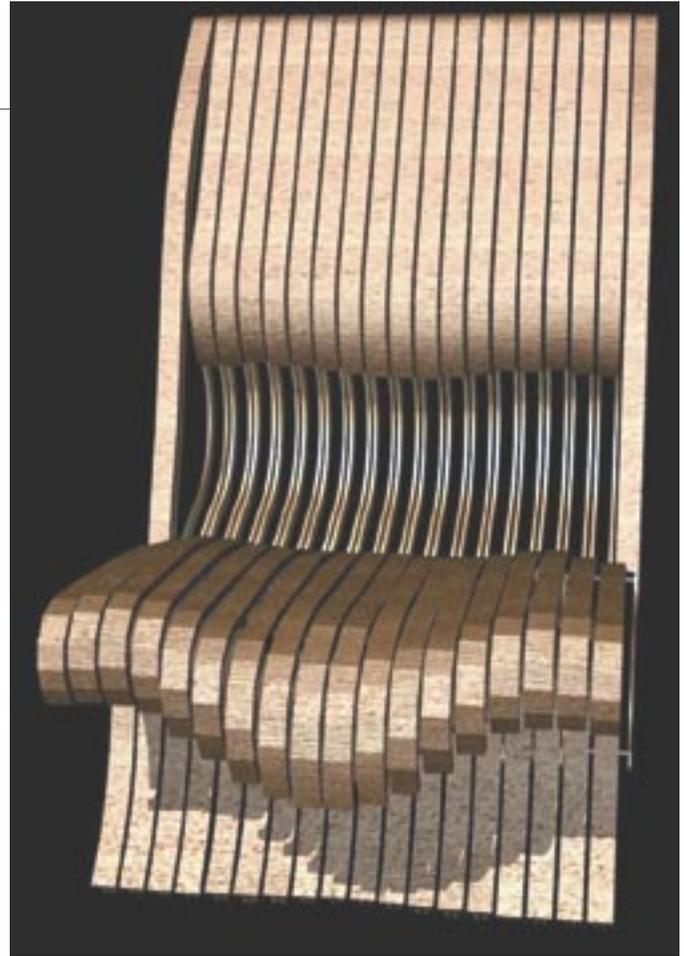
The primary focus of the course was for students to gain knowledge in the following areas:

**design skills**—to MAKE new furniture for industrial, commercial and domestic clients, and also CREATE new concepts and designs that balance innovative design, functional requirements and aesthetic appeal.

**evolve a project through a complete design process:** conceptual and design development phases as well as familiarization with other areas of the business such as marketing, finance, sales outlets and factories

**exploration of the use of advanced technology based input-output devices in the design processes** and methods of construction using software like Rhinoceros, Sketch-up and digital sketching devices (input), 3D printing technology, handmade models, actual wood working (output).

**forum for discussion and research outside of the studio**—students were encouraged to explore current issues, directions, and developments within the current US



*Design of a wooden chair of traditional /contemporary style by Anthony Garcia*

furniture Industry, and other topics.

Designers have been trained to appreciate architectural spaces, interior layouts, color and forms. However, it is also important to understand how to structure the design process through a formal decision making procedure, hence increasing the value and price of design solutions and products. Considering consumer characteristics has to be an integral part of the design process. In the beginning of the course, students formulated a problem statement and design brief for the final project which continued through the duration of the course.

A final review committee of faculty and industry representatives was assembled to critique the students work. A mixed expertise in the review committee provided feedback and comments on all aspects of design, design aesthetics, marketing, identity issues, safety and cost issues. The final review not only benefited the students, it also provided an opportunity for exchange among professors and industry professionals.

Based on the experience this year, the course will be split in the coming year into two inter-linked courses; ***Introduction to Industrial Design*** and ***Furniture: Design, Manufacturing and Marketing***.

# Leaner means better for furniture manufacturers

*Karen Brasher and Steve Hunter*

Lean production will help eliminate lean times for Mississippi's furniture manufacturers.

Lean production is a set of manufacturing techniques designed to give manufacturers a competitive edge in the global market place. Scientists at Mississippi State University's Institute of Furniture Manufacturing and Management led by Steve Hunter are implementing lean systems in the state's furniture manufacturing plants.

Hunter uses a proven 10-step method for systematic conversion of old factory manufacturing practices and design of the processes to the new, robust lean production system.

"Lean production uses cellular manufacturing for one-piece flow wherever possible in the system," said Steve Hunter, associate professor in forest products. "Lean production uses less of everything when compared to the archaic functional manufacturing system—less labor effort, less manufacturing space, less investment in tools, and less design engineering hours to develop a new product."

Hunter has assisted with implementation of lean production in 18 furniture manufacturing plants in Mississippi in the last four years. Furniture manufacturers provide 27,000 jobs and contribute \$4.1 billion to Mississippi's economy. The state produces about 70 percent of the nation's upholstered furniture.

Jake Spears, director of product development and former director of engineering services at La-Z-Boy in Leland has successfully reduced inventory, improved cash flow, decreased

costs, cut lead times and made the overall operation more flexible.

"We have systematically converted our job shop manufacturing system into manufacturing cells, assembly cells, lean flow lines, and parallel pull flow lines," Spears said. "We have been working with Steve Hunter for about four years, converting our old system into a lean production system."

The conversion of lean has saved the company about \$1 million a year using the lean production methods and techniques. This type of tangible savings will allow La-Z-Boy to compete in the global market place, Spears added.

The implementation of lean production typically means keeping less than half the regularly needed inventory on-hand. This can save a company a great deal of money in carrying costs each year. In addition, the implementation and adoption of lean production by a manufacturer results in better quality because of fewer defects.

Hassell Franklin, founder, president and chief executive officer of the Houston-based Franklin Corporation has implemented lean processes throughout his upholstered furniture manufacturing facility.

"The implementation of lean principles has given us a productivity gain of 35 percent," Franklin said. "With MSU's help, we are refining our mechanism assembly processes. We want to take out all the wasted motion and streamline the process."

MSU's Institute of Furniture Manufacturing and Management is an interdisciplinary unit that includes the College of Forest Resources, Forest and Wildlife Research Center, College of Business and Industry, Bagley College of



## LEAN BENEFITS

- ✓ less labor, producing more
- ✓ less floor space
- ✓ fewer design hours for product development
- ✓ less work-in-process
- ✓ fewer defects
- ✓ increased quality
- ✓ faster delivery
- ✓ improved ergonomics
- ✓ systematic reduction in waste
- ✓ habit of continuous improvement

Engineering, College of Architecture, Art and Design and the MSU Extension Service.

“The Institute applies research that aids in the design, production, marketing, and distribution of high quality products that meet the changing needs of families and businesses here and abroad,” Hunter said. “It is estimated that furniture research at Mississippi State University is saving the state’s manufacturers around \$3.4 million this year.”

The Institute, in cooperation with the Division of Academic Outreach and Continuing Education, offers a Lean Production Certificate program to train furniture manufacturers in the process.

“If a company wants to compete in today’s marketplace, lean manufacturing is the key,” Hunter said. “Lean production system implementation is not turning a leaf, but rather it is growing a new tree.”

To learn more about this program, please contact Steve Hunter at 662.325.8344 or [shunter@cfr.msstate.edu](mailto:shunter@cfr.msstate.edu).



## LEAN ASSISTANCE

The IFMM provides lean assistance in a variety of areas including:

- Lean production system design and implementation
- Cellular manufacturing systems and design
- Hands on factory floor assistance
- Cellular manufacturing subsystems
- Workplace design
- Production flow and work load analysis
- Kanban production and inventory control subsystems
- Standard operation routine sheets
- Push versus pull systems
- Six Ss
- Kaizan
- Total quality assurance
- Continuous improvement
- Setup reduction techniques
- Problem solving tools/techniques
- Total preventive maintenance
- Ergonomics assistance

## Jake Spears receives ‘lean production’ certification

A specialized training program designed and led by Steve Hunter, associate professor and manufacturing system engineer and offered by Mississippi State is available to help state manufacturers incorporate the proven concepts of lean production into their daily operations.

Coordinated by the university’s Institute of Furniture Manufacturing and Management in cooperation with the Division of Academic Outreach and Continuing Education, the course includes optional field sessions at various manufacturing facilities. The intensive certification program includes the design of a lean flow line or manufacturing cell.

Jake Spears, director of product development, La-Z-Boy Leland, was the first person to complete all the classroom and factory design/implementation requirements for the MSU Lean Production Certification Program. Spears attended 16 hours of workshop lectures covering in-depth design and applications of Lean Production systems. In addition, Spears completed the rigorous actual factory design and application of the advanced Lean Production methodologies to his Leland operations. Jake is an MSU graduate and long-term financial supporter of the Lean Production Laboratory.



*Jake Spears receives his certificate of completion from the lean certification program.*

# Sustaining Competitive Advantages for Small Furniture Companies

Amy Garrard

In this series of articles we have looked at how improving employee satisfaction can lead to increased productivity and product quality as well as greater cost efficiencies and fewer defects. The importance of leadership within the company was discussed in Volume 4, Issue 2 of Furniture Highlights. The next strategy that will be examined is employee training.

## **Is training really necessary?**

The need for workforce training and development is especially important in today's highly competitive, technology-based, global environment. In the past, many U.S. manufacturers have not utilized training activities effectively because of the expense and lack of clear documentation on the benefits of training. It has been reported that on average, companies in the U.S. spend about one-third as much on training as Japanese companies do and that less than 19% of small business and about 44% of large firms provide formal training programs for new employees. Some studies indicate that a lack of investment in training is a probable reason why U.S. companies are losing market share to foreign competitors. A report by the American Society for Training and Development determined that even though U.S. companies have invested heavily in information technology over the past few years, productivity gains have not matched investments primarily because U.S. companies fail to focus on the human equation—training and encouraging the people who use the technology. To reap the benefits of training and development activities, it is not enough to simply invest resources in training. Training activities must be tailored to the needs and deficiencies of each particular manufacturer and management should actively support training and development for employees at all levels.

There is evidence that U.S. manufacturers are beginning to realize that training and development programs and activities are necessary for survival. Large companies in the U.S. are more likely to have formal, well-developed training programs, however this does not preclude small companies from the benefits of training and development. *Inc.* magazine reported that small companies which invested wisely in training have grown at a faster pace and perform better than many small companies in which training was not emphasized. It appears that entrepreneurs and business owners are realizing that training and development activities help to create a more productive, efficient, workforce environment which creates benefits for employees as well as for the company.

## **Benefits of Training for Employees**

Specifically, training programs for production workers can increase the individual employee's confidence level. Confidence is derived from ability and improves employee skill base. These improvements boost productivity. In a business development series from the U.S. Small Business Administra-

tion, the author explains, "Employees who have the skills and knowledge needed to perform their duties—and whose accomplishments are recognized—will out-produce, both in quality and quantity, employees who are uncertain or struggling with their assigned job tasks." (Maximizing Your Greatest Resource, 2004). Training and development opportunities for employees enhances their skill-set, leads to greater confidence and motivation, and has been shown to improve communication skills, professionalism, conscientiousness, creativity, innovation, leadership abilities, and often improves attitude and morale.

## **Benefits of Training for the Company**

Training has been proven to increase staff retention thereby reducing the costs associated with losing employees. Appropriate training leads to gains in productivity by improving accuracy and efficiency, encouraging work safety practices, and improving customer service. Training also helps reduce costs by decreasing wasted time and materials, maintenance costs,

## **EMPLOYEE TRAINING PROGRAM**

1. **Consider informal training activities** that are already taking place in your company.
2. **Assess training needs.** Request input from employees.
3. **Provide educational resources.** These resources may be placed in a library or the break room for easy access by employees.
4. **Find the most cost-effective training.** After determining what type of training is needed, look for providers.
5. **Consider an outside consultant.** Customized training sometimes provides the most cost effective training method, especially if a large number of employees will be trained in a similar area.
6. **Make expectations clear.** Employees should know what they are expected to learn and why it is important.

*Maximizing Your Greatest Resource*

accidents, recruiting costs, and absenteeism. On-going training and development programs can also make the adoption of new technologies and systems smoother.

Advantages of on-going employee training are summarized by Carter McNamara, Management Consultant.

1. Increased job satisfaction and morale among employees.
2. Increased employee motivation.
3. Increased efficiencies in processes, resulting in financial gain.
4. Increased capacity to adopt new technologies and methods.
5. Increased innovation in strategies and products.
5. Reduced employee turnover.
7. Enhanced company image.
8. Risk management knowledge, diversity training.

### **Where to start?**

Training and development activities have proven to be effective in improving worker productivity, quality of products, and worker satisfaction. But, for many small and medium-sized companies with no formal training and development programs, the logical and sometimes overwhelming question becomes, where do we start to implement such a program?

Types of training include technical or computer skill enhancement, performance evaluation, safety evaluations and improvements, mentoring activities for advancement, communication, team building, conflict resolution, employee attitude and motivation, lifestyle counseling and healthcare screening, among others. A training program does not have to be a structured, formal, comprehensive training program covering every possible problem or situation. On-the-job training, manuals, and conferences are useful training tools. Smaller companies often use one-on-one training, mentoring, and group training as well as management seminars, coaching and team building activities. Some useful external sources of information are trade journals, professional publications, and newspapers. Learning takes place everyday, in every situation, and in as many different ways as there are people. Small, incremental steps can be taken that will reap benefits for the company as well as individual employees.

Another great source of workforce training programs is your local community colleges as well as college and universities. In fact, the IFMM is currently developing a workforce training program with Itawamba Community College to address the needs of the furniture industry in northeast Mississippi.

Implementation of and improvement of training and development programs is one strategy that can help furniture companies maintain and regain competitive advantages and compete in today's intensely competitive global environment.



## **Chill your energy costs with an MSU industrial assessment**

The Department of Mechanical Engineering provides no-cost energy assessments for the wood furniture industry through its industrial assessment center. The center provides recommendations for more efficient use of energy, improved waste management, and enhanced production by analyzing the operating characteristics of the small- and medium-sized manufacturing facilities. Each assessment consists of a site visit to obtain information on the facility, energy-consuming processes, waste generation and handling practices, and production methods and an assessment report that identifies and recommends specific actions to conserve energy and/or reduce costs, reduce waste generation and cost as well as improve production methods. Implementation costs and payback periods are estimated for each recommendation. The industrial assessment center has made over 500 recommendations with cost savings averaging \$92,000 a year for each facility visited.

Requirements for an MSU assessment:

- Standard Industrial Classification Codes of 20-39;
- Located within 150 miles of MSU;
- Have a maximum plant energy cost of \$2 million per year;
- Have a minimum plant energy cost of \$100,000 per year;
- Have a maximum of \$100 million per year in gross sales;
- Have a maximum of 500 employees at the plant;
- Lack in-house expertise in energy use and energy conservation.

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# Wood Furniture Manufacturing in Mississippi

\$4.44 Billion  
*Total Industry Output*

48,552 Jobs

\$1.38 Billion  
*In Wages*

\$1.8 Billion  
*In Value-Added*



*Total numbers include direct, indirect, and induced effects of the industry on Mississippi's economy. Adapted from research conducted by Dr. Ian A. Munn and Bart K. Tilley, Forest and Wildlife Research Center, Mississippi State University. Based on 2001 data.*

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