

Identifying Employment Structure and Training Needs In the Louisiana Value-Added Wood Products Industry

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**November 2000
Contractor Paper 00-13**

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I. Overview

Introduction

Based on forest products industry hiring intention surveys conducted by the Louisiana Forest Product Laboratory (LFPL), the number of desired new employees forecasted over the next 2-4 years totals nearly 4,000 positions. Given this employment demand, the need to develop and sustain training programs for the forest products industry is immediate and critical.

The current educational system in Louisiana provides little in the way of work force training and development appropriate for the needs of the state's value-added forest products industries. While there are programs under development in select locations for the pulp and paper industry, largely developed by the industry for implementation in the technical college system, there remains a major gap in the skills needed by today's value-added forest products industry sectors.

In one example of this gap in training, Louisiana Furnishings Industry Association furniture manufacturer members were questioned regarding training they had received to prepare them for operating their small businesses. With few exceptions, the members indicated that they had not taken high school nor trade school classes specific to the woodworking industry. Their typical source of education was an introductory level job at a woodworking shop followed by self-teaching through reading woodworking magazines and trade journals.

Although there has been no program development specific to woodworking, attempts have been made to develop construction industry-specific programs in Louisiana. To date these efforts have largely failed due to a lack of being a high profile industry with political support. In fact, much of the equipment and staff associated with these construction training programs are no longer available. With the demise of the construction industry in the mid-1980s, much of the equipment was sold off and staff reassigned.

Although the two are often thought of as similar industries, the construction and woodworking industries are very different. Accordingly, value-added wood processing and manufacturing training needs are also unique. Further, with competition for scarce educational resources from other higher profile industry segments such as petro-chemical and gaming, value-added wood industry educational programs have been overlooked.

Regardless of the reasons for the current state of value-added wood industry training programs in Louisiana, in order for Louisiana companies to be able to be competitive in the marketplace, appropriate training of the work force must become a priority.

Research Objectives

This study was undertaken to generate information that can be used by policymakers in Louisiana to develop value-added wood processing training initiatives. The opportunity to add value, create jobs and support rural economic development are significant. Specifically, the objectives of the study were:

- 1) To determine the current employment structure by activity and skill level in the typically rural Louisiana wood products industry.
- 2) To identify unfulfilled training requirements.
- 3) To identify impediments to increasing employment in the value-added wood products industry.
- 4) To develop recommendations that will lead to increased employment in the value-added wood products sector in rural areas of Louisiana.

II. An Overview of Labor Training Issues

Regardless of the industry, the need for qualified and trainable employees is recognized as a crucial factor in the ability to become and remain competitive in the global marketplace. Attitudes vary as to where the responsibility for developing and maintaining this workforce lies. Is this task the responsibility of government or the private sector? The answer seems to lie somewhere in between with cooperative efforts between federal, state and local governance and the private sector.

Many feel that workforce preparation may well be one of the most important economic issues facing the world economy. In particular, education and training impact so many facets of the social and economic structure of the United States. The importance of work force preparation is vividly demonstrated in a 1995 draft legislative document, developed by a committee of the National Council of State Directors of Adult education (Bickerton 1995).

Those findings include:

- (1) The economic health of our nation, our communities and our families are increasingly dependent on our success in a global marketplace where the high levels of workplace performance needed to successfully compete depend on the knowledge, skills and abilities of our nation's workforce;
- (2) Adults dependent on public assistance lack a strong educational foundation at twice the rate of our nation's self-sufficient population;
- (3) Research confirms that patterns of literacy, illiteracy and under-education are intergenerational and that the greatest single indicator of a child's academic success is the educational level of the mother;
- (4) The success of state efforts to reform and improve public education is also dependent on our ability to break intergenerational cycles of illiteracy and under-education. By ensuring that parents firmly possess a strong educational foundation and, as the first and most continuous teachers of their children, parents model and instill a commitment to family literacy and life-long learning for their families;
- (5) Incarcerated adults lack a strong educational foundation at twice the rate of our nation's law abiding population and studies of crime have found the lack of this educational foundation to be a significant indicator of increased rates of recidivism;
- (6) International studies of family and community health and morbidity have found that the greatest single indicator of family and community health is the educational level of the mother;

- (7) Generations of immigrants have contributed to our communities and our economy; today's technologies and competitive global economy require that to continue doing so, they must master English as rapidly as possible while taking advantage of their first language as a competitive edge;
- (8) Our most educated citizens vote and participate in civic affairs at twice the rate of our least educated citizens;
- (9) State and local efforts to improve public education will, over time, provide a better trained and equipped workforce; however, 70% of our nation's workforce in the year 2000 is already employed and the job replenishment rate from youth completing their schooling is only 2% per year;
- (10) An unacceptably high number of American adults lack the educational foundation required to successfully meet these challenges in our economy, our communities and in our families. According to the 1990 Census, 21% (more than 38 million) of our nation's adults lack a high school credential and/or are limited English proficient. The 1991 National Adult Literacy Survey found millions of additional adults who happen to possess high school credentials and beyond, but who also lack this essential educational foundation. These millions of American adults who lack an educational foundation:
 - (A) are at individual risk of not succeeding in the emerging high performance workplace;
 - (B) place their communities at risk of not being able to attract, support and keep such workplaces; and
 - (C) place their current and future children at risk of perpetuating intergenerational cycles of illiteracy and under-education;
- (11) The success of our communities, our states and our nation in realizing these priorities requires that these adult workers, family and community members possess a strong educational foundation, yet we lack an adequate "infrastructure" to meet this challenge. Our nation's current profile of adult learning services is ill supported, equipped and organized to achieve this important goal.

The root cause of systemic unemployment is the inability of industry and the workforce to keep pace with rapidly advancing technologies. These and many other changes in emerging high performance workplaces have pushed the levels of knowledge, skills and abilities needed for individuals and businesses to successfully compete far beyond the traditional definition of literacy.

Preparing for the jobs of today and tomorrow requires investment in people by governments, businesses and individuals. A report on human development in Canada identifies issues that have broad based implications anywhere (Anonymous 1994). The

report states that everyone including existing workers, the unemployed, students, etc. will have to upgrade their knowledge and skills on an ongoing basis to get and keep a job. The federal government is asking Canadians to help decide how to invest more effectively and cost-efficiently in their collective future. Some ideas include:

- greater investment in training and skills development by individuals, businesses, communities and governments;
- improved partnerships between educators and industry so that people learn skills today that will be needed by employers;
- building better programs and services to assist in understanding the demands of the job market and helping them to prepare themselves for it; and
- encouraging lifelong learning: building supports for literacy training, encouraging learning in pre-school years, supporting young people to stay in school, providing incentives for individuals and employers to invest in continuous skills upgrading.

The United States is not alone in attempting to cope with employee training and development issues. However, the complex nature of U.S. society, with its “melting pot” of races, ethnic groups and continually changing demographic landscape, creates an enormous challenge in meeting the needs of all its citizens regarding workplace skills development and enhancement. Mangum (1999) elaborates on this complexity with the following statistics:

Demographic changes, the growth of technology and what many experts say is a need for more worker training are just a few issues shaping tomorrow's workplace. The Labor Department's Bureau of Labor Statistics projects several trends through 2006 as the civilian labor force continues to grow in the United States:

- The Hispanic labor force will overtake the black labor force in size by 2006. White non-Hispanics will make up 73 percent of the work force, with Hispanics making up 12 percent, black non-Hispanics 11 percent and Asian and other non-Hispanics accounting for 5 percent.
- Workers over 40 will account for more than one-half the labor force by 2006, up from 45 percent in 1996. Workers 45 to 54 years old will add the most workers, 8.8 million, while those aged 55 to 64 will add another 6.6 million. The youth labor force defined as those 16 to 24 - will increase by 3.2 million, and the labor force aged 25 to 44 will actually shrink by more than 4 million.

In such a rapidly changing and dynamic environment, the need to address current and future worker training needs is apparent.

Training Scenarios

Manufacturers often suffer from a mismatch between the skills their workers have, and the ones they must acquire for the company to survive and grow. Many companies will not open new facilities or expand existing ones if they find the local labor force incapable of staffing and servicing facilities or operating production lines (Anonymous 1999).

Plant owners and managers must respond to new, often unexpected, and substantially different demands for job skills. Training, therefore, assumes an increasingly important role in manufacturing modernization strategies. Community colleges and vocational schools are often leaders in the delivery of training programs; many have built the necessary expertise to respond quickly and adeptly to the needs of local companies.

In many areas, training programs have not approached their potential usefulness because public development agencies simply are not aware of their effectiveness, their appeal to private business operators, or their potential contribution to an overall economic development incentive package. Therefore, business development advocates, technology service providers and technical information specialists need to be more aggressive in learning about and promoting training initiatives.

Most training programs are funded by federal resources channeled through the Job Training Partnership Act (JTPA). JTPA funds support many state and local training efforts. However, given some of the statutory constraints of JTPA (in terms of service beneficiaries and eligible activities), many states have established training programs that complement JTPA offerings and address work-force preparation needs not covered by JTPA. Training incentives particularly well suited for manufacturers include:

Recruitment and referral

In this case, employment and training agencies, often designated by the local Private Industry Councils (PIC) that oversee JTPA projects, work with economic development staff to define the skills already in the area's labor force. These agencies can also identify firms that require skills, and provide those firms with information on appropriate workforce preparation options. Recruitment, assessment, testing and referral services for persons meeting company requirements often are provided free of charge.

Customized training programs

Tailored to the specific skills and job needs of a company, these programs are implemented in four phases. First, the company defines its work force needs and documents the skills necessary to fill them. Next, a training program is devised to teach those skills, and a person or institution to deliver the service is selected. The PIC and company officials often develop the courses together, which may be offered at no

charge to the participating business. Customized training initiatives often leverage state resources; many states supplement JTPA funds by underwriting the cost of designing special curricula at local community colleges; some states also reimburse expenses to a firm that conducts its own training on-site, even if offered by the company's own staff. Third, participants are selected to take the training and learn the necessary skills. Finally, the firm hires trainees who successfully complete the customized training program.

On-the-job training programs

In this instance a company provides on-site training. The "public" role in on-the-job training is to reimburse the company for part of the employees' wages while they are training. On-the-job training programs are popular with small manufacturing companies. They offer the same design and content flexibility as customized training programs, but are better suited for firms that require few employees.

Providing training resources at low cost — or for free — can result in considerable savings for a manufacturer. A small operation with a few jobs to fill, for example, could save several hundred dollars on recruitment and assessment costs, and several thousand dollars on supplementary classroom and on-site training. Additional savings could be realized on the costs of equipment and advanced technical instruction tailored to a company's needs and offered via on-the-job training. These programs can be of tremendous help to small firms grappling with cash-flow difficulties and capitalization problems. Moreover, training programs can work as effectively for existing firms as for newly located or start-up companies.

Training incentives can attract new private investment and retain existing businesses. If the existing work force can adapt to changing job demands of new technology, companies are more likely to add new product or service lines.

An Overview of Training in the Wood Products Industry

In the secondary or value-added wood products industry, numerous strategies are being undertaken to cope with skill shortages. Companies with the ability to transfer operations to less costly labor markets are doing so. Other companies are investing heavily in new more productive technologies. Still other companies are targeting specific niche markets to reduce the impact of competitive forces on operations. However, most industries remain faced with the fact that in the current market the labor force is aging and appears to be getting smaller.

These issues have implications for industries that do not have the high profile and social attractiveness of industries generally considered to be high technology related industries. One such industry is the wood products industry. Though not typically mentioned as a high tech industry, there is increasing adoption of high technology design and manufacturing processes.

In order to narrow the focus on worker training to issues facing the wood products industry, a review of current studies and programs in the industry are presented.

A recent study conveys comments from major wood industry association executives on issues that face the industry (Ehle 1998). Almost to the point of exclusion of other issues, these executives point to the impact of technology and the skills levels of the current work force as the most pressing issues facing the wood products industry. A survey of 1,250 U.S. and Canadian wood products companies found that a clear majority of the manufacturer respondents said employee issues accounted for their biggest challenge. A full 38% ranked employee training as their number one concern. Concerning the adoption of high technology between 1994 and 1998 the number of respondents indicating the use of computer numerically controlled machinery increased from 20% in 1994 to 68% in 1998. The use of this higher level of technology, in turn, intensifies employee training requirements.

Further, in a 1997 survey where wood industry executives were asked to view into the future and expound on the needs of their respective industry sectors, most indicated that it will be technology and the people qualified to operate that technology which will accelerate productivity gains (Koenig 1997).

Thus, confronted by these issues, what is the wood products industry doing to meet the challenge? Efforts in many states are underway to address the training needs of the value-added wood products industry. There are over 100 programs that have some component that addresses the woodworking industry (Sonderman and Brisbin 1992). These programs are often state specific and are typically supported with state funds allocated by legislatures or governors. These programs and wood products training centers include:

- The Wood Technology Program at Pittsburgh State University's Kansas Technology Center
- Robert C. Byrd Center in Princeton, W. Virginia
- Catawba Valley Junior College in Hickory, North Carolina
- Fox Valley Technical College in Oshkosh, Wisconsin
- The Kentucky Wood Products Competitiveness Corporation (KWPPCC) Accent on Education Placement and Retraining program
- Cerritos College in Norwalk, California
- Bates Technical College in Tacoma, Washington
- Oregon's Secondary Wood Products Training System (SWPTS)

In addition, the wood products industry has begun to become a more visible member of the employee training team as the Wood Machinery Industry Association Educational Forum and individual member companies have increased their partnering efforts with traditional educational institutions.

One of the most comprehensive examples of value-added wood products training that could provide ideas for a training framework in Louisiana is Oregon's Secondary Wood Products Training System (SWPTS). SWPTS is a state wide, multi-regional approach to a comprehensive training program for the 22,000 people and 800 companies employed in the secondary wood products industry (Anonymous 1999). The mission of the Secondary Wood Products Training System is to enhance the worldwide competitiveness of the secondary wood products industry by providing a self-sustaining, comprehensive training program for owners/employers, employees and potential employees of the industry. This training will be designed to meet the highest standards and special needs of the industry resulting in increased efficiency and productivity of the workforce.

Upon full implementation, the Secondary Wood Products Training System will be a comprehensive continuum of training from the basic to advanced technology training. This system will be designed to acknowledge and integrate appropriate elements of Oregon's 21st Century school reform. Specific elements to be coordinated include School-to Work, Business-Education Partnerships and Certificates of Advanced Mastery. The system also calls for close coordination with the state's Partnership for Quality (P4Q) and Job Training Partnership elements where appropriate.

A seven-member industry board leads the SWPTS. This leadership is important, both for buy-in as well as insuring the highest industry standards. Board members are high profile representatives of the industry including owners and production vice presidents / managers. Incremental, coordinated steps with full cooperation from a variety of partners is important to the long-term success of this training and delivery system and continued industry support is critical. Therefore, industry is actively involved and will provide many resources (time, equipment, materials, counsel and active work) for this program.

In addition, other states such as Alabama and Louisiana have begun the effort to establish formal wood products training programs. Located on the Phil Campbell campus of Northwest-Shoals Community College, the Alabama Center for Advanced Woodworking Technology provides management and technical assistance to the secondary wood products industry in Alabama. The ACAWT specifically targets the cabinet and case goods, furniture, architectural millwork and manufactured housing industries. When in full operation, the Center will provide entry level training to include stationary power machines, power hand tools, CNC programming and operation, finishing, rough mill operation, grading and wood technology related courses as well as entry level construction skills for the manufactured housing industry (Chance 1999).

Likewise, Louisiana has begun the effort to develop a secondary wood products training center to be located in Winnfield, Louisiana. The new program will offer a wide variety of training programs focusing primarily on the secondary forest products industry.

III. Research Procedures

In general, sampling, survey procedures, follow-up efforts and data analysis in this study were conducted in accordance with well-documented and verified techniques (Malhotra 1993; Dillman 1978; Fowler 1996; Hair et al. 1992). The following sections describe these procedures.

Sampling

The sample frame for the study consisted of all secondary solid wood products manufacturers in Louisiana. Examples of industry sectors represented include hardwood dimension and flooring mills, wood kitchen and bath cabinets, wood household furniture, wood office furniture, store fixtures, pallets, partitions, etc. There is estimated to be approximately 650 companies in this population in Louisiana (Vlosky et al. 1997). The primary source of sample frame information was existing industry directory databases and directories compiled by the Louisiana Forest Products Laboratory (Vlosky and Doucet 1998).

Mail Questionnaires

One major component of data collection was a mail survey questionnaire. Mail questionnaires were chosen as the most cost effective method of data collection. The method affords a high degree of anonymity and is less limited by rigid time constraints that can impede the effectiveness of other survey methods. The questionnaire consisted of fixed response questions, including fixed alternative and multichotomous questions for responding firm demographic profiles as well as open-ended questions which allow respondents to express thoughts and ideas not covered in the fixed format questions regarding employee training issues. (The survey instrument can be found in Appendix II).

Mail survey procedures included a pre-notification letter, a cover letter accompanying the initial questionnaire, a follow-up postcard and a second follow-up letter with a second copy of the questionnaire.

Data Analysis

Interview and questionnaire quantitative data were coded and input into the Statistical Package for the Social Sciences (SPSS) for subsequent data analysis and interpretation. Data entry was closely supervised by the principal investigator to ensure accuracy. Univariate statistical analysis techniques were employed to analyze the quantitative data. Results are reported with conclusions and recommendations. Univariate inferential summary statistics characterize the populations and examine the differences and similarities between employee needs.

IV. Results

Demographics

Solid wood (as opposed to pulp and paper products) forest products can be broadly characterized as primary or secondary products. This classification is not always clear, but most industry observers agree on general definitions of the groups:

- Primary products are those which are produced directly from raw timber input. Examples include chips, lumber, veneer, plywood and their by-products.
- Secondary products use primary products as input for remanufacturing. Examples include various types of panels, engineered composites, or dimension stock. Secondary products can also include final consumer products such as furniture.

Although this study focuses on the secondary, or value-added sector of the industry, respondents manufacture primary products as well (**Figure 1**). Cabinets and furniture had the highest frequency of responses followed by specialty products. Softwood and hardwood lumber, both primary products, were produced by 18 and 15 respondents, respectively. Many companies are vertically integrated and manufacture primary products often as raw materials for secondary production.

With regard to respondent facility locations, 15 parishes contain 63 percent of the 205 facilities operated by respondents (**Figure 2**). Most facilities are located in parishes that contain urban or suburban census tracts. For example, 11 percent of all (22/205) facilities are in East Baton Rouge Parish, which contains Baton Rouge, the state capital. Nearly a fifth of facilities are in or near New Orleans and 5 percent are in Lafayette Parish. The balance of remaining 49 parishes had 4 or less facilities each.

Over a quarter of respondents source their raw materials from within their own parish (27.6 percent) (**Figure 3**). Nearly half of respondents get their raw materials from other Louisiana parishes while nearly a quarter go to other states. The balance (3 percent) of respondents source from other countries, typically tropical hardwoods. As company size increases, the percentage of raw materials purchased from other countries increases with almost 5 percent of raw materials for companies with 100-499 employees being imported (**Figure 4**).

Figure 1. Products Produced by Respondents

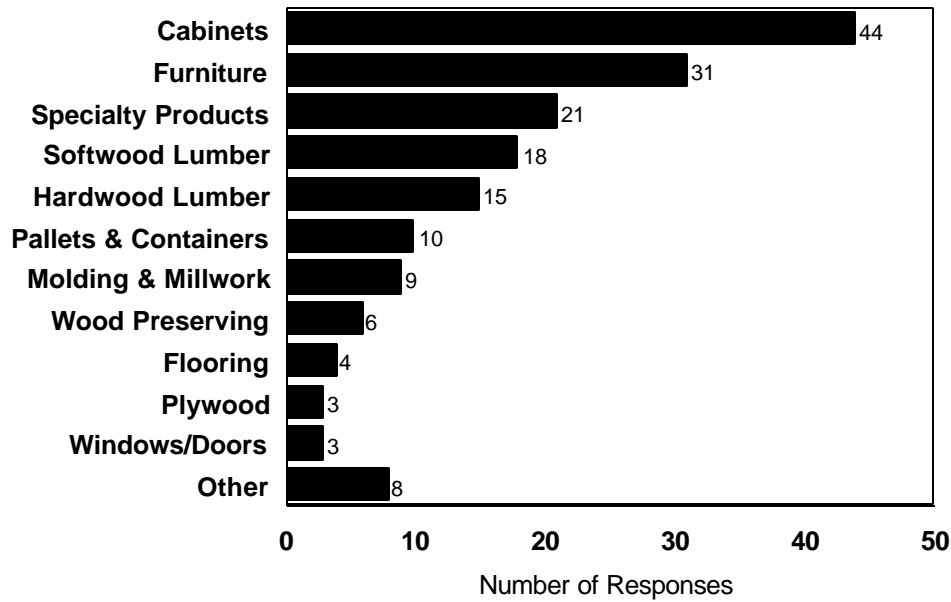


Figure 2. Respondent Facility Locations-Top 15 Parishes

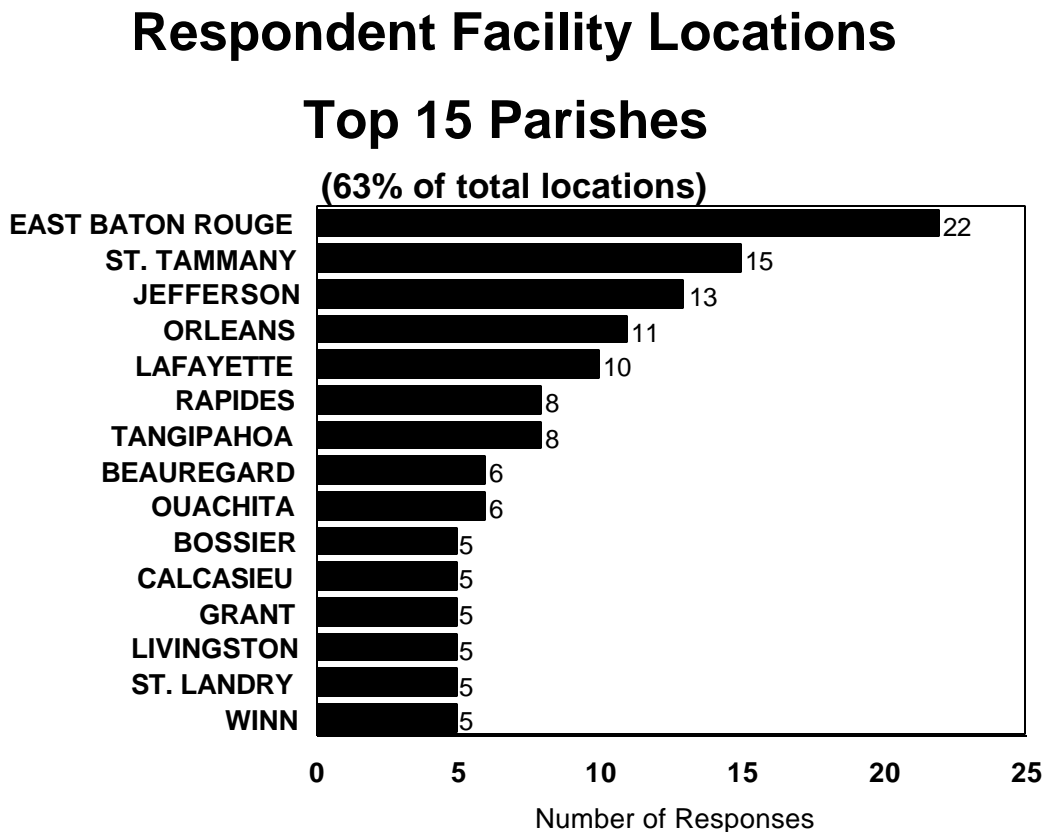


Figure 3. Sources of Raw Materials

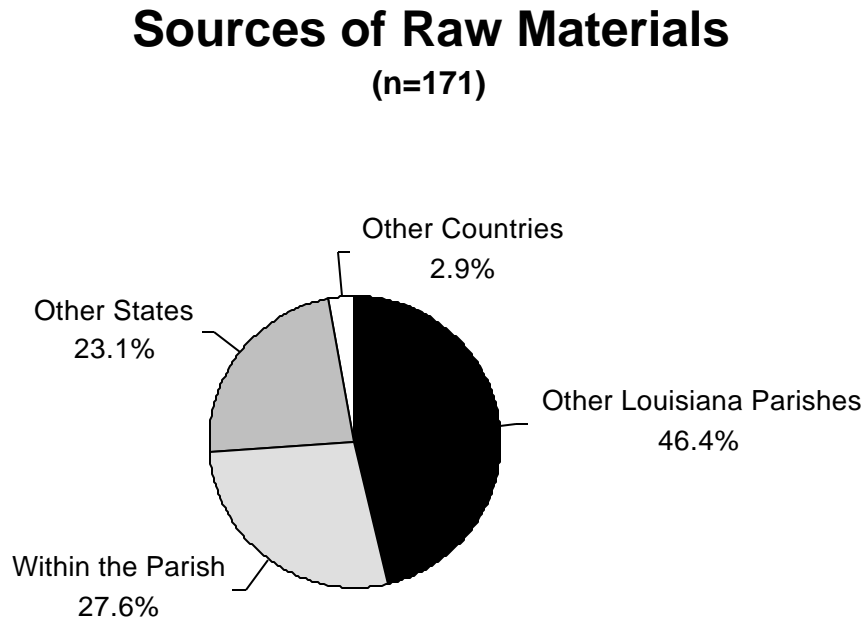
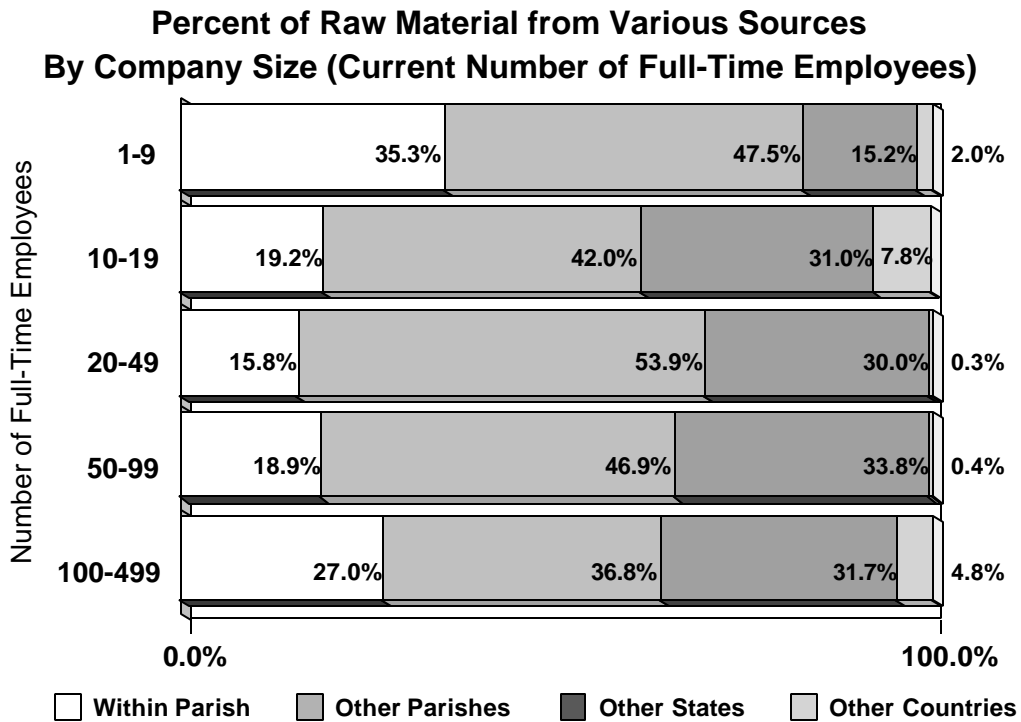


Figure 4. Raw Material Sources by Company Size



Using U.S. Department of Commerce census regions (Figure 5), Figure 6 shows that the majority of respondent 1998 sales were made within the Southern region (92.6 percent). Smaller percentages of sales are made to the west (3.1 percent), north central (2.5 percent) and Northeast (0.6 percent). In addition 1.2 percent of sales in 1998 were exported.

U.S. Market Regions

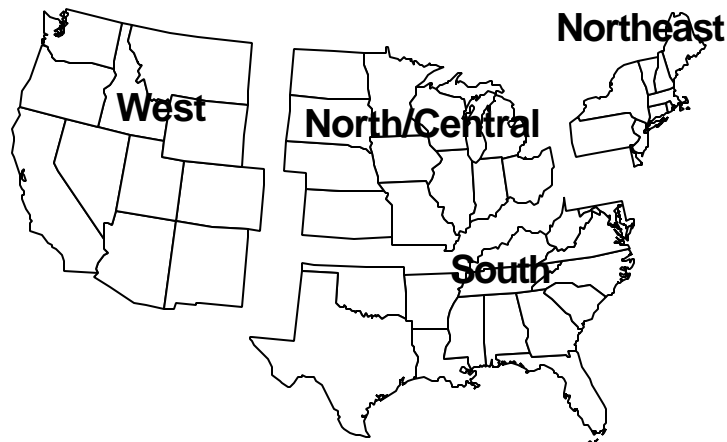


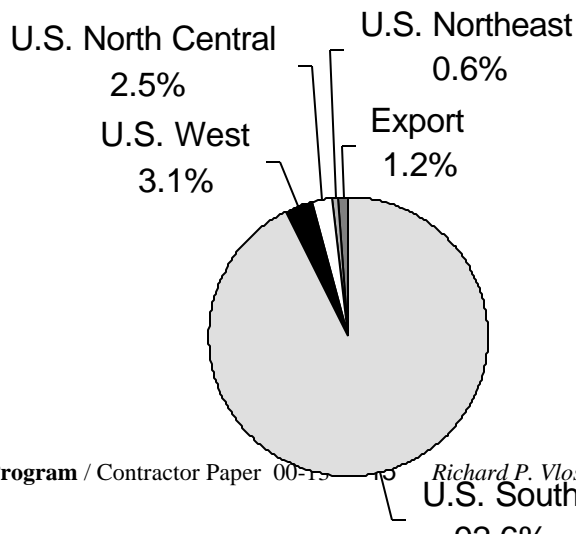
Figure 5. Market Regions

Figure 6. Markets for Respondent Products

Most respondents were owners of the respective companies represented in the study (70.8 percent) (Figure 7). This is logical given that nearly half of the companies

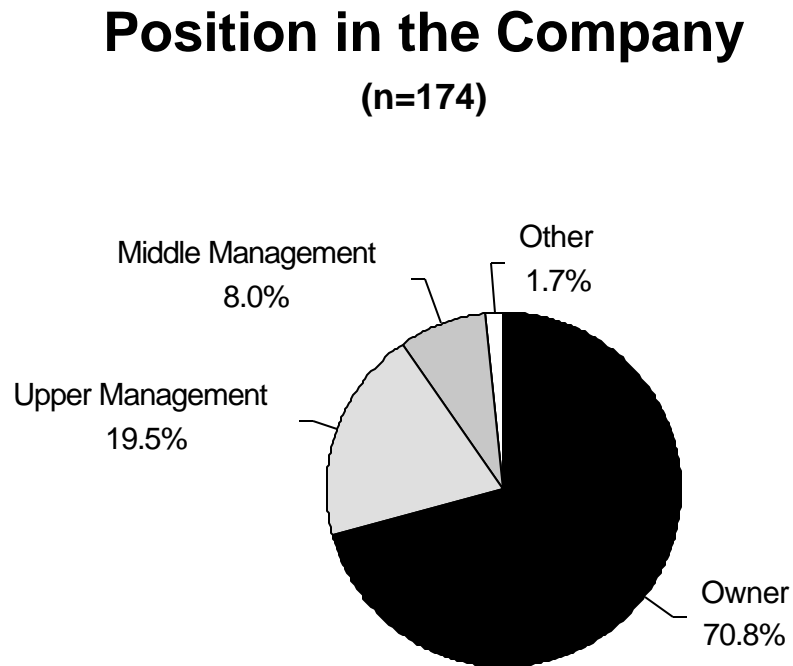
Markets

(n=171)



responding have less than 10 employees (**Figure 8**) and are owner/operated. The balance of respondents is split between upper management (19.5 percent), middle management (8.0 percent) and other (1.7 percent).

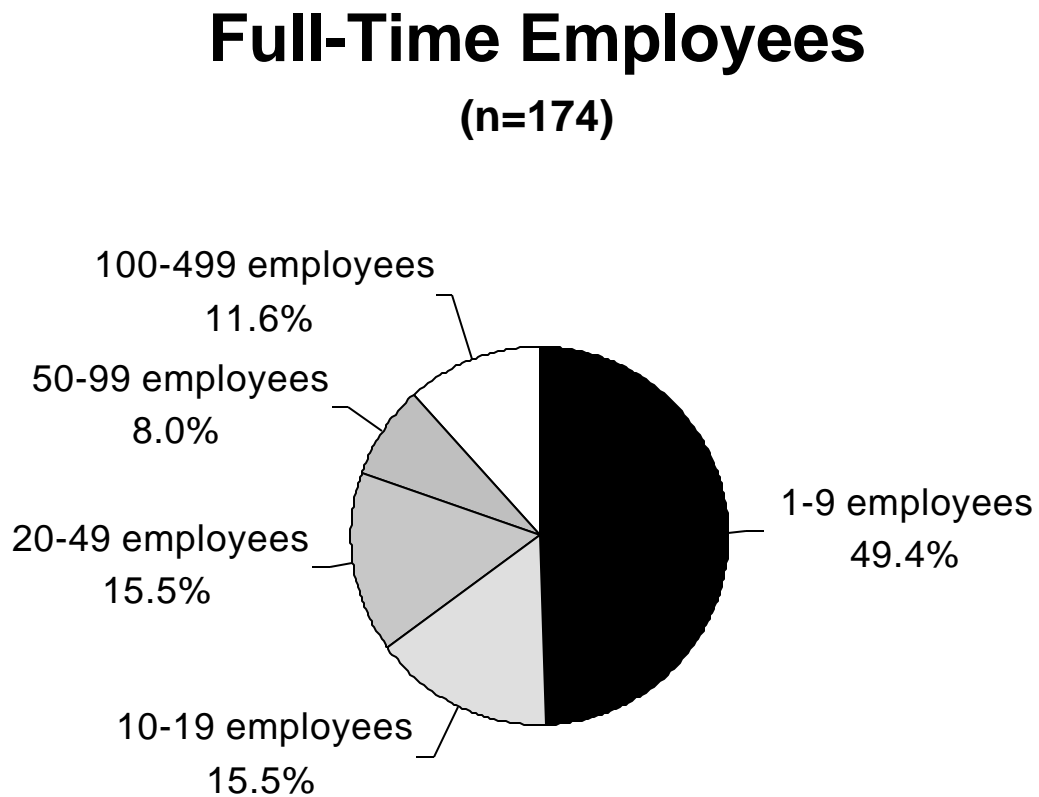
Figure 7. Respondent Position Within the Company



Current Staffing and Planned Employee Increases

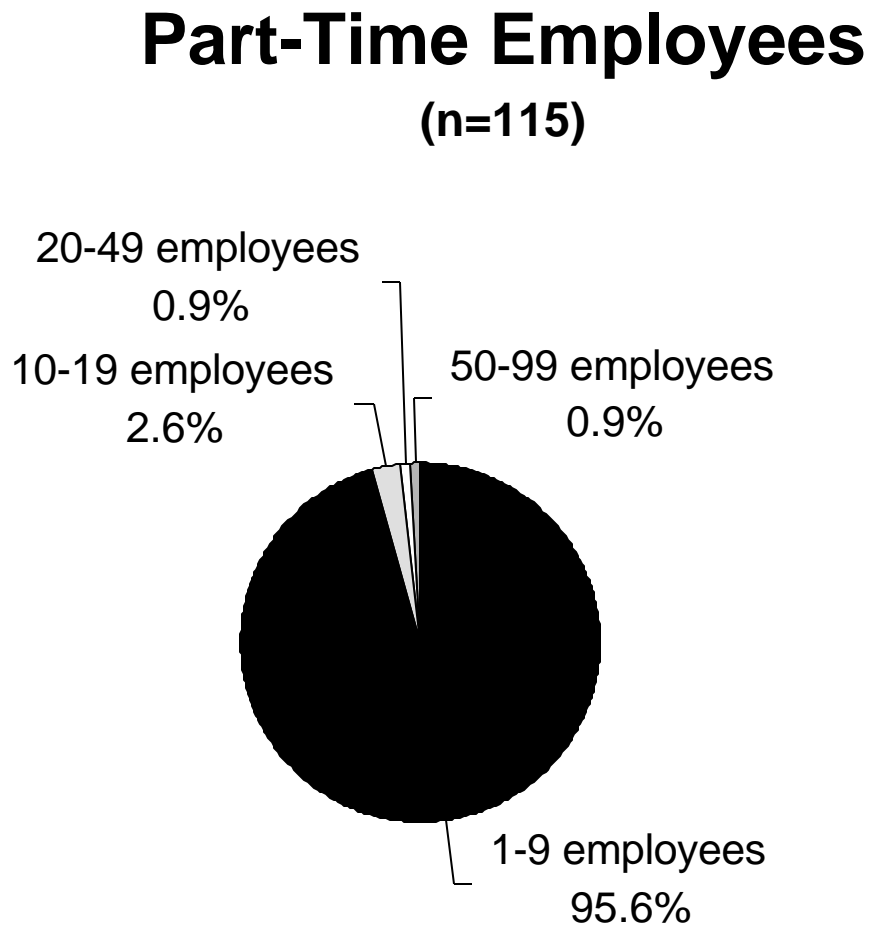
Confirming results of a previous study (Vlosky et al. 1997), secondary wood products companies in Louisiana are typically small. Respondents indicated that nearly half of their companies have less than 10 full-time employees and over 80 percent have less than 50 employees. (Figure 8).

Figure 8. Full-Time Employees



With regard to part-time employees, nearly all (95.6 percent) of the 115 respondents that answered this question had between 1 and 9 employees (**Figure 9**). The fact that two thirds of companies employ part-time employees is significant. This has implications for employee longevity, training and costs.

Figure 9. Part-Time Employees



Just over a third of respondents have plans to increase employment in 1999 while 43 percent say they will add employees in the subsequent 3-year period (**Figure 10**). The most prevalent reason why respondents are not adding employees is the lack of adequate labor with 48 responses (**Figure 11**). This is followed by lack of adequate markets (31 responses), workmens compensation costs (30 responses), other labor costs (26 responses) and taxes.

Respondents were offered the opportunity to list any additional reasons why they did not plan to add new employees (**Table 1**). The most cited reason had to do with technology and process improvements that precluded the need for additional employees. In addition, raw material prices, problems with current employees and government regulations for larger companies were cited.

Figure 10. Plans to Increase the Workforce-1999 and 2000-2002

Plans To Increase The Workforce in 1999 & 2000-2002

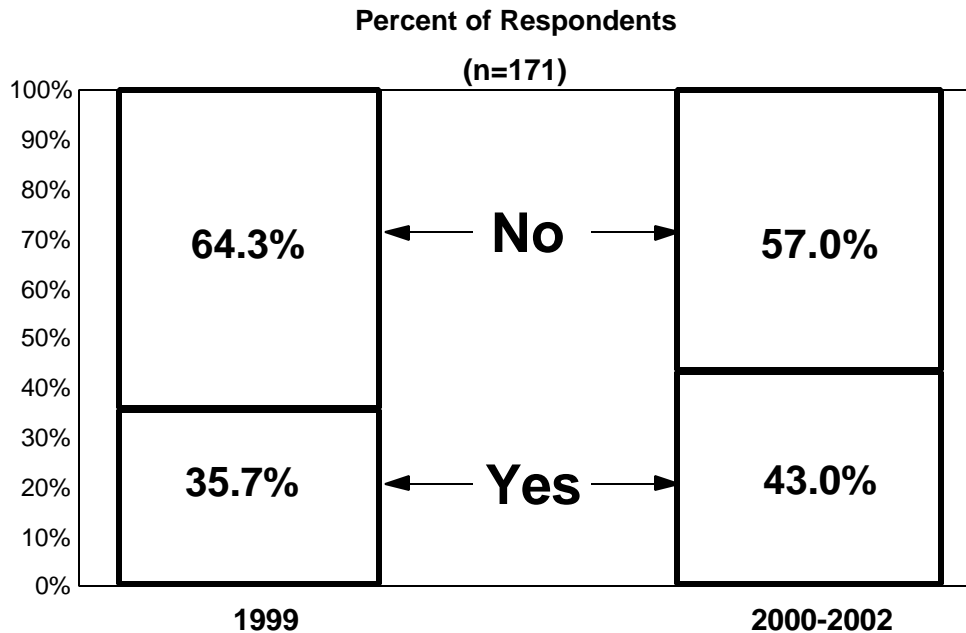


Figure 11. Reasons for Not Increasing the Workforce

Reasons for Not Increasing the Workforce

(multiple responses possible)

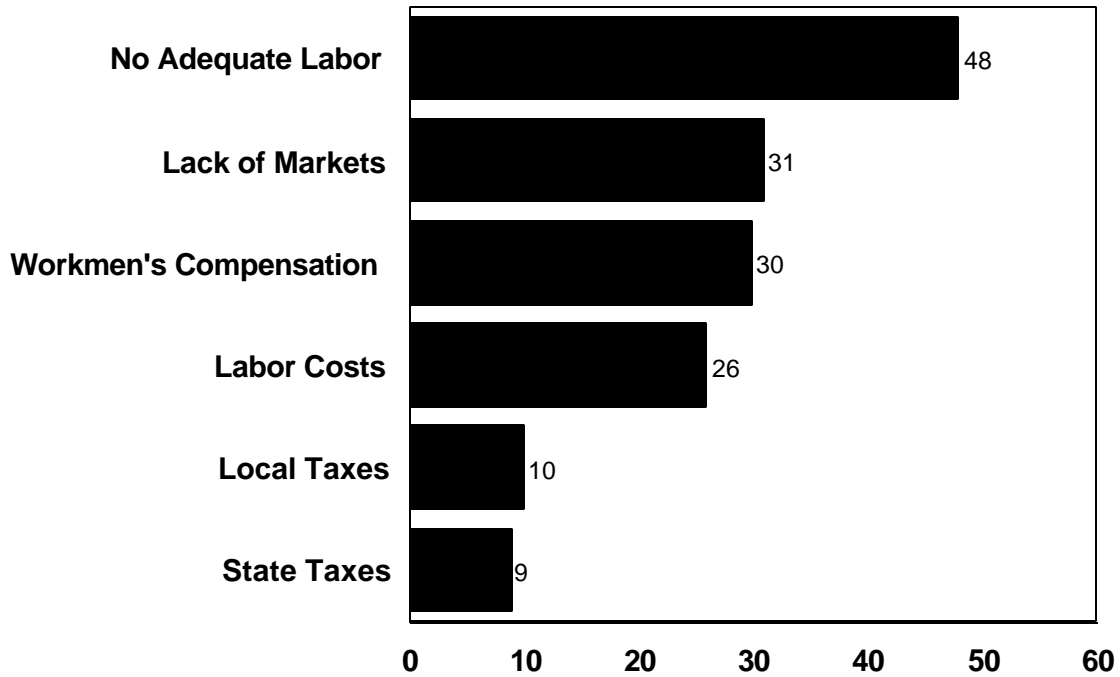


Table 1. Reasons for Not Adding New Employees

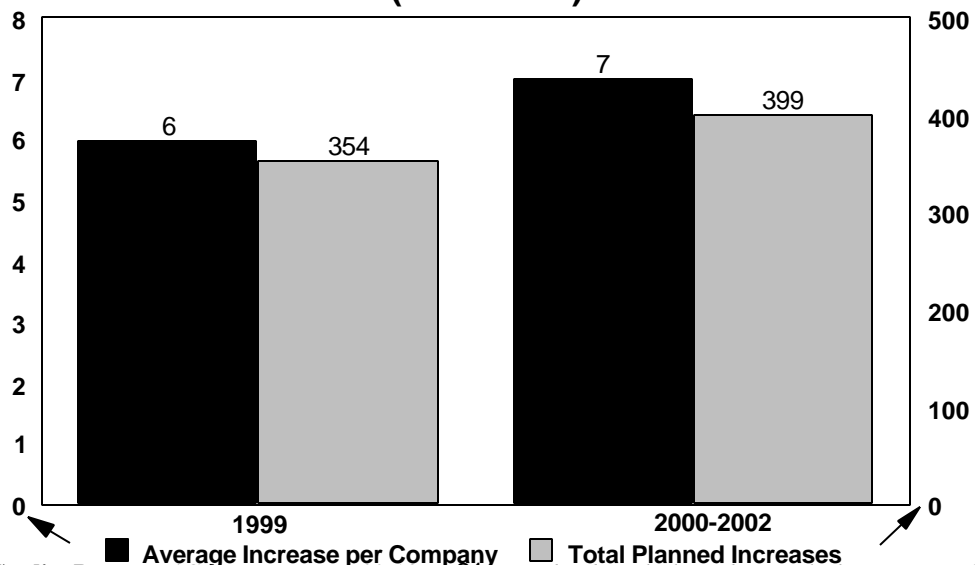
• Change in business strategy
• Don't want to expand due to being a small company (1-3 man shop)
• Due to innovation & technology which reduces the need for more employees
• Equipment upgrades
• Found comfortable formula & present employee/ workload ratio
• Going to get more efficient with what we have
• Government regulations for larger companies
• Have to go behind employees & correct problems which is too much of a hassle
• Market is too competitive to expand at this time
• Product demand is low
• Process improvements
• Productivity gains
• Raw material prices are too high

For the companies that plan to add employees, on average, 6 employees per company are planned to be added in 1999 and 7 additional employees in 2000-2002 (**Figure 12**). Total planned employee additions for these time periods are 354 and 399, respectively.

Figure 12. Average and Total Planned Employee Increases-1999 and 2000-2002

Average and Total Planned Employee Increases 1999 & 2000-2002

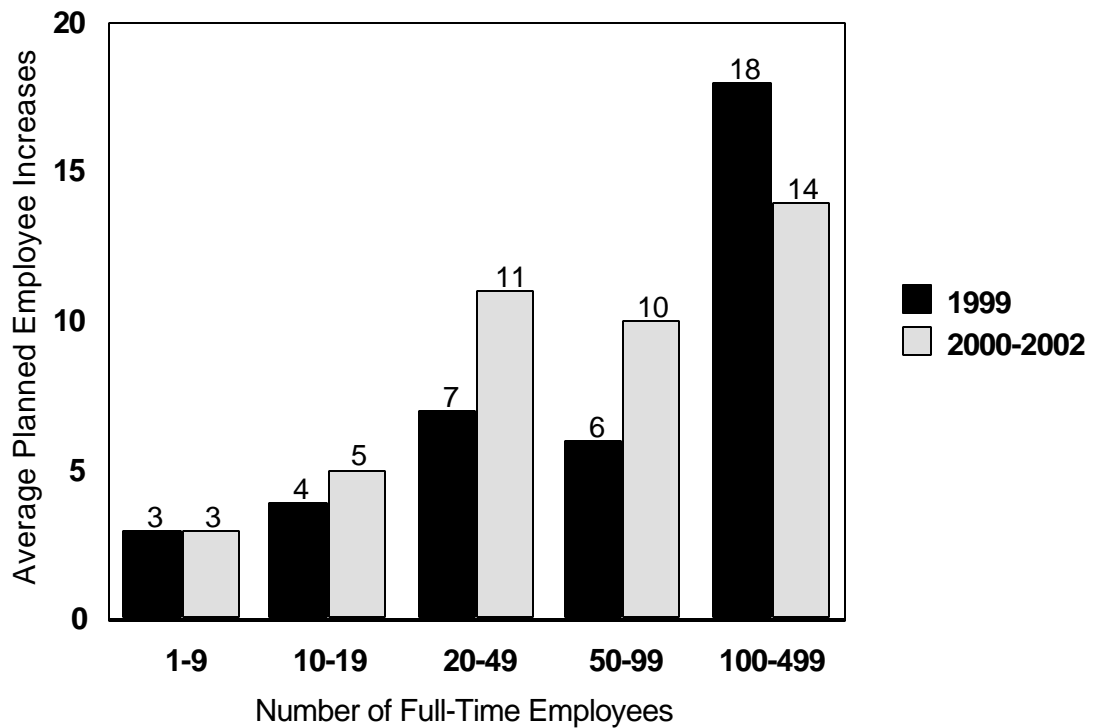
(n=59 & 57)



These planned employee additions broken down by company size can be seen in **Figure 13**. As would be expected, there is a positive correlation between company size and number of planned additional employees. However, when viewed as a percentage of current employees, on average, smaller companies (1-9 employees) are planning to increase employees by 60 percent (3 additional employees/5-midpoint) in both 1999 and the period 200-2002. Large companies (100-499 employees) are planning to increase staff by only 7 percent in 1999 and 6 percent in 2000-2002.

Figure 13. Average Planned Employee Increases-1999 and 200-2002 by Company Size

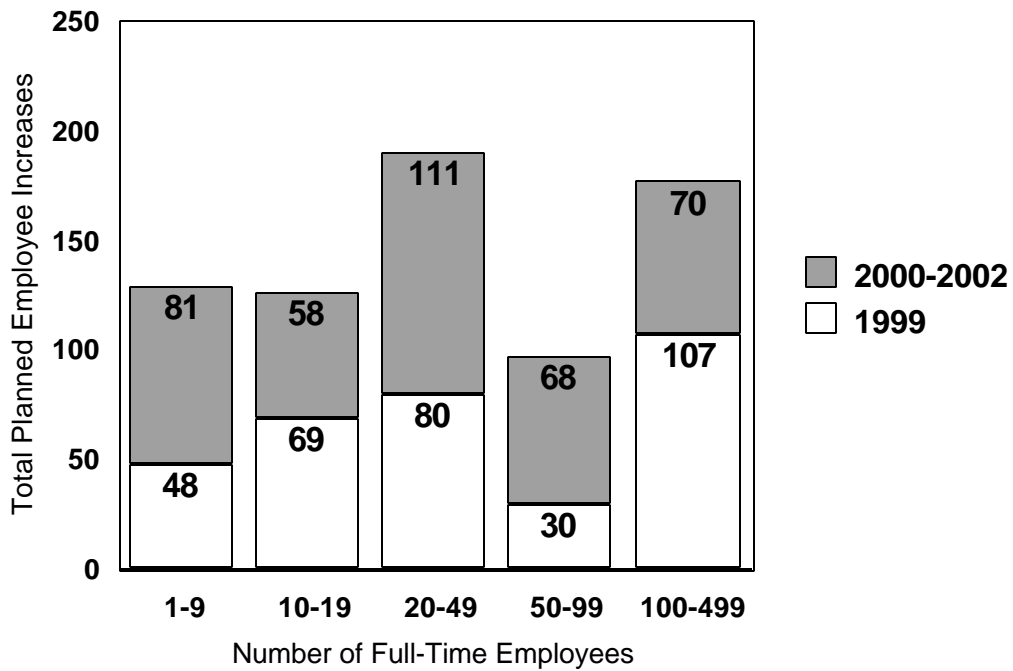
**Average Planned Employee Increases 1999 & 2000-2002
By Company Size (Current Number of Full-Time Employees)**



These average increases translate into a total of 722 new employees. **Figure 14** shows these total planned increases by company size. Over the next three years, mid-size (20-49 current full-time employees) and large (100-449 employees) indicate the highest number of planned increased employees with 191 and 177, respectively.

Figure 14. Total Planned Employee Increases-1999 and 200-2002 by Company Size

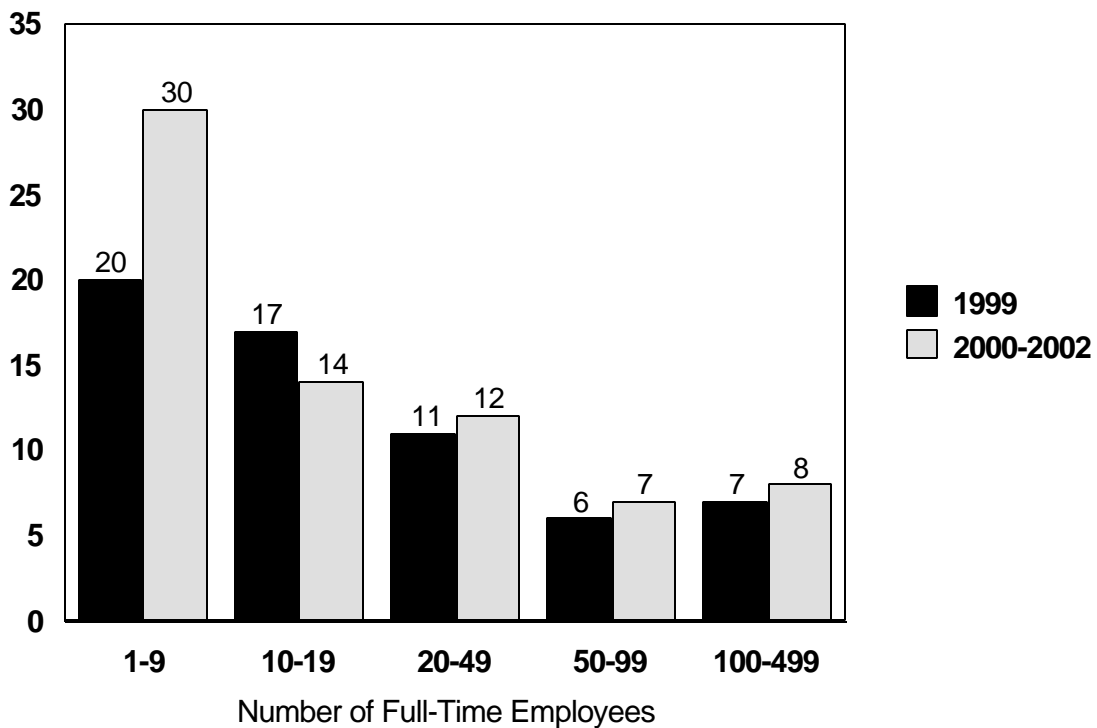
**Total Planned Employee Increases 1999 & 2000-2002
By Company Size (Current Number of Full-Time Employees)**



Finally, **Figure 15** shows that there are more small companies planning employee increases than large companies. This has implications when planning and implementing training and development programs as smaller companies have different needs and desired modes of information delivery. These programmatic aspects will be discussed later in the report.

Figure 15. Number of Companies Planning to Add Employees by Company Size

**Number of Companies Planning to Add Employees
By Company Size (Current Number of Full-Time Employees)**



Desired Training Requirements and Delivery Methods

Respondents were asked to evaluate training requirements for different employee types and skill levels. Using a scale of 1=Least Required to 5=Most Required, respondents indicated that getting skilled employees is their most pressing need (**Table 2**). Many companies indicated that they could increase capacity if only they had employees to support such expansion. Beyond skilled employees, the second most required employee would have basic woodworking skills. This is followed by management, typically shop foremen. The balance of employee types required all had mean scores below 3.0, or neutral, on the 5-point scale.

Table 2. Type of Employee Training Required

Scale: 1=Least Required to 5=Most Required

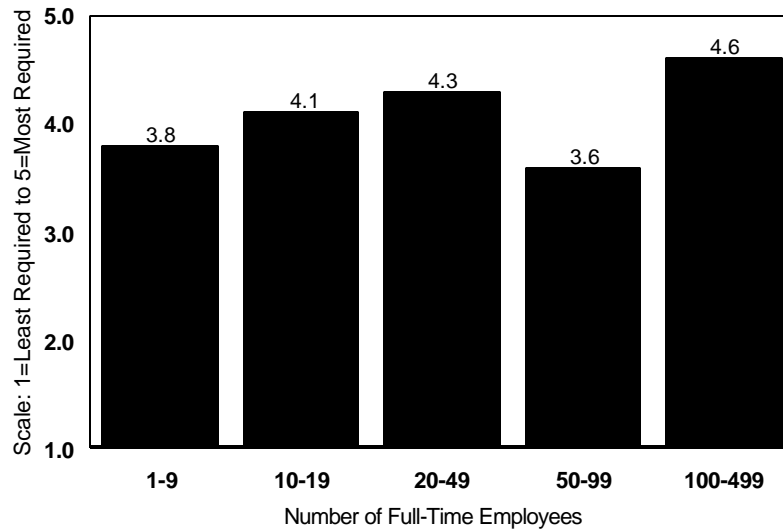
	N	Mean
Skilled labor	149	4.02
Basic woodworking skills	148	3.25
Management	143	3.11
Unskilled labor	145	2.93
Remedial education	136	2.80
Seasonal or Temporary	133	2.17

Mean scores give an indication of what industry needs are in general but are not extremely useful in developing programs for different company structures and sizes. Accordingly, employee training requirements for each of the options listed in **Table 2** were further broken down by respondent company size class.

As mentioned, skilled labor was the highest ranked need across all respondents. There is a positive correlation between company size and need for skilled labor (**Figure 16**). As companies get larger, production processes generally become more complicated and specialized. Larger companies utilize sophisticated computer-controlled equipment more often than small companies further increasing the requirement for specialized skills.

Figure 16. Skilled Labor Training Required by Company Size

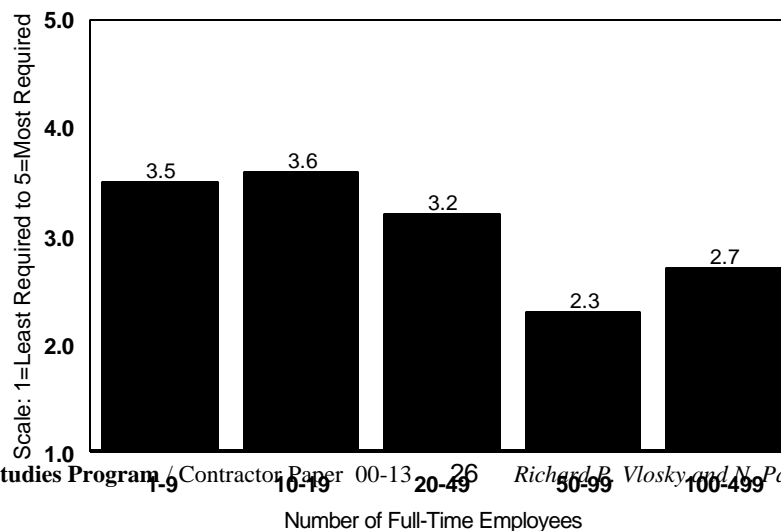
**Type of Employee Training Required
-skilled labor-
By Company Size (Current Number of Full-Time Employees)**



In contrast, the pattern between company size for the second ranked requirement, basic woodworking skills, is reversed (**Figure 17**). Smaller shops that specialize in labor intensive production methods have a greater need for employees that have basic skills. The owner/managers can further train these employees in the nuances of the company's productline.

Figure 17. Basic Woodworking Skills Training Required by Company Size

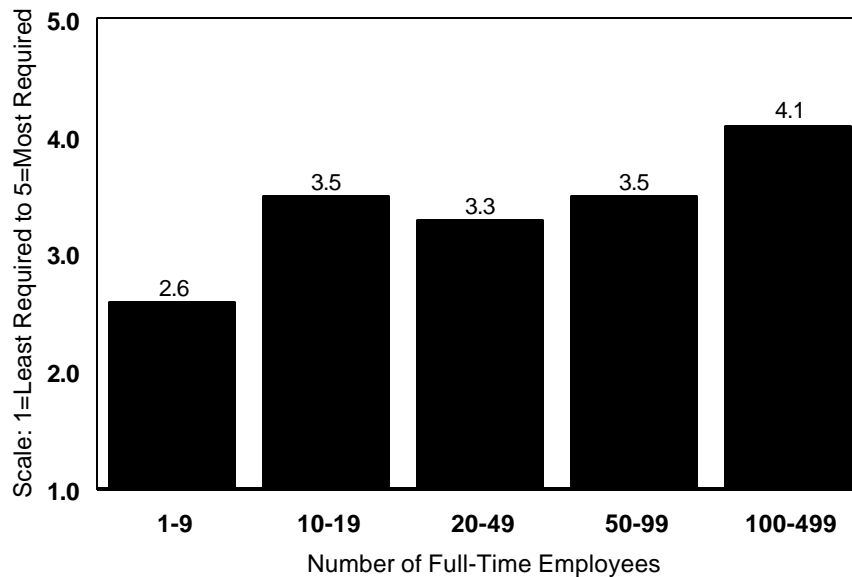
**Type of Employee Training Required
-basic woodworking skills-
By Company Size (Current Number of Full-Time Employees)**



The third-ranked requirement is management training. **Figure 18** shows that the larger the company, the greater the need for management training. Training of this nature includes, business planning, leadership skills, financial management and marketing.

Figure 18. Management Training Required by Company Size

**Type of Employee Training Required
-management-
By Company Size (Current Number of Full-Time Employees)**



Interestingly, there is also a positive correlation between company size and the need for unskilled labor (**Figure 19**). As job function gets more specialized as companies grow, there appears to be a need for labor to accomplish routine tasks such as maintenance.

This logic appears to hold with larger companies also indicating a greater need for remedial education for employees (**Figure 20**). This includes basic skills such as reading, writing and basic math.

Figure 19. Unskilled Labor Skills Training Required by Company Size

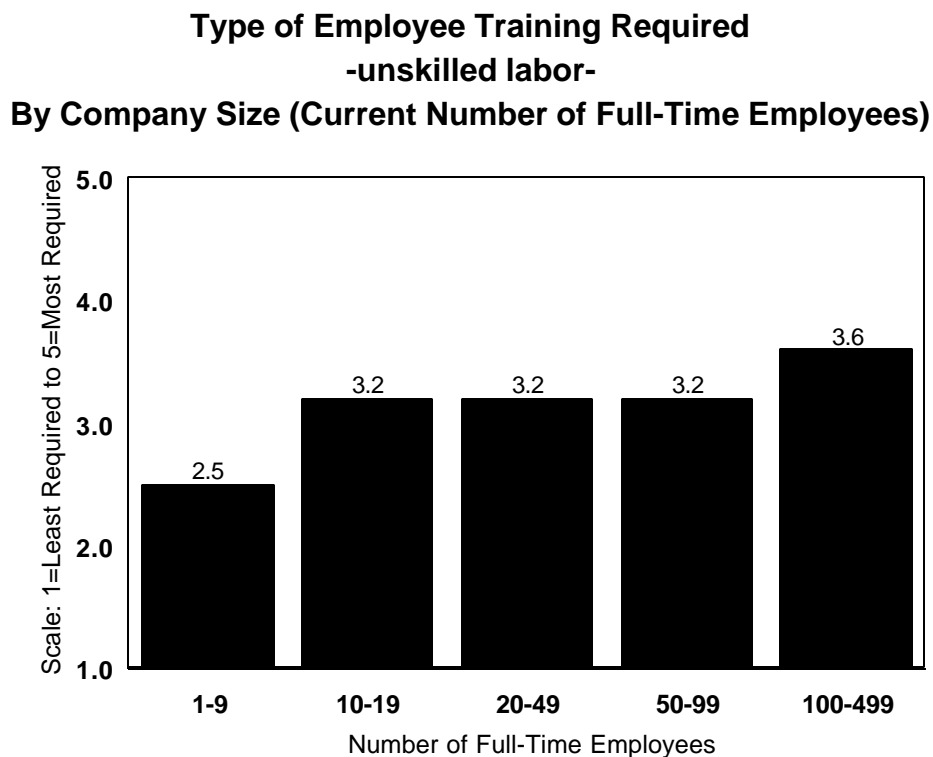
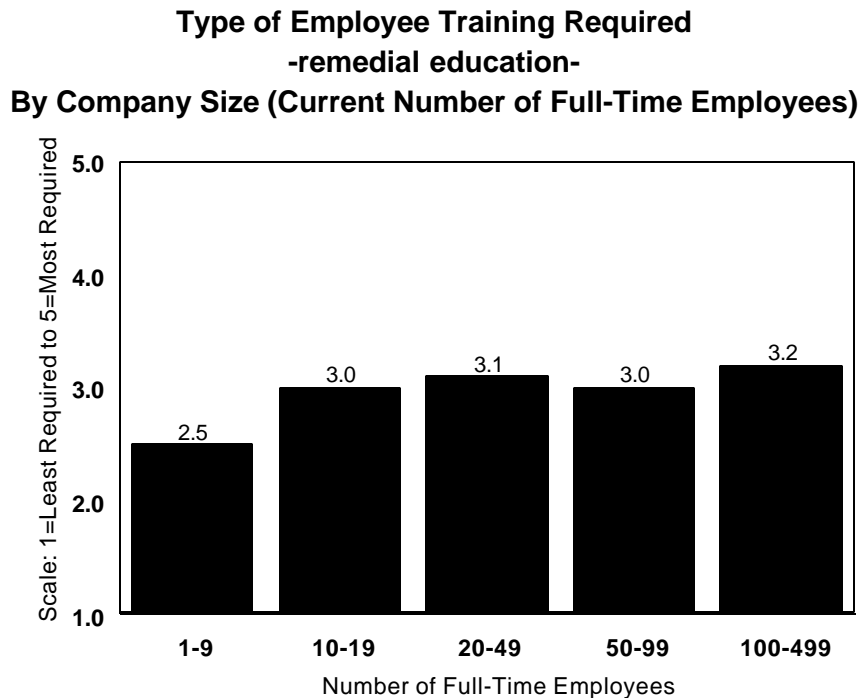
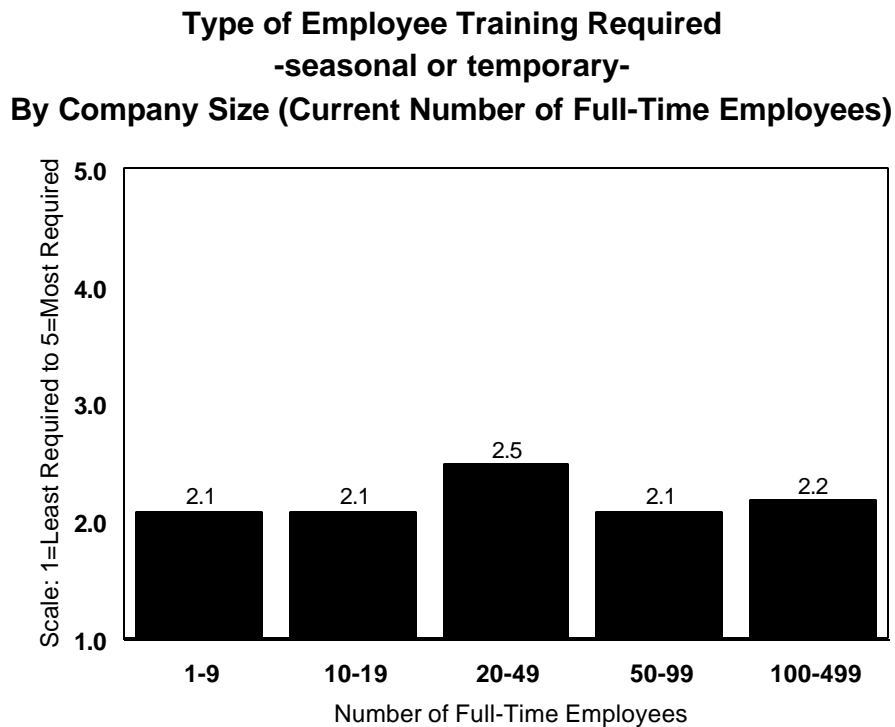


Figure 20. Remedial Education Training Required by Company Size



The lowest ranked requirement was for temporary or seasonal employees. No difference was found between company size in this category (**Figure 21**).

Figure 21. Seasonal or Temporary Training Required by Company Size

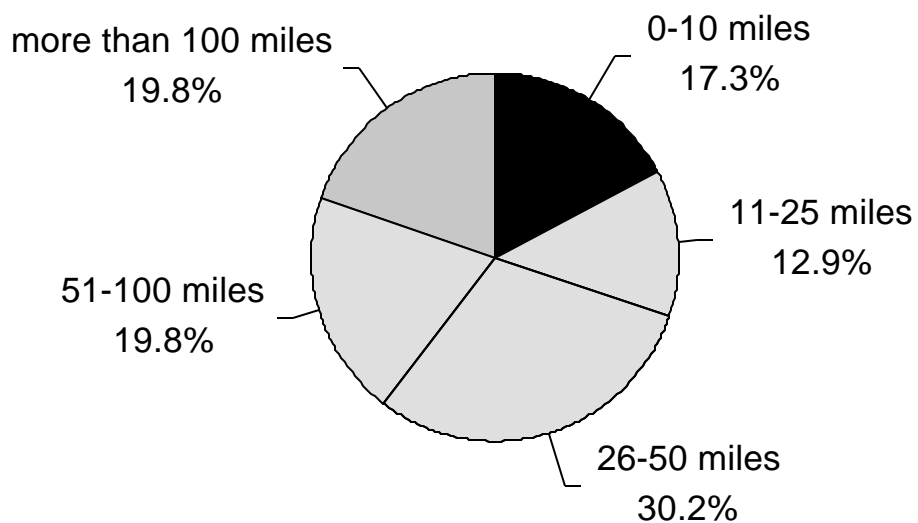


Distance, Time Away and Cost For Training

Before training programs can be developed, it is important to know the distance employers are willing to let employees travel to be trained. **Figure 22** shows a fairly even distribution of respondents across different distances. Statistical analysis indicates that the distance allowed to be trained is significantly correlated to company size.

Figure 22. Distance that Employees Would be Allowed to Travel for Training

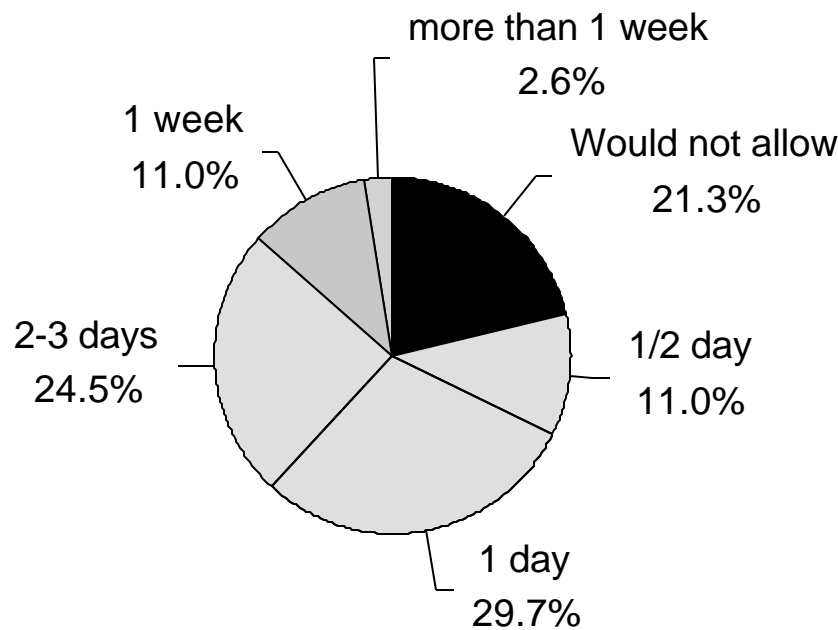
Distance that Employees Would be Allowed to Travel For Training (n=153)



In addition, it is important to know acceptable training session time allowances within the constraint of allowed time away from the company site. **Figure 23** shows that 21.3 percent of respondents said that they would not allow employees to spend any time away to be trained. Forty percent said they would allow one day or less while almost a quarter (24.5 percent) would allow 2-3 days to be trained. Eleven percent would allow a week away and 2.6 percent would allow more than a week. Once again, statistical analysis indicates that the time away allowed to be trained is significantly correlated to company size.

Figure 23. Time that Employees Would be Allowed to be Away For Training

Time that Employees Would be Allowed to be Away For Training (n=155)

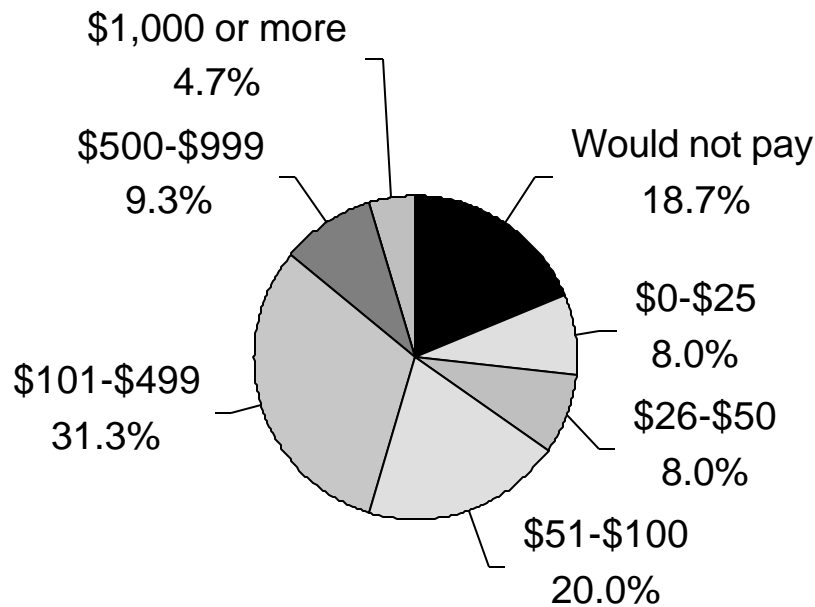


Finally, it is important to know how much money employers are willing to pay for training employees. Consistent with the nearly 20 percent of respondents that would not allow employees to travel or be away for training, 18.7 percent would not pay anything for training (**Figure 24**). Over half of respondents (51.3 percent) would pay between \$51 and \$499, while 16 percent would pay \$50 or less. Statistical analysis indicates that the amount companies are willing to pay for training is significantly correlated to company size.

Figure 24. How Much that Employers are Willing to Pay for Training

How Much that Employers are Willing to Pay For Training

(n=150)



Desired Knowledge for Employees

Respondents were asked to evaluate desired employee knowledge for 42 factors. **Table 3** ranks these areas. The only two factors that ranked above 4 on the 5-point scale of desire were safety regulations and dealing with customers. These are followed by the need for employees to know about quality and process control, followed by basic problem solving skills. The balance of criteria is varied and does not follow any discernable pattern.

Table 3. Desired Knowledge for Employees

Ranked from Most Desired to Least Desired
Scale: 1=Not Important at All to 5= Most Important

	N	Mean
Safety regulations	154	4.24
Dealing with customers	155	4.01
Quality & process control	156	3.79
Basic problem solving skills	155	3.72
Inventory control/production scheduling	158	3.57
Plant maintenance	155	3.52
Total quality management	151	3.50
Wood identification	156	3.50
Product improvement	154	3.48
Basic wood properties	156	3.47
Wood machining process	151	3.45
Sawing/cutting technology	158	3.43
Product pricing	154	3.42
Cost reduction	155	3.40
Motivating personnel	154	3.37
Plant management and finance	154	3.37
Lumber grading	155	3.27
Sales ability	155	3.27
EPA/DEQ Regulations	158	3.18
Wood-water regulations	153	3.02
Product promotion	154	3.02
Wood gluing	150	3.02
Wood finishing	152	3.00
Competitive positioning	153	2.99
Product distribution	149	2.98
Gluing/jointing	149	2.95
Plant layout/design	153	2.94
Sanding/abrasives	152	2.90
Developing business plan	153	2.83
Dealing with changing raw materials	150	2.82
Strategic market planning	152	2.78
Plant maintenance	154	2.78
New product development	152	2.76
Computer education	152	2.75
Identifying new markets	152	2.75
Economics	146	2.74
Finishing and coating	150	2.70
Machine vision technology	144	2.53
Utilizing composite products	152	2.19
CAD/CAM/CNC	146	2.17
Green marketing/product certification	146	2.02
International marketing (exporting)	144	1.67

Desired Knowledge for Employees by Company Size

While an aggregate ranking of factors is interesting, as is the case with other training issues, it is important to further segment these knowledge factors to better tailor programs. Therefore, **Table 4** indicates the relative importance of each for different company size classes. Figures for each factor can be found in **Appendix I**.

Beyond safety issues, which were deemed important by respondents in every company size class, we can see that the other factors are more important to certain companies and not so important to others. For example, “dealing with customers” is important to mid-size companies (42.3 percent of companies with 20-49 employees and 38.5 percent of companies with 50-99 employees).

“Lumber grading” knowledge is more important for employees in larger companies (50 employees or greater) while “wood gluing” and “wood finishing” are more important to companies in the smallest size class category (1-9 employees). Even “sanding/abrasives”, a factor near the middle of the list, is important to 32.4 percent of companies in the 1-9 employee category.

**Table 4. Summary of Desired Knowledge for Employees by Company Size-
Percent of Companies Indicating “Most Desired”**

Ranked from Most Desired to Least Desired
(Bold/Italic indicates over 30% of companies)

	1-9 Emp.	10-19 Emp.	20-49 Emp.	50-99 Emp.	100-499 Emp.
Safety regulations	50.7	47.6	33.3	38.5	31.6
Dealing with customers	52.7	28.0	42.3	38.5	23.5
Quality & process control	37.0	29.2	23.1	46.2	31.6
Basic problem solving skills	39.7	8.3	24.0	30.8	5.3
Inventory control/production scheduling	28.4	16.0	34.6	38.5	5.3
Plant maintenance	23.9	12.0	44.4	23.1	5.6
Total quality management	31.9	8.7	30.8	23.1	21.1
Wood identification	41.1	24.0	34.6	30.8	5.6
Product improvement	23.3	13.0	19.2	-	11.1
Basic wood properties	32.9	16.0	23.1	15.4	16.7
Wood machining process	31.0	17.4	28.0	30.8	22.2
Sawing/cutting technology	28.4	16.0	18.5	30.8	27.8
Product pricing	23.0	17.4	44.0	30.8	16.7
Cost reduction	22.2	8.0	15.4	15.4	11.1
Motivating personnel	22.9	16.0	19.2	23.1	21.1
Plant management and finance	23.6	4.2	34.6	15.4	11.1
Lumber grading	26.0	20.8	15.4	38.5	33.3
Sales ability	24.7	23.1	20.0	33.3	11.1
EPA/DEQ Regulations	19.2	20.8	22.2	23.1	25.0
Wood-water regulations	16.7	12.5	24.0	23.1	22.2
Product promotion	20.8	12.0	11.5	8.3	11.1
Wood gluing	35.6	13.6	16.7	-	23.5
Wood finishing	34.7	13.0	16.0	15.4	5.6
Competitive positioning	15.5	-	15.4	7.7	16.7
Product distribution	17.1	8.7	20.0	7.7	5.9
Gluing/jointing	34.7	4.3	13.0	-	11.8
Plant layout/design	19.4	4.3	15.4	15.4	5.6
Sanding/abrasives	32.4	17.4	8.7	-	11.1
Developing business plan	15.5	4.2	24.0	7.7	-
Dealing with changing raw materials	9.9	4.5	8.0	7.7	11.1

Table 4 (continued). Summary of Desired Knowledge for Employees by Company Size-Percent of Companies Indicating “Most Desired”

Ranked from Most Desired to Least Desired
(Bold/Italic indicates over 30% of companies)

	1-9 Emp.	10-19 Emp.	20-49 Emp.	50-99 Emp.	100-499 Emp.
Strategic market planning	15.5	4.2	16.0	15.4	5.6
New product development	8.3	12.0	-	7.7	6.3
Computer education	15.7	4.2	11.5	30.8	5.6
Identifying new markets	15.7	-	7.7	-	5.6
Economics	14.3	-	4.0	7.7	-
Finishing and coating	27.4	17.4	4.3	7.7	5.9
Machine vision technology	16.7	-	7.7	7.7	5.9
Utilizing composite products	8.3	-	8.0	-	-
CAD/CAM/CNC	10.4	4.2	12.5	7.7	5.9
Green marketing/product certification	5.9	-	12.5	7.7	5.9
International marketing (exporting)	3.0	4.8	-	15.4	5.6

Desired Training Methods

Employee training can be accomplished through a variety of means. Respondents were asked to evaluate the importance of 11 methods (**Table 5**). Because it is difficult for many companies to have employees be away from for any length of time, it is most preferable, or important, to have in-house training on-site (mean score of 5.98 on a 7-point scale of importance). Training manuals that can be read on site or at the employees' leisure were ranked next with a score of 4.39. The remaining methods all fall below 4.0, the midpoint or neutral point on the scale. Least desirable are national conferences which require employees to travel and be away from the company for extended periods of time.

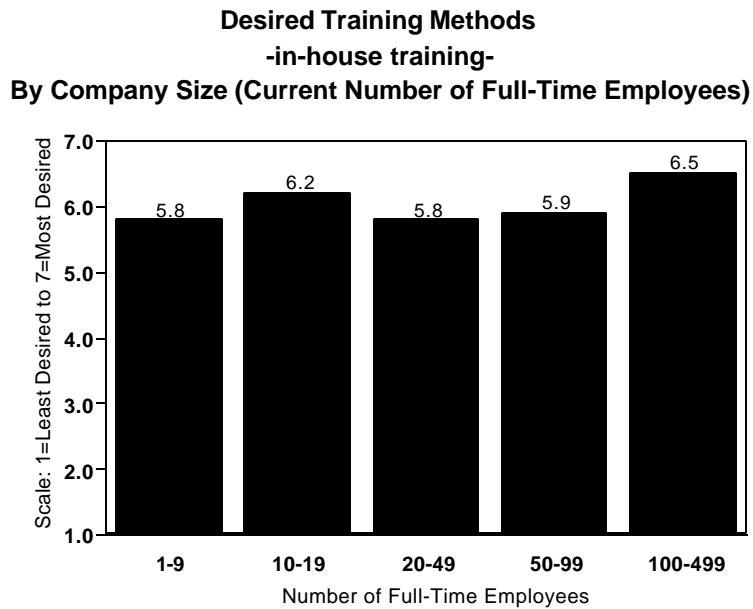
Table 5. Importance of Different Employee Training Methods

Ranked from Most Important to Least Important
Scale: 1=Least Importance at All to 7= Most Importance

	N	Mean
In-house training	158	5.98
Training manuals	148	4.39
Personal Visits	149	3.89
Off site training facility	150	3.67
Short courses	150	3.63
Newsletter/videos	148	3.60
Magazine articles	148	3.37
Correspondence courses	144	3.04
Electronic transfer	146	2.82
Telephone calls	148	2.61
National conferences	144	2.48

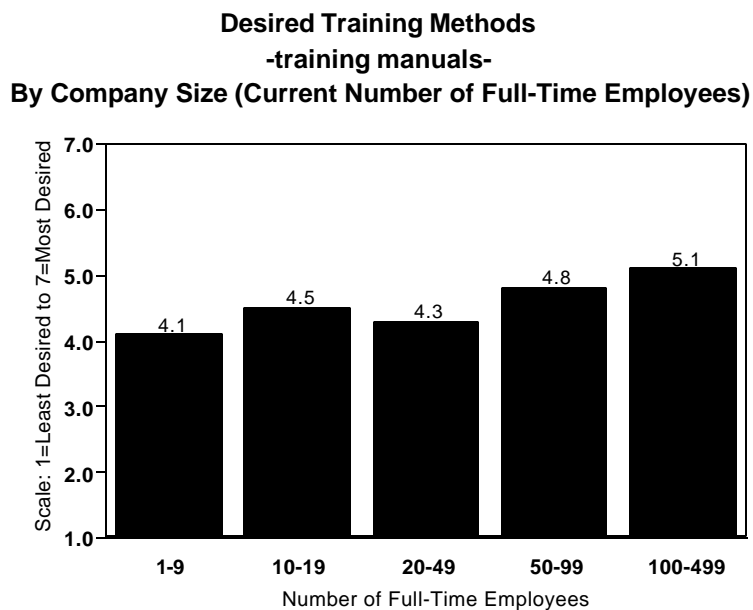
As is the case with training factors previously discussed, it is important to break down the training methods by company size class. **Figure 25** shows that in-house training on-site is consistently favored across all company size classes.

Figure 25. Desired Training Method by Company Size- In-House Training



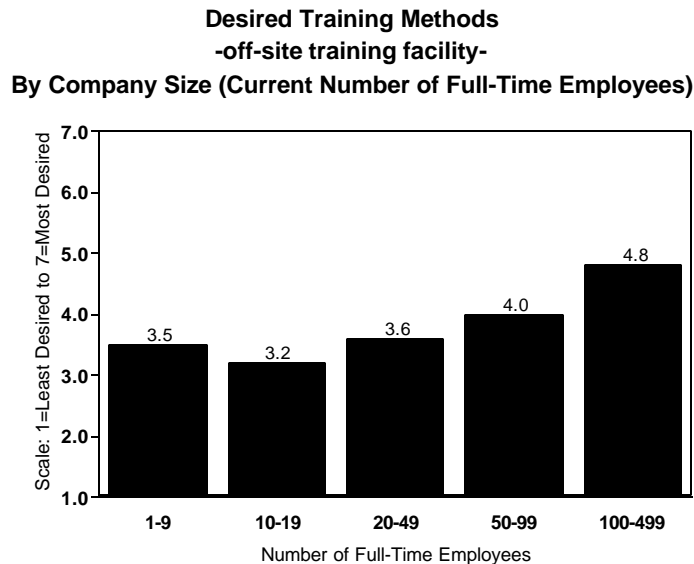
However, the importance of training manuals, which can also be used on-site, increases as company size increases (**Figure 26**). Perhaps this is a function of employees in smaller companies having less time to devote to reading technical manuals.

Figure 26. Desired Training Method by Company Size-Training Manuals



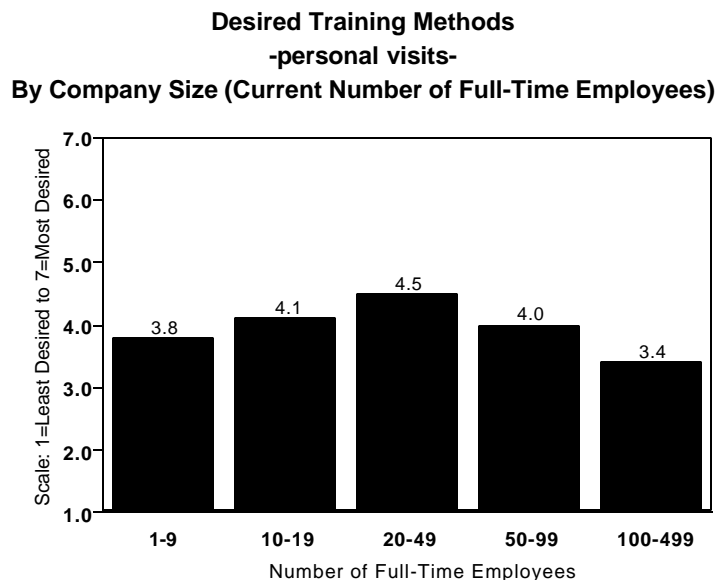
For all but the largest company size class (100-499 employees), off-site training ranked at or below the 4.0 neutral point (**Figure 27**). Once again, this is a function of ability of larger companies to allow employees to go off-site to train.

Figure 27. Desired Training Method by Company Size-Off-Site Training Facility



Personal visits, also on-site, were desired most by mid-size companies (10-19 employees and 20-49 employees) (**Figure 28**). Large companies had the least interest in this mode of training.

Figure 28. Desired Training Method by Company Size-Personal Visits



Short courses (**Figure 29**) and newsletter/videos (**Figure 30**) are both more preferred by larger companies of 50 employees or more. Respondents, regardless of company size class, indicated a mean score above 4.0 (neutral) for any of the remaining training options (magazine articles (**Figure 31**), correspondence courses (**Figure 32**), electronically (**Figure 33**) and national conferences (**Figure 34**).

Figure 29. Desired Training Method by Company Size-Short Courses

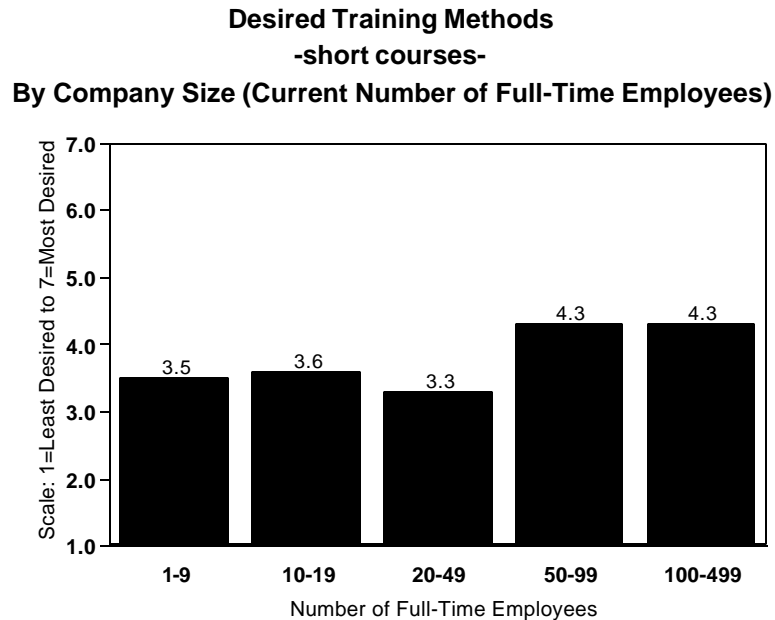


Figure 30. Desired Training Method by Company Size-Newsletters/Videos

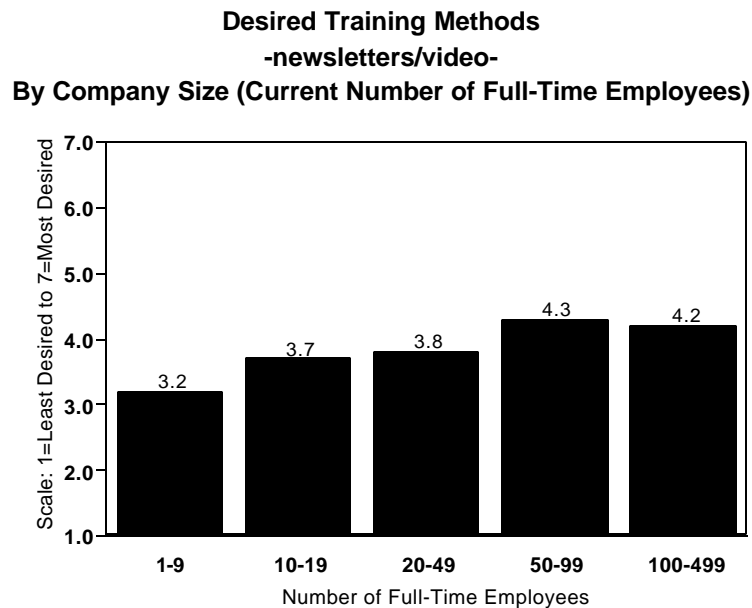


Figure 31. Desired Training Method by Company Size-Magazine Articles

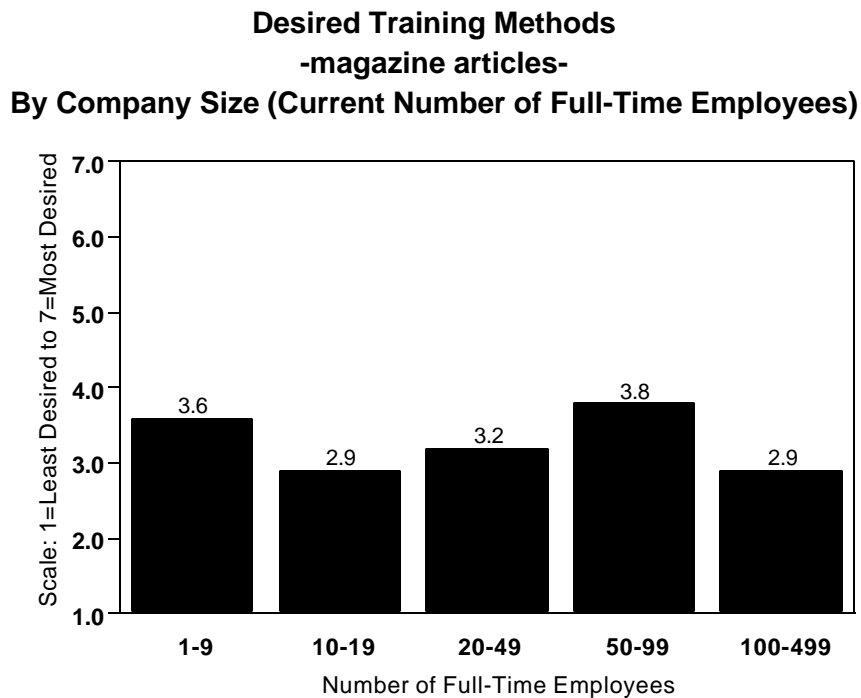


Figure 32. Desired Training Method by Company Size-Correspondence Courses

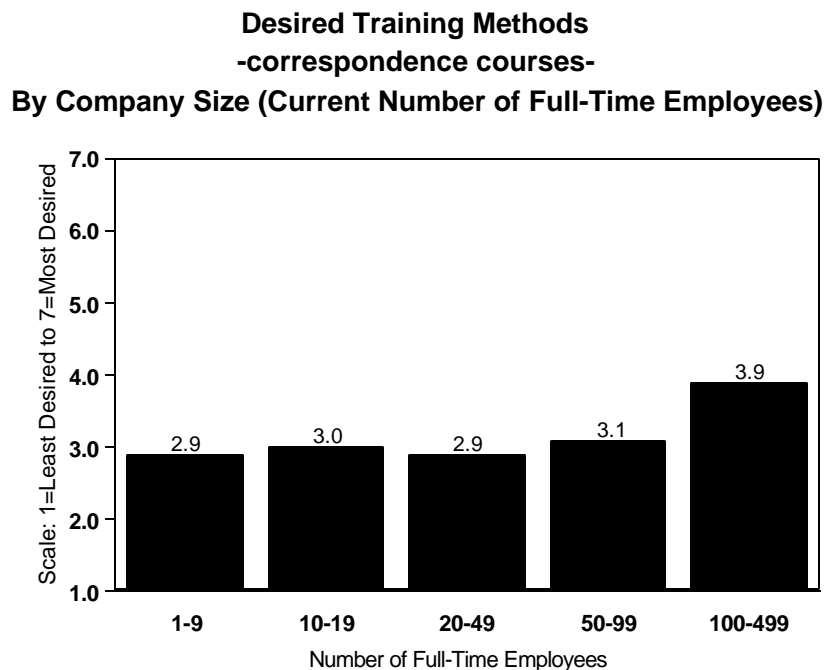


Figure 33. Desired Training Method by Company Size-Electronically

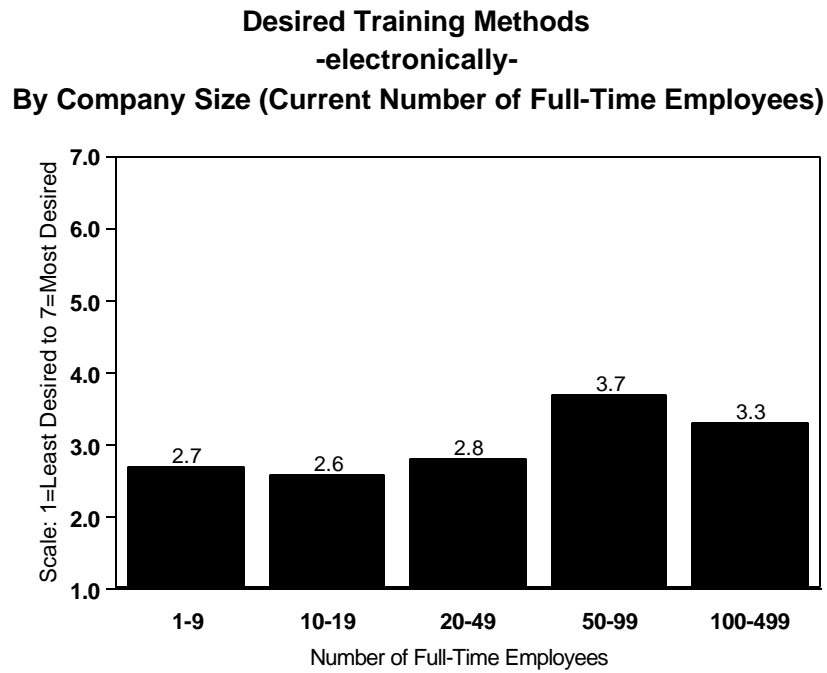
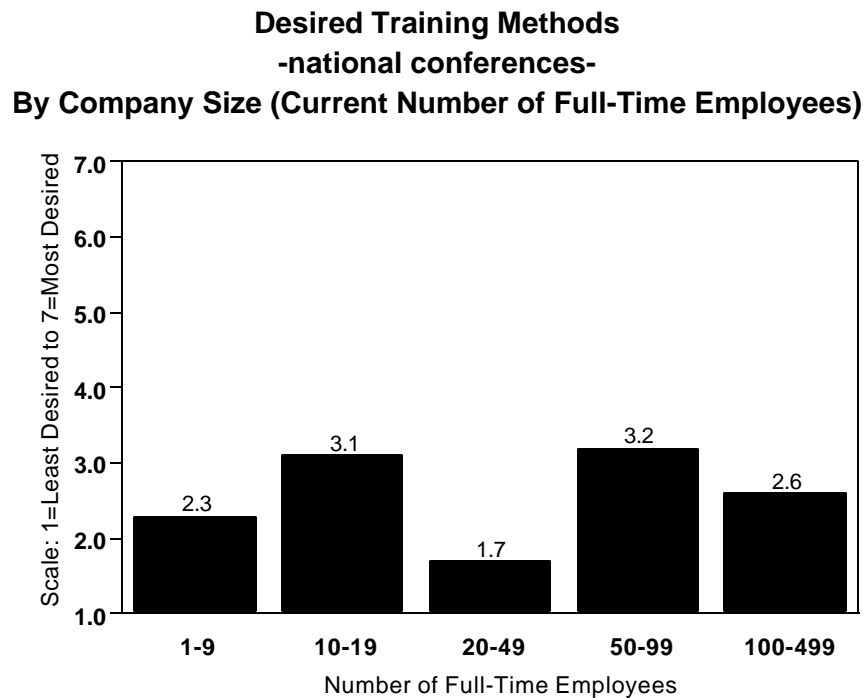


Figure 34. Desired Training Method by Company Size-National Conferences



Appropriate Entity to Conduct Training

There are many different ways to deliver employee training in the secondary wood products industry. In the State of Louisiana, in addition to many traditional training entities, the Louisiana Forest Products Laboratory (LFPL) and the Louisiana Cooperative Extension Service (LCES) exist to disseminate information to this industry. Both are units under the Louisiana State University Agricultural Center in Baton Rouge. On a scale of 1 (least appropriate entity to do training) to 5 (most appropriate entity to train), respondents indicated that industry experts were most appropriate (**Table 6**). Second ranked is the Louisiana vocational-technical system, third are equipment manufacturers and fourth are community colleges. The rest of the entities evaluated all received average scores below 3.0 or neutral. Least appropriate is the Louisiana Cooperative Extension Service just after the Louisiana Forest Products Laboratory. This is not surprising since the mission of the LCES is to disseminate information generated from research conducted at Louisiana State University while the LFPL mission is to conduct research.

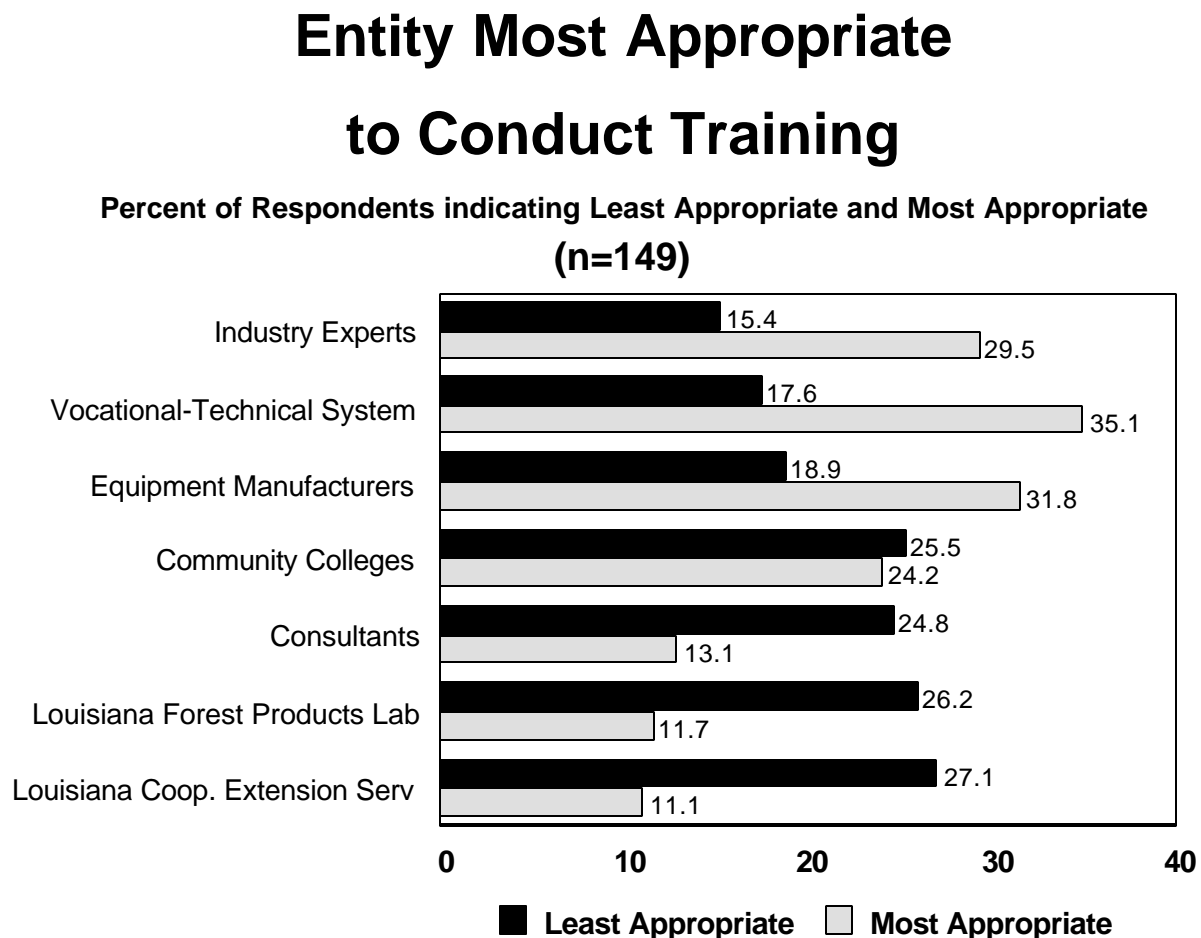
Table 6. Appropriate Entities to Conduct Employee Training

Ranked from Most Appropriate to Least Appropriate
Scale: 1=Least Appropriate to 5= Most Appropriate

	N	Mean
Industry Experts	149	3.51
Vocational-Technical System	148	3.50
Equipment Manufacturers	148	3.47
Community Colleges	149	3.07
Consultants	145	2.86
Louisiana Forest Products Laboratory	145	2.80
Louisiana Cooperative Extension Service	144	2.74

In another way to look at appropriateness of various entities to do the training, **Figure 35** shows the percentage of respondents that stated each entity was “most appropriate” (1 on a 5-point scale) or “least appropriate” (5 on a 5-point scale). This information can help further segment training to reach the correct audiences. For example, although the LCES and LFPL were ranked low overall, over 11 percent of respondents felt that they were the most appropriate entities to conduct training.

Figure 35. Respondents Indicating Least Appropriate and Most Appropriate Entities to Conduct Training

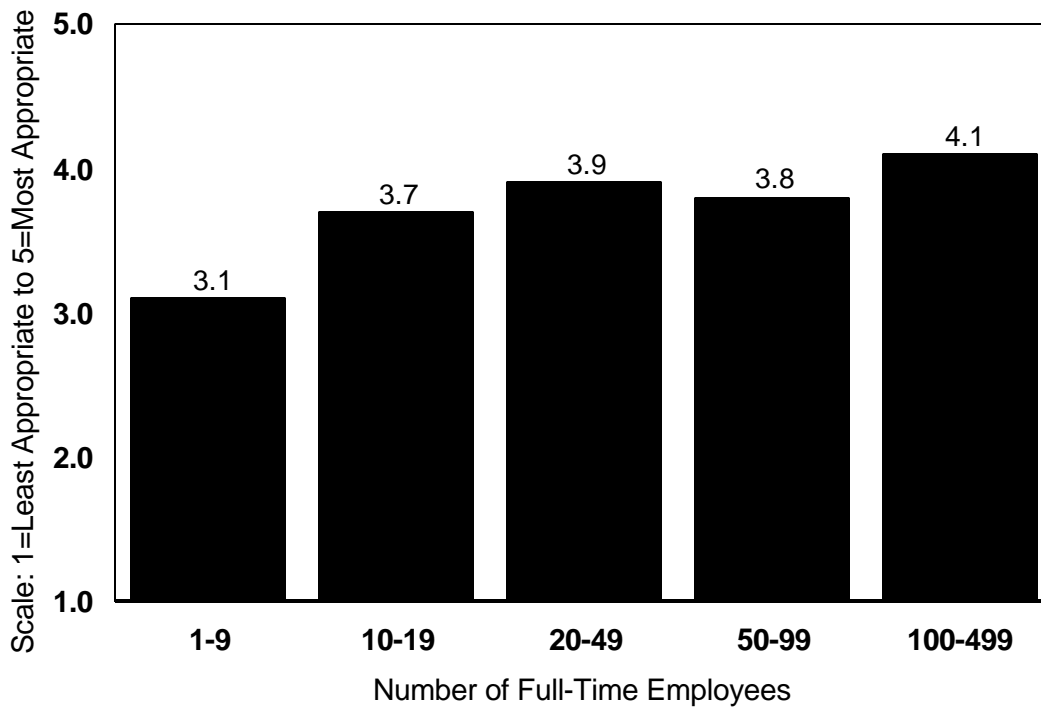


Appropriate Entity to Conduct Training by Company Size

Respondent perceptions of which entities were best suited to train value-added forest products employees were further broken down by company size. **Figure 36** shows that there is a positive correlation between company size and the appropriateness for industry experts to provide training.

Figure 36. Appropriate Entity to Train by Company Size-Industry Experts

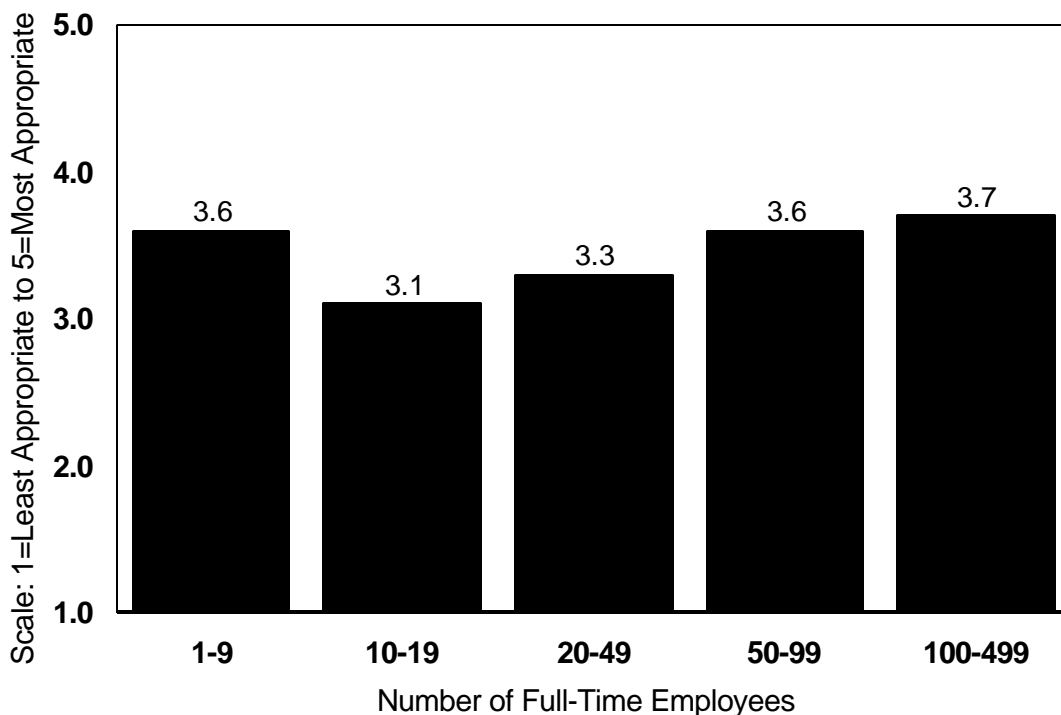
Appropriate Entity to Train -Industry Experts- By Company Size (Current Number of Full-Time Employees)



Companies in the smallest size class (1-9 employees) and largest size classes (50 employees and above) felt that the vocational/technical system in Louisiana could provide appropriate training (**Figure 37**). This was found to be primarily in the basic woodworking skills and remedial training areas.

Figure 37. Appropriate Entity to Train by Company Size-Vocational/Technical System

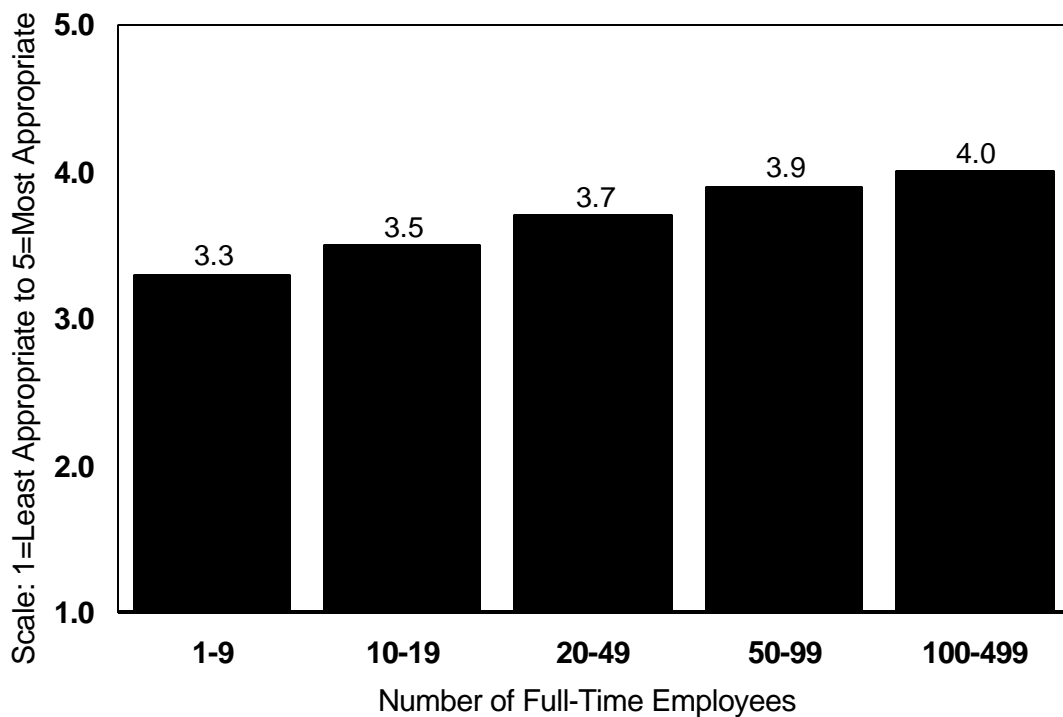
**Appropriate Entity to Train
-Vocational/Technical System-
By Company Size (Current Number of Full-Time Employees)**



As was the case with industry experts, there is a positive correlation between company size and appropriateness for equipment manufacturers to conduct training (**Figure 38**).

Figure 38. Appropriate Entity to Train by Company Size-Equipment Manufacturers

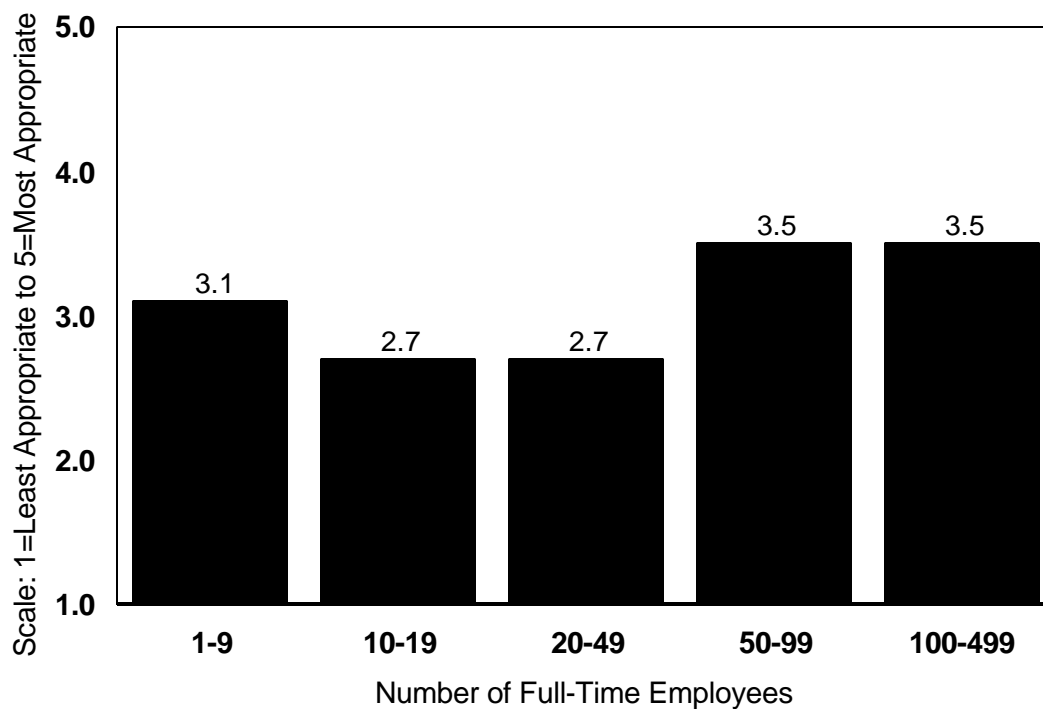
**Appropriate Entity to Train
-Equipment Manufacturers-
By Company Size (Current Number of Full-Time Employees)**



Community colleges were next ranked overall. In this case, respondents in the larger company size classes felt that there was a place for training in this venue (**Figure 39**). This was primarily in the areas of remedial and basic skills training.

Figure 39. Appropriate Entity to Train by Company Size-Community Colleges

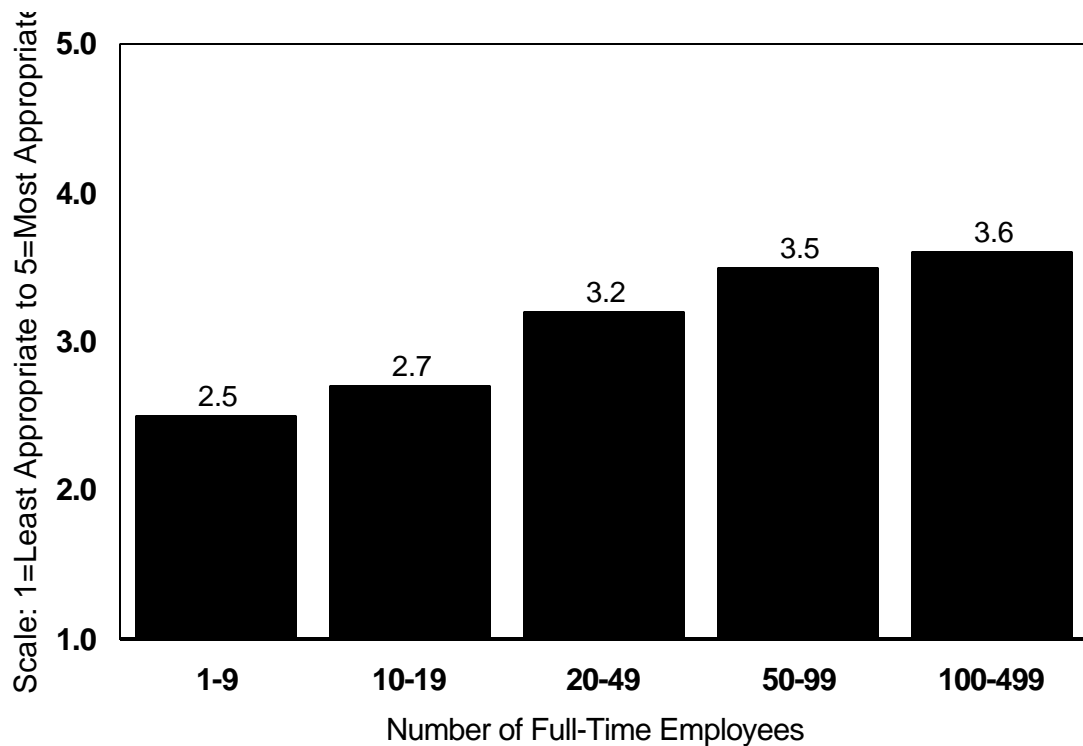
**Appropriate Entity to Train
-Community Colleges-
By Company Size (Current Number of Full-Time Employees)**



Consultants also have a role to play in employee training (**Figure 40**). The larger the company, the greater the ability to pay for consultant services. This is primarily in the area of skilled labor and management training.

Figure 40. Appropriate Entity to Train by Company Size-Consultants

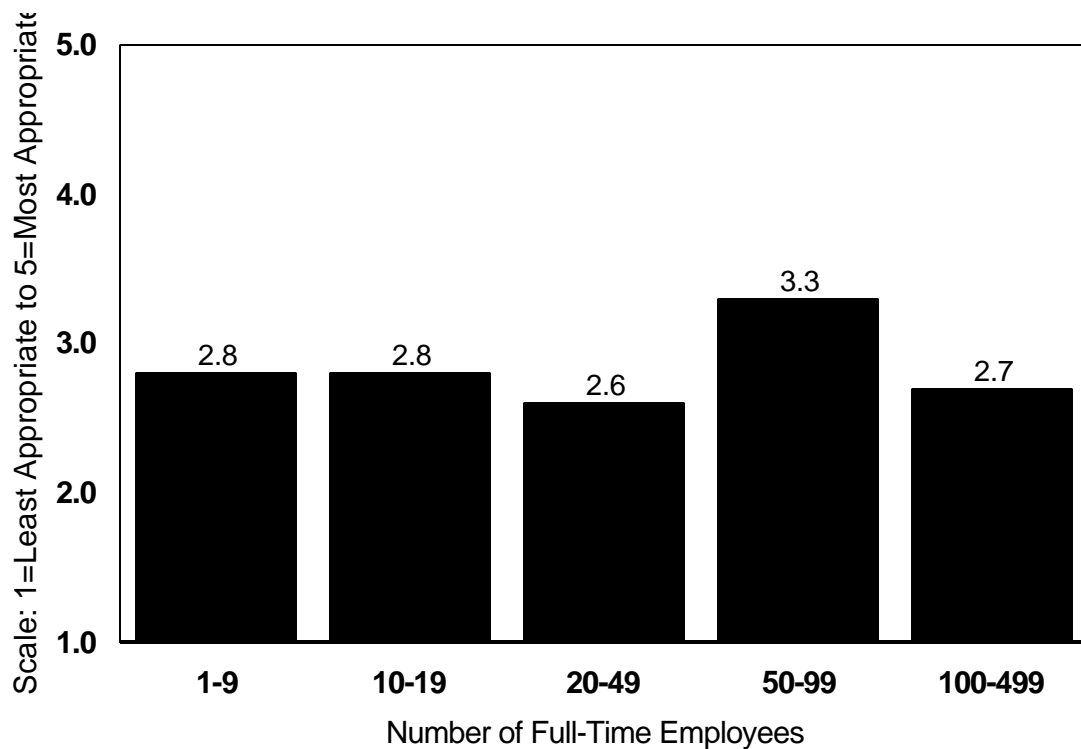
**Appropriate Entity to Train
-Consultants-
By Company Size (Current Number of Full-Time Employees)**



As mentioned earlier, although the Louisiana Forest Products Laboratory ranked second to last with regard to appropriateness of training, a number of companies thought that they would be “most appropriate” (**Figure 41**). This came primarily from the 50-99 employee class. The LFPL primary mission is research, but it has successfully given many successful workshops in lumber drying, wood properties, etc.

Figure 41. Appropriate Entity to Train by Company Size-Louisiana Forest Products Laboratory

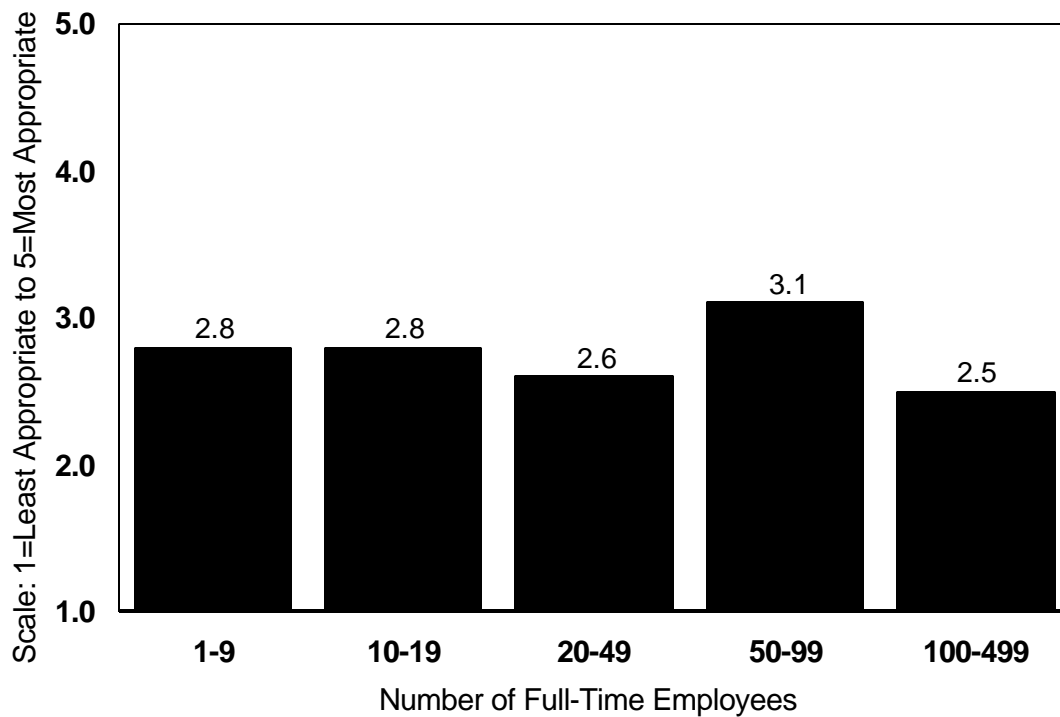
**Appropriate Entity to Train
-Louisiana Forest Products Laboratory-
By Company Size (Current Number of Full-Time Employees)**



A similar pattern exists for the Louisiana Cooperative Extension Service (**Figure 42**). As part of the LSU Agricultural Center, the Louisiana Cooperative Extension Service provides educational programs designed and implemented with one major focus--making a difference in people's lives by taking useful and practical information to those who need it most. County agents, home economists and 4-H agents have offices in each of the state's 64 parishes. The extension service was deemed "most appropriate" by 11.1 percent of respondents.

Figure 42. Appropriate Entity to Train by Company Size-Louisiana Cooperative Extension Service

**Appropriate Entity to Train
-Louisiana Cooperative Extension Service-
By Company Size (Current Number of Full-Time Employees)**



Equipment Currently Used

Equipment that secondary producers use is varied as seen in **Table 7**. This variation indicates that training programs must be tailored to the specific needs of the manufacturer. Although a generic core curriculum may be suitable to impart general skills, specialized training by industry sector is also required.

Table 7. Equipment Respondents Currently Have

• 56" Head Rig	• Drafting Equipment
• 6' Band saw/ Carriage	• Draw Knife
• 8x48 Gang Saw Shurman	• Dryer – Steam/ Natural Gas
• Air Compressors	• Edger
• Band Saw Mill	• Endmatcher
• Beam Saw-(non-CNC)	• Face Frame Clamp Table
• Beam Saw-(CNC)	• Face Frame Pocket Borer
• Biscuit Joiner	• Face Frame Press
• Blender	• Flaker
• Board Edger	• Former
• Boring Machine	• Froe
• Boxing Machine	• Gang
• CAD	• Gang Edger/ Board Edger
• CAE Waferizer	• Gang Saw-Double Arbor
• Carriage	• Gas Band Saw
• Chainsaw	• Glue-line
• Chip-n-Saw	• Hand Planes
• Chippers	• Head Component Cutter
• Chipping Canter	• Head Rig Saw
• Circle Head Rig	• Hi-speed Edgers
• Circle Saw	• Hi-speed Trimmers
• Circular Head Saw	• HMC Carriage
• Clary Saw	• Hot Press
• Computer Saws	• Hydraulic Loaders
• Conveyance	• Incising Equipment
• Counter Top Saws	• Lay-up Line
• Cut Off Saw	• Log Debarker
• Door Clamp Table	• Matchmaker
• Door Machine	• Material Handling
• Double End Trim	• Metal Lathe
• Double Miter	• Milling Machine
• Doucet End Matchers	• Miter Saw
• Dovetail Jointer	• Movable Saw Edger

Table 7. Equipment Respondents Currently Have (Continued)
• Multiple Saw Edger
• Multi-Spindle Drill Press
• Nail Guns
• Notcher
• Oscillating Spindle Sander
• Palm Sander
• Pre-press
• Profile Grinder
• Saw Filer
• Sawmill
• Scragg Line
• Screening Operation
• Scroll Saw
• Sewing Machines
• Sharp Chain Saw
• Single End Tenoner
• Skill Drill
• Specialized Equipment
• Specialty Saws – T & G, Rough Tex, Grooving
• Spray Booths

• Steam Unit for Bending Moulding
• Strapping Machine
• Tape Edge Machine
• Tire Fork Lifts
• Tire Loaders
• Treating Plant
• Trim Saw
• Trimmer/ Package Maker
• Tub Borer
• Two-saw Edger
• U-Nail Machine
• Vacuum Press
• Vacuum System
• Veneer Clippers
• Veneer Dryers
• Veneer Lathe & Line
• Veneer Press
• Veneer Stackers
• Vertical Saw
• Web Cutter
• Welding Machine
• Wide Belt Sander
• Wood Chippers

Equipment Respondents Plan to Purchase

In addition to the existing machinery and tools that manufacturers currently have, **Table 8** lists the machinery respondents plan to purchase in the future. Once again, this can help identify areas for training new and existing employees.

Table 8. Equipment Respondents Plan to Purchase

• Automatic Finishing Line
• Automatic Profile Sanding
• Band Scragg Mill
• Board Edger
• Canter Machine
• Chipper
• Chop Saw
• CNC Panel Saw
• Curve Saw
• Cut Off Saw
• Double Infeed to Sharp Chain Line
• Double-end Trimmer or Cut Off
• Dry Veneer Stackers
• Dust (Sanding Booth)
• Dust Collection System
• Edger

• Gang Saw
• High Speed Veneer Press
• Log Debarker
• Material Handling
• Orbital Wide Belt Sander
• Point to Point
• Roll Off Trailer
• SCMI Single End Tenoner
• Shapers
• Straight Line Rip Saw
• Trimmer
• Vacuum Press
• Vacuum System
• Veneer Composer
• Veneer Press
• Wood Hog

Most Pressing Issues in Manufacturing Today

In this study, respondents were asked to list the most pressing issues they face in manufacturing today. **Table 9** shows that many of these issues have to do with labor, raw material procurement and production efficiency.

Table 9. Most Pressing Issues in Manufacturing Today

• Competition with companies who sell at low prices and lower quality
• Buying quality rough sawn wood (Advertising)
• Can't find employees to work that know what they need to know in cabinet shops
• Combining production speed and quality
• Competition – too many small and large shops doing inferior work
• Cost of timber
• Distance to materials suppliers, public understanding relation of quality & pricing
• Efficiency and speed in production
• Employee motivation
• EPA regulations and compliance
• Equipment maintenance and upgrade
• Financing
• Finding quality wood of right species/ widths
• Finding workers that some of the "lost art" ways depict having the knowledge for this type construction
• Finishing the jobs on time
• Getting the raw materials
• Good labor source, handling waste
• Improving my complement of tools and equipment
• Increasing shop output while absolutely maintaining high quality
• Keeping labor
• Keeping labor costs low
• Keeping personnel
• Labor motivation
• Lack of available, trainable labor
• Lack of labor force – skilled and unskilled

Table 9. Most Pressing Issues in Manufacturing Today (continued)

• Lack of qualified labor
• Locating quality old cypress at a reasonable price
• Managing time wisely
• Mechanics taking responsibility
• Money to expand production
• Not enough kiln capacity for the amount of production and sale I have now
• Personnel, cost of machinery
• Qualified help
• Qualified personnel that small businesses can afford to operate
• Quality of raw materials
• Refining processes and quality controls
• Rise in cost of materials
• Safety, workers compensation
• Skilled and conscientious labor
• Skilled employees
• Skilled labor and dependable labor
• The same all businesses will face! Flat money system, central banking, higher taxes, more regulations, budget deficits & inflation, degenerative labor pool
• Time allocation of production & installation
• Time: necessary amount of man hours to complete a piece which was commonplace not so long ago
• To locate/ train & retain good labor
• Competitive pricing
• Employee problems (bad attitudes, sickness)
• Employee training, motivation, ethics & understanding importance of scheduling
• Environmental concerns within industry, adequate labor force
• Finding & keeping good people
• Increase efficiency in process as work increases
• Keeping up w/ demand & quality control
• Knowledgeable staff to operate complicated machinery
• Not enough capable work force
• Putting out work in a timely, costly fashion
• Qualified skilled personnel
• Raw materials availability
• Raw materials cost too high
• Skilled and unskilled employees
• Unskilled workforce, lack of training procedures and manuals

Most Pressing Issues in Manufacturing in 5 Years

Projected manufacturing issues are similar to those currently faced by the industry (**Table 10**).

Table 10. Most Pressing Issues in Manufacturing in 5 Years

- Availability of raw material
- Competition – too many small & large shops doing inferior work
- Distance to materials suppliers, public understanding relation of quality & pricing
- Enough space
- EPA regs & compliance, increased competition, price & difficulty sourcing raw product
- Equipment purchases
- Finding quality wood of right species/ widths
- Having enough workers
- Labor & pricing
- Lack of labor force (skilled and unskilled)
- Lack of qualified labor – probably worse
- More attention should be given in grading lumber for quality (Advertising)
- Probably the lack of skilled employees
- Quality control
- Quality raw material (wood)
- Skilled labor, quality saw logs
- Staying cost effective with innovations
- Streamlining my product line & having the machinery to maximize production
- Time allocation of production & installation
- Train & retain good labor
- Unskilled workers
- Wood availability
- Color of our natural southern oak! Big disadvantage on flooring
- Competitive pricing
- Educated workforce
- Finding & keeping good people
- Increase organizational ability to increase efficiency (ongoing problem)
- Knowledgeable staff to operate complicated machinery
- Labor force
- Not enough capable workforce
- Shortage of hardwood
- Skilled personnel
- Unskilled workers

Most Pressing Issues in Marketing Today

Respondents also listed the most pressing issues they currently face in the area of marketing (**Table 11**). Competition, pricing and customer education are often-cited issues.

Table 11. Most Pressing Issues in Marketing Today

- Advertising and competition with companies who sell at low prices & can do this (Their quality is not the same)
- Allocating proper funds, which media source
- Buying quality rough sawn wood (Advertising)
- Competition
- Competitive pricing, decision concerning Web page
- Completion of product in adequate time for customer needs
- Cost of promotion
- Cost of doing business! Insurance, taxes, interest (on money to operate)
- Creating new designs in our furniture, keeping up with the competition & their changes, stressing our quality
- Developing markets for new products
- Do not have a very broad customer base. Need to expand it more.
- Down trends in market – global, competition, increasing cost of trade shows, distribution problems
- Finding uses for waste materials – slabs – sawdust
- Educating general public – materials, craftsmanship, finishing
- Educating potential customers about high quality construction
- Educating potential customers, the general public, on what to look for & what it takes to produce a quality piece of furniture or stair construction
- Environmental issues
- Finding a market for handmade products
- Finding customers who know & want to pay for quality furniture
- Finding quality wood, raw materials
- Getting a fair price for my quality product
- Getting name recognition
- Having the time and not having capacity to fill large orders on a timely basis – do not know how much to charge for specialty products
- Internet marketing
- Lack of good work force
- Lack of time to market products
- Maximizing value from low quality timber
- Price of raw materials
- Profit
- Sales force organization
- Seasonal nature of sales
- Staying competitive with pricing
- Transportation costs

Most Pressing Issues in Marketing in 5 Years

Similarly to current marketing issues, competition and uncertainty of markets are concerns for respondents. As seen in **Table 12**, there are a multitude of issues that respondents foresee in the next five years.

Table 12. Most Pressing Issues in Marketing in 5 Years

- Advertising to the correct market target
- Allocating proper funds, which media source
- An effective source of employees
- Anticipate increase in foreign built antique reproductions will reduce custom market – decline in sales and pricing
- Availability & cost of fine woods
- Being able to change with the market
- Being more open to varying uses of our products
- Better educated consumers will hopefully create demand for better constructed wood products
- Changing product line, finding new markets, identifying new products
- Changing to meet customer's needs
- Chasing the right market strategy
- Competing with substitutes
- Competition – several new plants being built over production
- Competition – too many small & large shops doing inferior work
- Competition for product use
- Competition from Asia & South America
- Competition from global manufacturers & cheaper pricing, easy access to markets by consumer via Internet will dilute marketing effectiveness
- Competition of molded products
- Competition, supply & demand
- Completion of product in adequate time
- Cost to produce our product
- Developing market share
- Developing new markets
- Diversification & identification of niche markets
- Economic conditions
- Educating customers
- Educating people on quality goods & services I've been in this business years & this has always been the catch With the NAFTA influx of cheap goods & the large home centers stop shopping from cabinets to stair kits, these will take a pretty substantial bite out of small shops
- Educating the public in the advantages of trusses
- Engineered wood products substitution
- Environmental issues
- Environmental issues
- Expanded territory w/ delivery time
- Export, promotion of our cypress lumber products

- Finances
- Finding & keeping good people
- Finding a reliable niche
- Getting new customers
- Getting the word out that I'm here, plus getting qualified apprentices
- Having good suppliers
- If ads by low priced chain stores continue, the general public will not know the difference between a maple finish table from scrap lumber and a true maple wood table!
- Imports – affect pricing, quality
- Increased pressure from Canadian and Brazilian imports Increased domestic volumes by large corporations as they improve recovery and production rates
- Increasing markets
- International markets, market exchange with northwest & northeast products
- Keeping up with demand
- Keeping viable markets during economic turmoil
- Lack of long range planning by customers
- Lincoln parish has the raw materials and the way to cut them At one time Broyhill Furniture was located close by Need furniture manufacturers
- Living with volume and price swings
- Location
- Looking for new innovative application for wood products
- Maintain customer satisfaction to maintain market share
- Meeting customer needs & changing within the customer's tolerance
- More flexibility
- Most likely computer technology issues (i.e. Internet marketing, etc)
- Much more lower grades of lumber expected (i.e. frame stock or pallet material) now at 0%, even with pre-sorting prior to receiving
- Over supply
- Price of raw materials
- Products & materials changing with the times
- Profit
- Putting our name out in the market & keeping good standing with customers
- Quality & pricing of competition
- Quality labor
- Relationships with raw product manufacturers
- Sales force
- The timber industry's ability to promote itself and products on a competitive basis with plastic and other composite products
- Training
- Volume of work
- Workers comp & insurance & EPA
- World economy

Table 13. Additional Comments From Respondents

Finally, respondents were offered the opportunity to comment on anything else related to this study (**Table 13**).

1. I am concerned that we are depleting our natural resource, hardwood tree, and we do not have adequate replanting to service growing need for hardwood not to mention the dependence of wildlife on this resource. I understand the trees shouldn't be cut within 100 feet of natural creeks and streams, but they are being decimated for the sake of pine timber for pulp.
2. As stated – costs to retain employees, after they are trained, jump from min. wage + \$1.00 - \$2.00 to at least \$10.00/ hr. – over \$12.50. I cannot reasonably afford for small business. They usually find work with large companies (i.e. Boise) where they can sit on their cans & still make \$15.00 - \$25.00/ hr!!
3. I am interested in an in-house training program developed similar to what is being done by east coast woodworkers wherein the apprentice pays for a 1 to 2 year training period in all aspects of operating a business.
4. The reason why value-added to wood in this state is so low is because the people of this state have not invested in capital equipment to do such because (1) this state" resources have been raped & monopolized & treated like a third world country and (2) the general populace is totally ignorant of our wood resources here. Most people don't even know we have premium cherry & white ash along with select grades of red oak!
5. There have been opportunities for growth for my company. I take what seems to be the correct steps to take advantage of those opportunities, but I seem to let it slip through my hands. Having someone to consult with on growing a business would be helpful to me.
6. It seems to me that the market has been flooded by "bottom line prices" at no thought to the product that must be used in order to lower those product prices. People forget about quality and strength. Many would and do accept inferior types of chopped up and glued back together dunnage pieces of wood which are really my throw aways in the form of particleboard, pressboard and chip board. I've always refused to use such products and plan to stay there if I starve.
7. Need more focus on "just getting started" or VERY small (one man now!) shops/ businesses.
8. Will spend what we need to get the training applicable. Largest problem we have is finding trainable people with a basic education and a work ethic.
9. Although I feel that all education is useful training should start in the 7th grade. That is where the spark of interest starts. A full vocational school should be available to all parishes at high school level. Industry cannot afford to train and pay a living wage at the same time. Along with training for a trade, business should also be taught (basic business). Note: I am a product of a vocational high school.
10. Strong aptitude testing in woodworking for people entering vocational-technical schools.
11. Efforts to focus state gov't. on current problems prohibiting growth of 2 degrees wood products in LA.
12. Apprenticeship programs? I'm a single furniture maker & would be willing to help train,

but no programs are available for willing apprentices.
13. One of my primary concerns is the difficulty in finding young people wanting or even knowing that they could make a career of woodworking. It also seems in general that custom woodworkers have a hard time getting fair pay for their skill and knowledge level compared to other trades (i.e. mechanics, plumbers, electricians, etc.). I think that if there was mandatory certification of our trade our pay scales would come up considerably!
14. I have many potential products that I do not know how to price or find the demand for them, specifically, unusual flooring – quarter sawn sycamore and unusual lumber/ lumber products that I am obtaining from local waterways (i.e. sinker pine, sinker cottonwood, sinker poplar, and other sinker logs that I have no idea what species they are).
15. Making use of waste products from milling operation.
16. Thank you for conducting this survey and realizing the importance of tabulating this data. Also, I realize some training could be generic, but our training and procedures are unique to our cabinetry. We are currently working to develop an in-house training program for our employees.
17. Certain areas require more expensive, long training. Other areas not very intense training.
18. I agree with your premises put forth in your cover letter. There is a critical need for basic to advanced training (on a selected basis). We do not possess a labor pool. This is more efficiently generated by industry. How do you attract industry. Help industry expand with the framework of an almost non-existing competitive economic development program. Our greatest need is an aggressive comprehensive economic development program (for all industry segments). We have the infrastructure in place with competent people. We need to put into their hands effective competitive programs. Please do not trip over my soap box!
19. High schools doing a lousy job of training non-college students (i.e. no job skills whatever). Community colleges or vo tech could do better at promoting skills necessary for forest products manufacturing.
20. Travel distance, time away from work, and dollars spent would apply only to skilled and management positions.

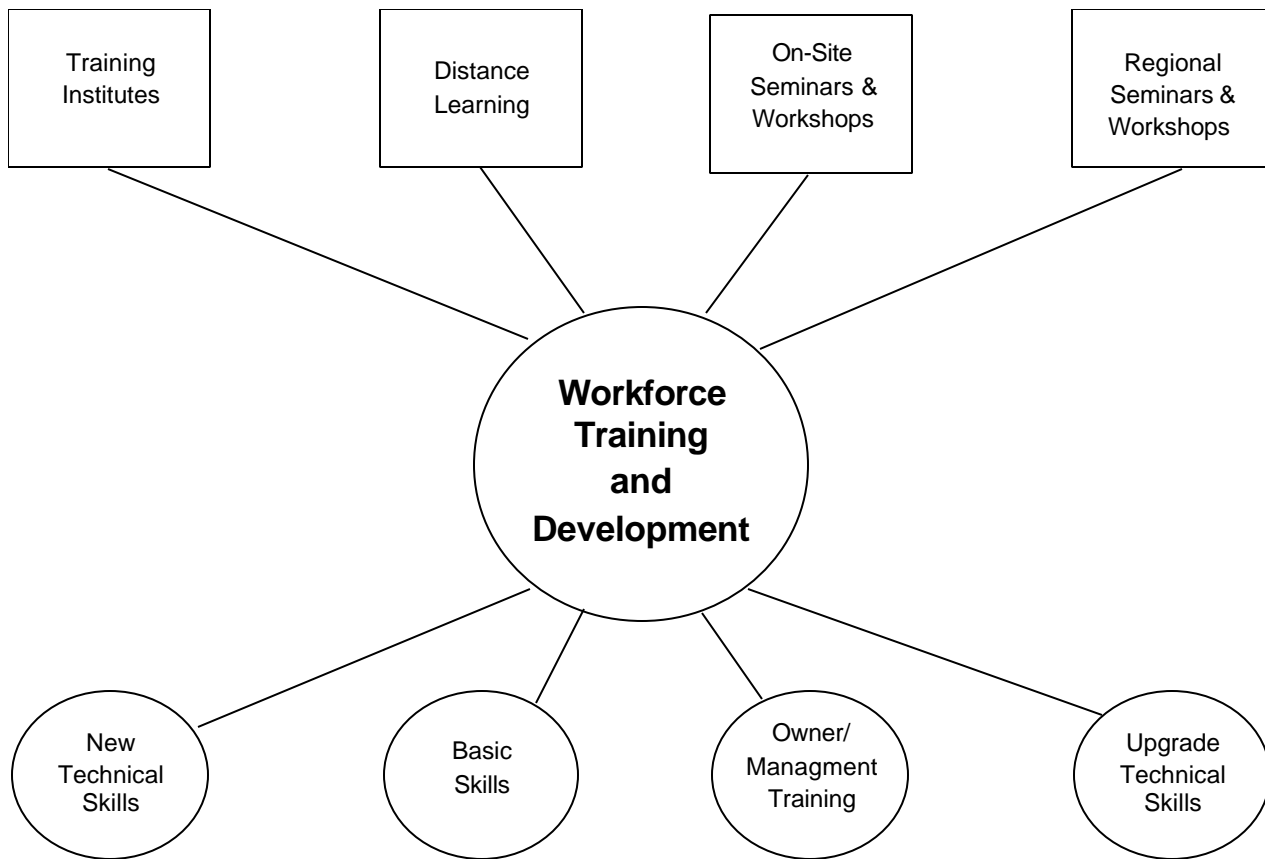
V. Summary and Recommendations

The value-added wood products industry in most states in the South are outpacing Louisiana in productivity and training for their employees. This study identifies the manufacturers perspective on training needs and issues in Louisiana.

This information can help policymakers craft programs targeting this industry. The information can also be useful to value-added wood products manufacturers by identifying needs and issues across the industry. Collectively, perhaps the industry can achieve what has not been possible to date, a strong and cohesive voice for training, development to ensure the viability of the industry.

The current educational system in Louisiana provides little in the way of work force training and development appropriate for the needs of the state's value added forest products industries. As a result, there is a major gap in Louisiana between the skills needed by today's value-added forest products industry sectors and the available labor to meet these needs. To help close this gap, manufacturers, potential training entities and policymakers alike must develop a coordinated plan of action. **Figure 43** indicates some of the components of such an industry training program.

Figure 43. Training and Development Structure



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VII. Researcher Biographical Sketches

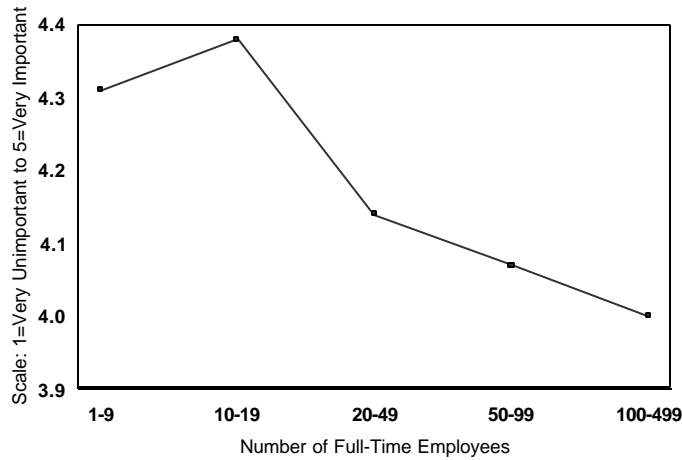
Dr. Richard Vlosky, Principal Investigator, is Associate Professor of Forest Products Marketing at the Louisiana Forest Products Laboratory, part of the Louisiana State University Agricultural Center in Baton Rouge. He received a Ph.D. in Wood Products Marketing at Penn State University, a Masters Degree in International Forest Products Trade from the University of Washington and a Bachelors Degree in Natural Resources and Forest Management from Colorado State University. His research at LSU includes domestic and international wood products marketing; technology applications to improve wood products business competitiveness; marketing applications to economic development; environmental marketing and value-added product opportunities. Dr. Vlosky has conducted 10 studies in forest sector value-added industry development. In addition, he was appointed by Governor Foster of Louisiana to co-chair a statewide task force on industry development. He has over 100 publications and 50 national and international public presentations. He has also received over \$300,000 in outside funding since 1994.

Mr. Chance received his Master of Business Administration degree from Southeastern Louisiana University in Hammond, La. He has attended LSU where he was involved in graduate studies in the LSU Forest Products Marketing program. While at LSU, Mr. Chance was heavily involved in forest based rural economic development research which led to the development of a comprehensive rural economic development research paradigm. He has been involved in rural and forest based economic development activities since 1986. Mr. Chance is heavily involved in community and educational development activities in rural Alabama where he now works. In addition, Mr. Chance has been employed in the forest products industry in a variety of managerial and technical assistant positions since 1989. He has co-authored numerous papers on the wood products industry and rural development and related subjects. In addition, Mr. Chance has served as administrator, principal investigator or co-principal investigator on numerous grant projects directed at rural economic and forest industry development.

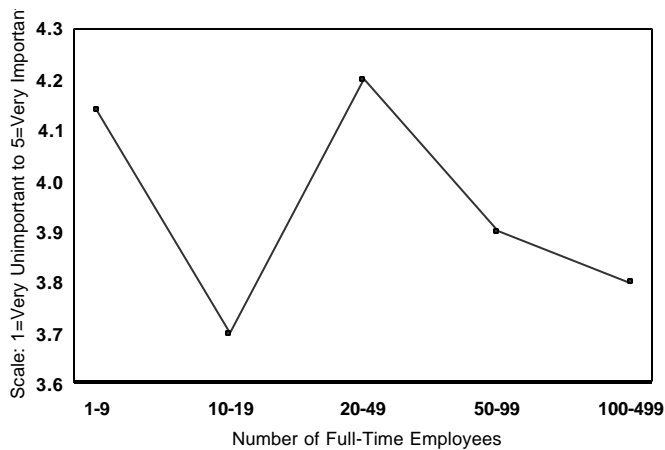
VIII. Appendices

Appendix I- Knowledge Desired by Company Size

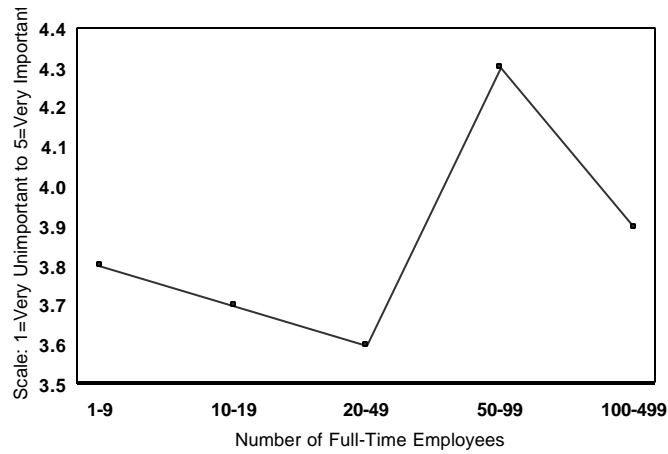
**Employee Knowledge Importance
-safety regulations-
By Company Size (Current Number of Full-Time Employees)**



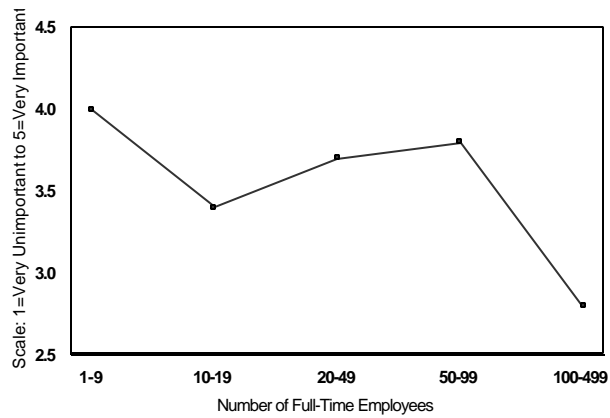
**Employee Knowledge Importance
-dealing with customers-
By Company Size (Current Number of Full-Time Employees)**



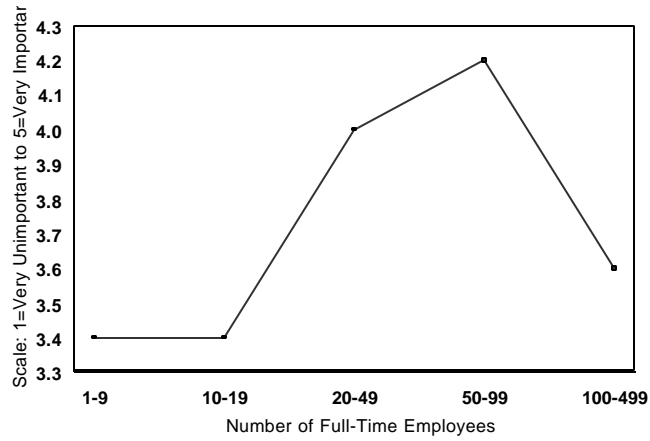
**Employee Knowledge Importance
-quality and process control-
By Company Size (Current Number of Full-Time Employees)**



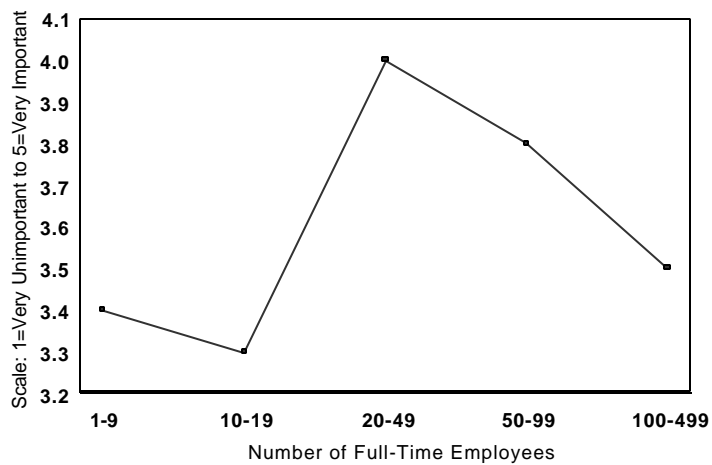
**Employee Knowledge Importance
-basic problem solving skills-
By Company Size (Current Number of Full-Time Employees)**



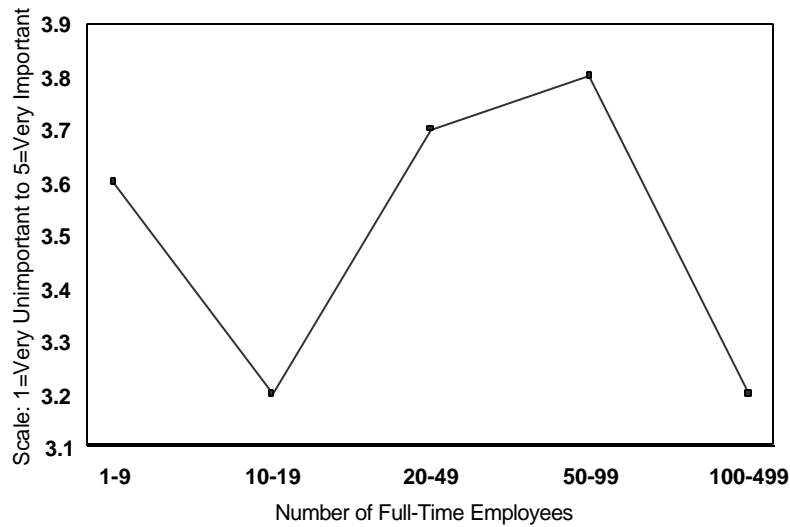
**Employee Knowledge Importance
-inventory control/production scheduling-
By Company Size (Current Number of Full-Time Employees)**



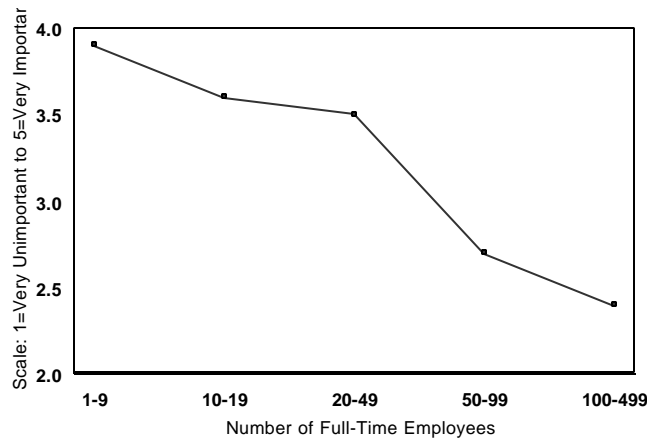
**Employee Knowledge Importance
-plant maintenance-
By Company Size (Current Number of Full-Time Employees)**



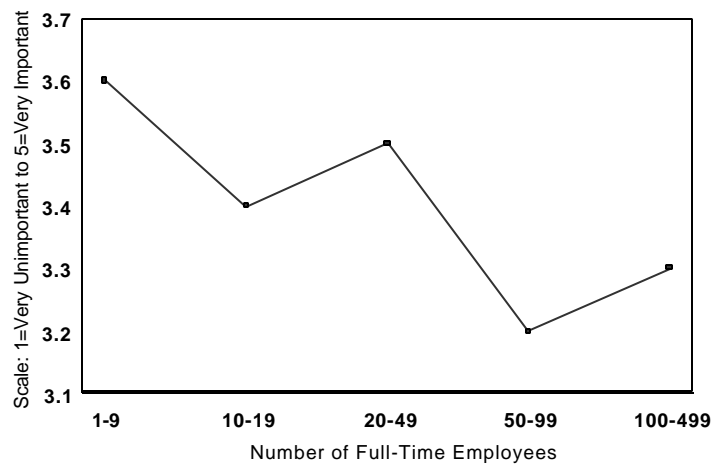
**Employee Knowledge Importance
-total quality management-
By Company Size (Current Number of Full-Time Employees)**



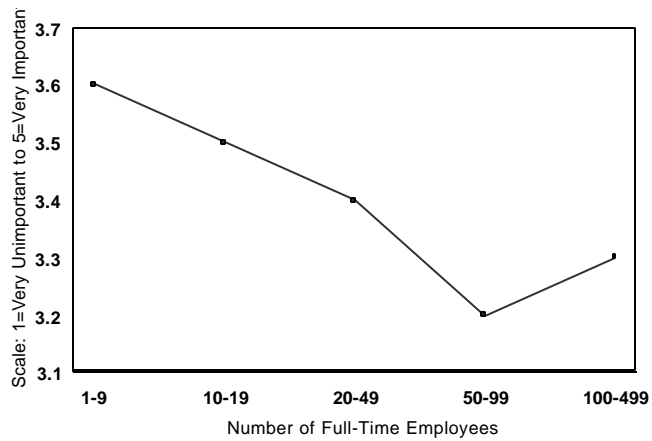
**Employee Knowledge Importance
-wood identification-
By Company Size (Current Number of Full-Time Employees)**



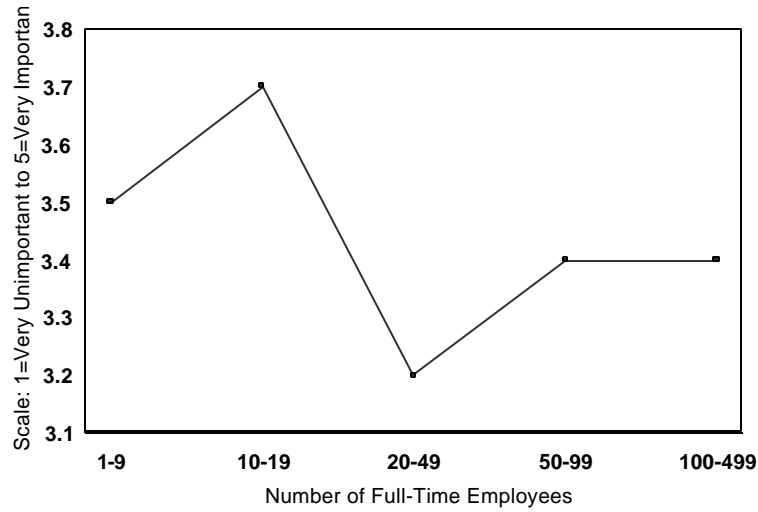
**Employee Knowledge Importance
-product improvement-
By Company Size (Current Number of Full-Time Employees)**



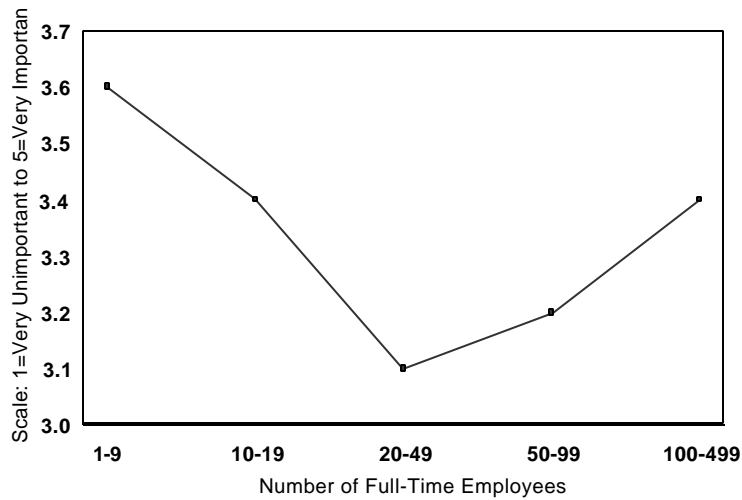
**Employee Knowledge Importance
-basic wood properties-
By Company Size (Current Number of Full-Time Employees)**



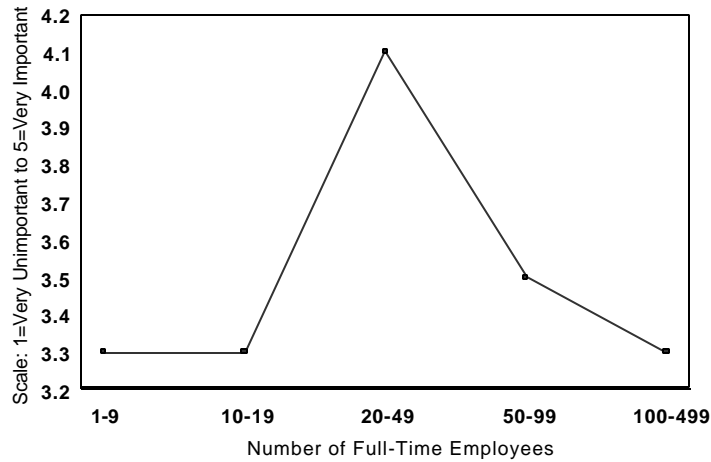
**Employee Knowledge Importance
-wood machining processes-
By Company Size (Current Number of Full-Time Employees)**



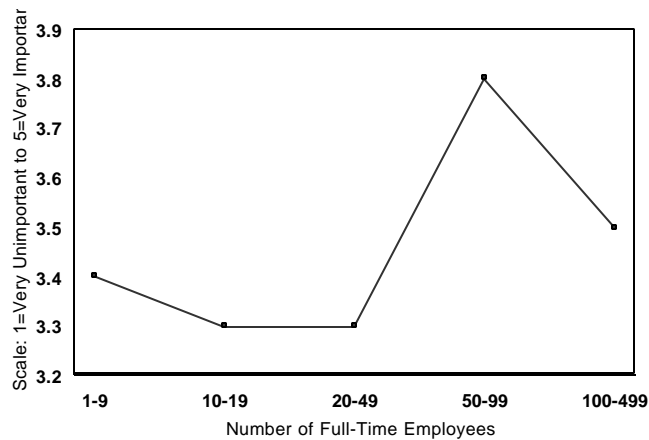
**Employee Knowledge Importance
-sawing/cutting technology-
By Company Size (Current Number of Full-Time Employees)**



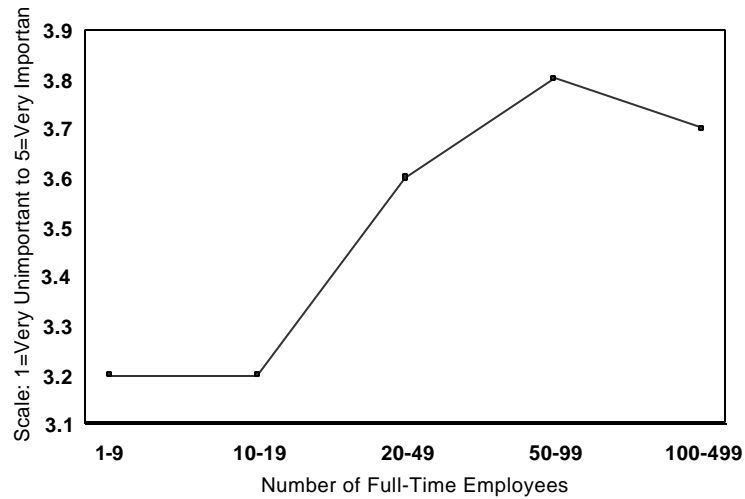
**Employee Knowledge Importance
-product pricing-
By Company Size (Current Number of Full-Time Employees)**



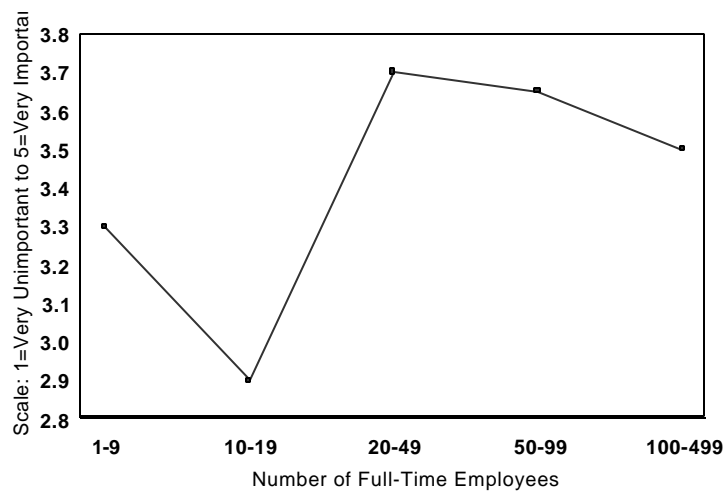
**Employee Knowledge Importance
-cost reduction-
By Company Size (Current Number of Full-Time Employees)**



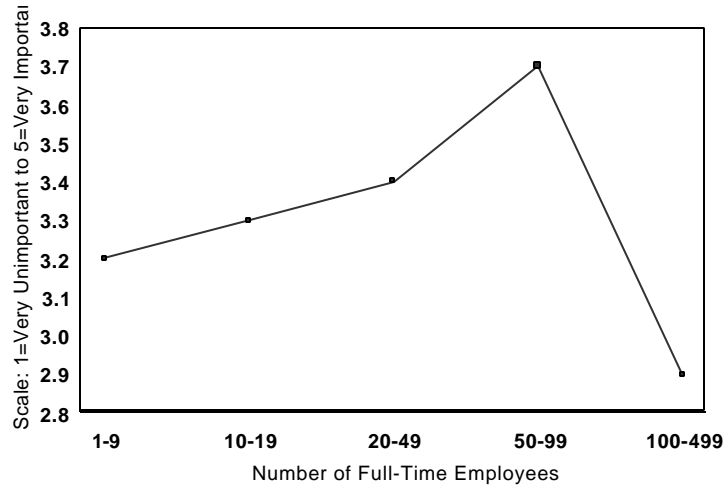
**Employee Knowledge Importance
-motivating personnel-
By Company Size (Current Number of Full-Time Employees)**



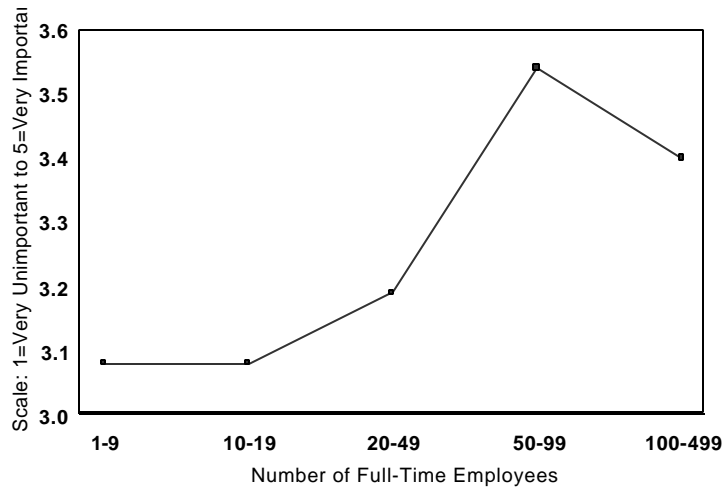
**Employee Knowledge Importance
-plant management and finance-
By Company Size (Current Number of Full-Time Employees)**



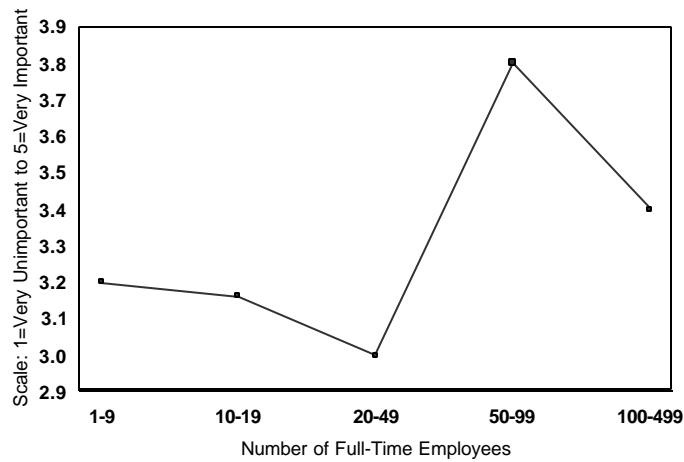
**Employee Knowledge Importance
-sales ability-
By Company Size (Current Number of Full-Time Employees)**



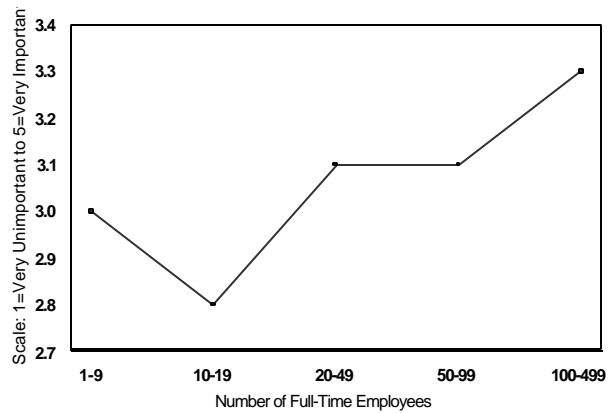
**Employee Knowledge Importance
-EPA/DEQ regulations-
By Company Size (Current Number of Full-Time Employees)**



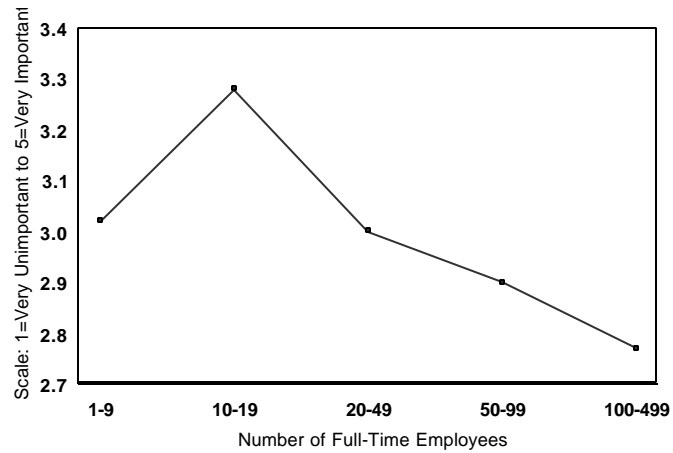
**Employee Knowledge Importance
-lumber grading-
By Company Size (Current Number of Full-Time Employees)**



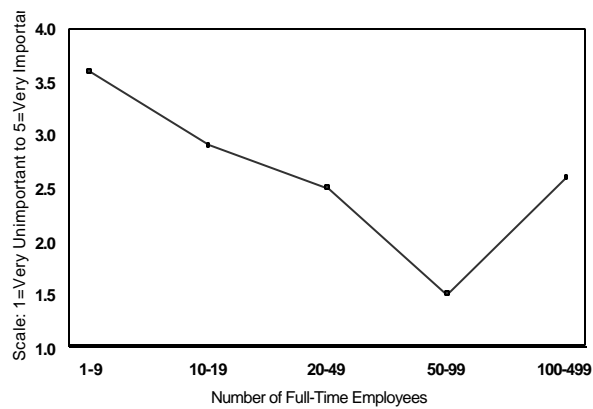
**Employee Knowledge Importance
-wood/water regulations-
By Company Size (Current Number of Full-Time Employees)**



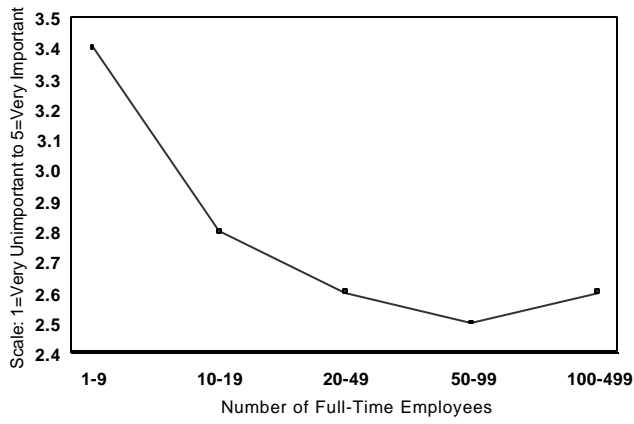
**Employee Knowledge Importance
-product promotion-
By Company Size (Current Number of Full-Time Employees)**



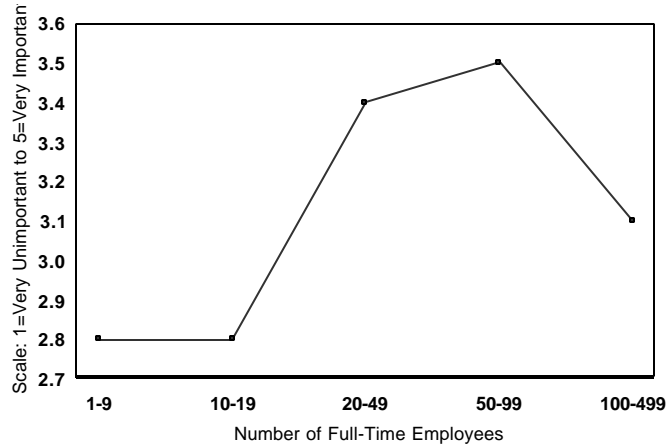
**Employee Knowledge Importance
-wood gluing-
By Company Size (Current Number of Full-Time Employees)**



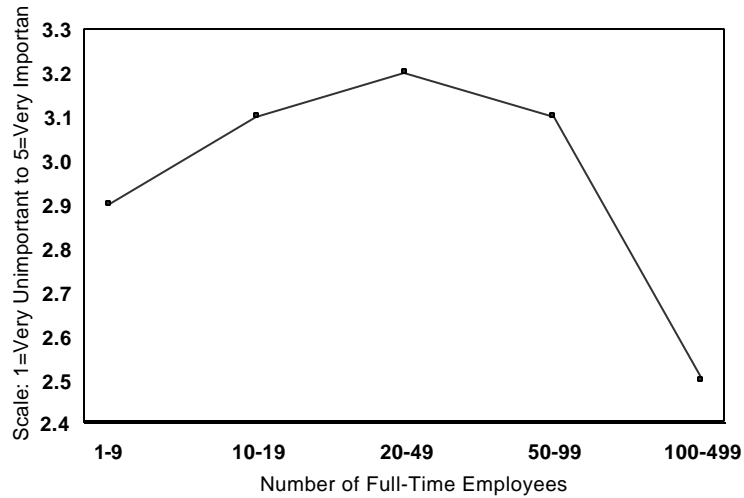
**Employee Knowledge Importance
-wood finishing-
By Company Size (Current Number of Full-Time Employees)**



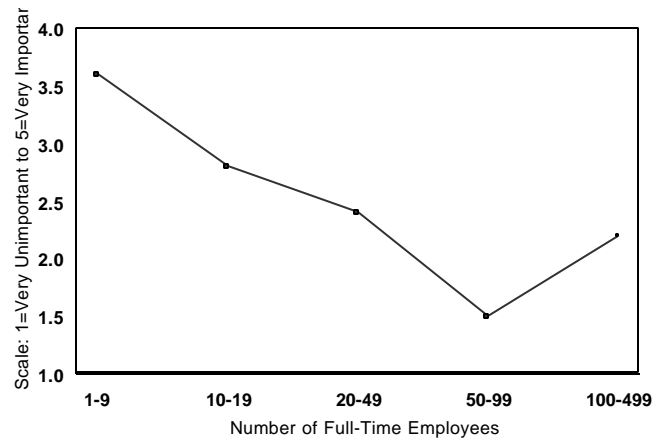
**Employee Knowledge Importance
-competitive positioning-
By Company Size (Current Number of Full-Time Employees)**



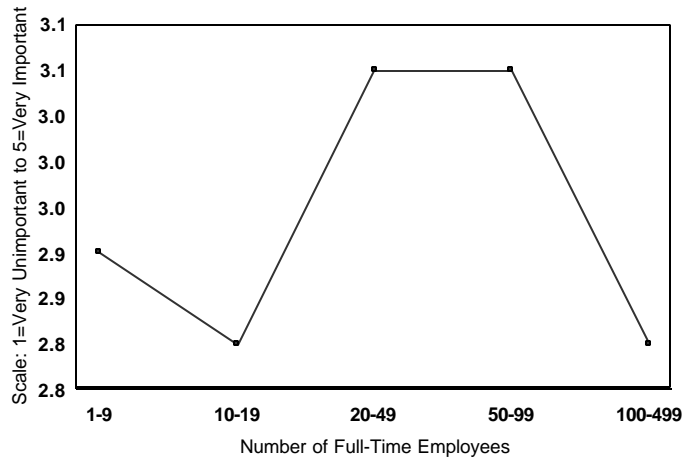
**Employee Knowledge Importance
-product distribution-
By Company Size (Current Number of Full-Time Employees)**



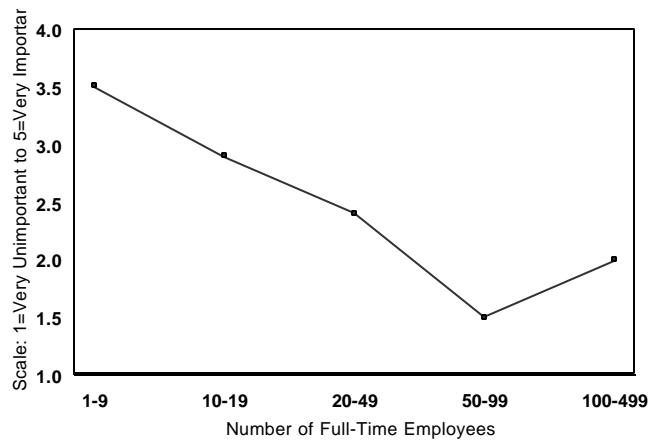
**Employee Knowledge Importance
-gluing/jointing-
By Company Size (Current Number of Full-Time Employees)**



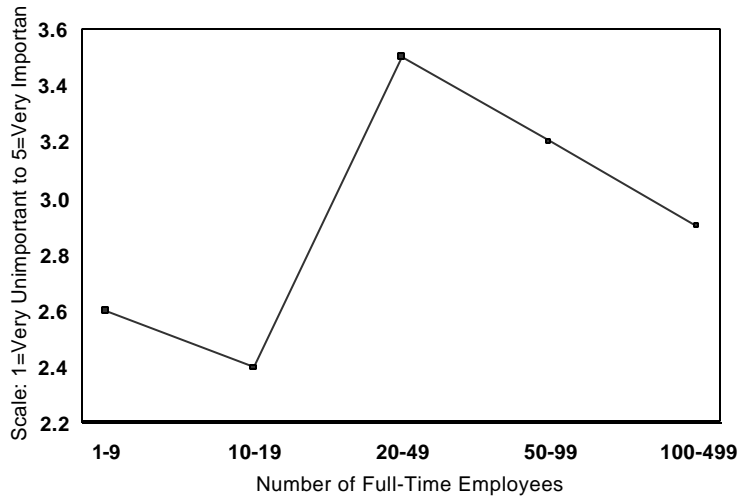
**Employee Knowledge Importance
-plant layout/design-
By Company Size (Current Number of Full-Time Employees)**



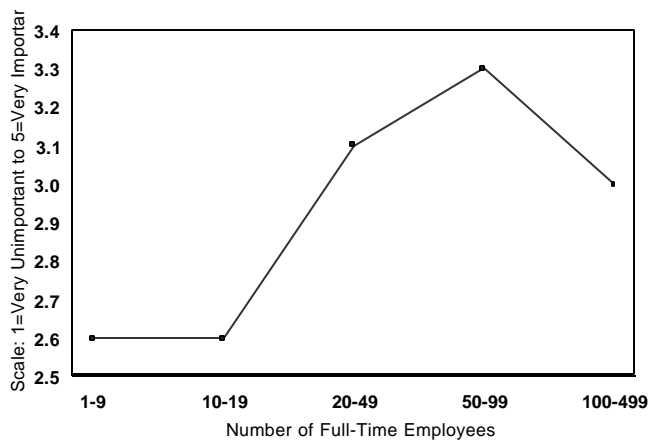
**Employee Knowledge Importance
-sanding/abrasives-
By Company Size (Current Number of Full-Time Employees)**



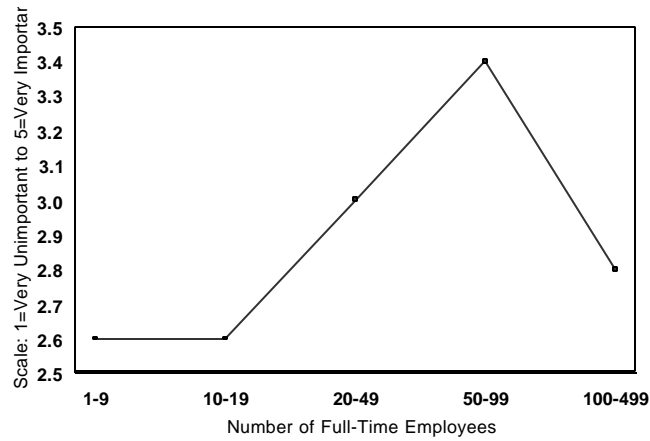
**Employee Knowledge Importance
-developing a business plan-
By Company Size (Current Number of Full-Time Employees)**



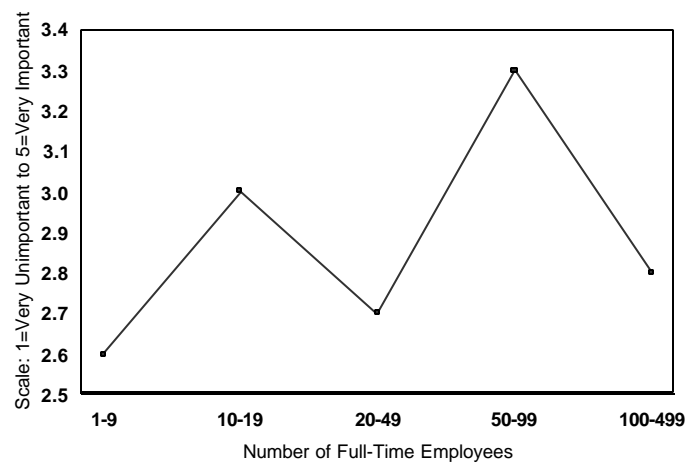
**Employee Knowledge Importance
-dealing with changing raw materials-
By Company Size (Current Number of Full-Time Employees)**



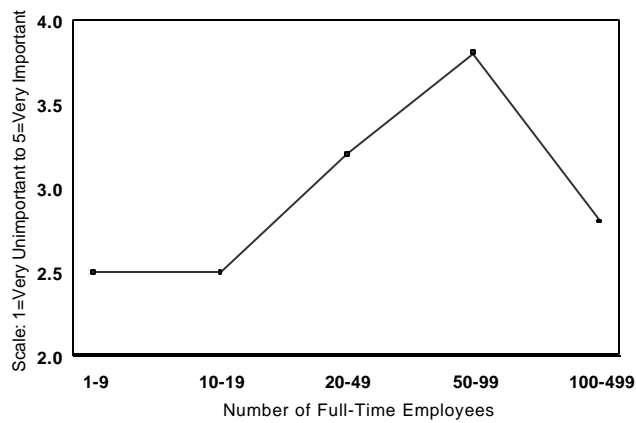
**Employee Knowledge Importance
-strategic market planning-
By Company Size (Current Number of Full-Time Employees)**



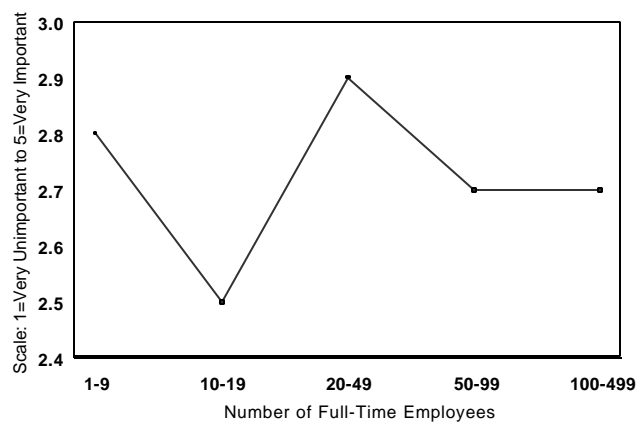
**Employee Knowledge Importance
-new product development-
By Company Size (Current Number of Full-Time Employees)**



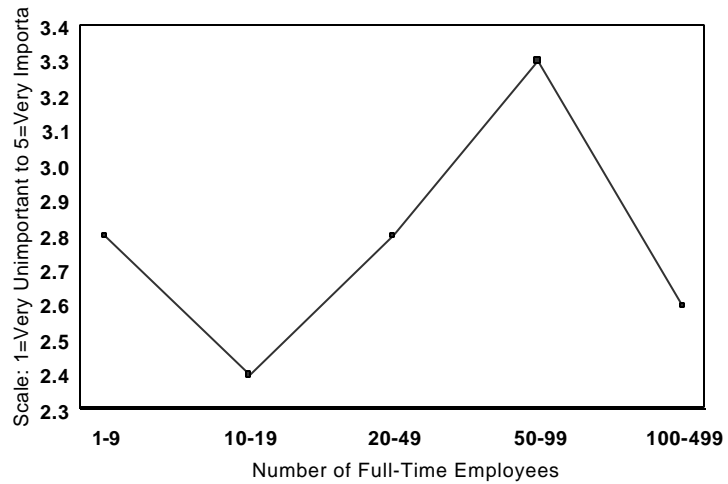
**Employee Knowledge Importance
-computer education-
By Company Size (Current Number of Full-Time Employees)**



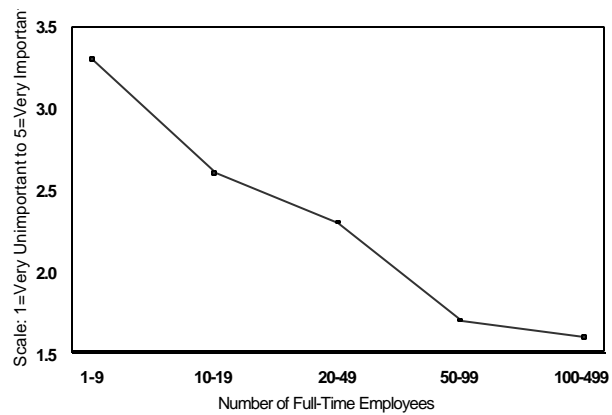
**Employee Knowledge Importance
-identifying new markets-
By Company Size (Current Number of Full-Time Employees)**



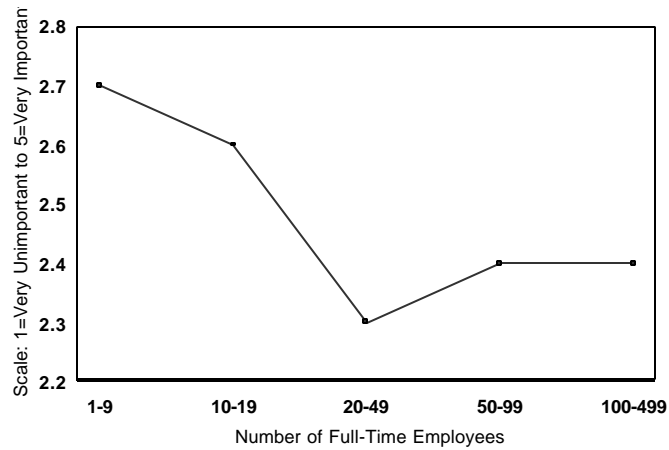
**Employee Knowledge Importance
-economics-
By Company Size (Current Number of Full-Time Employees)**



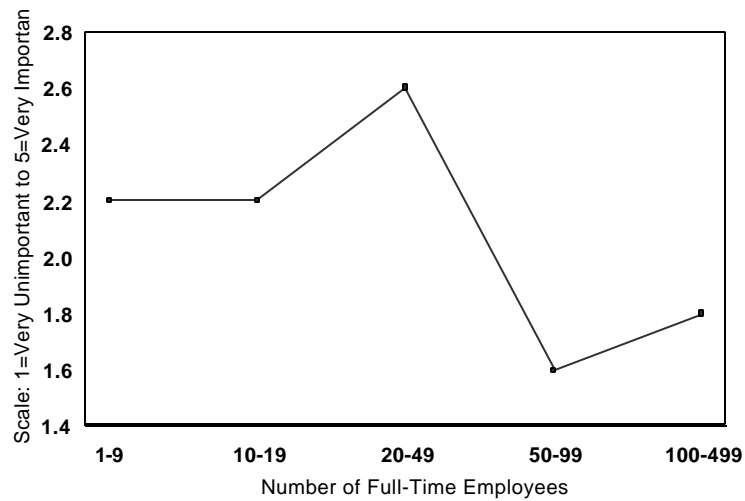
**Employee Knowledge Importance
-finishing and coating-
By Company Size (Current Number of Full-Time Employees)**



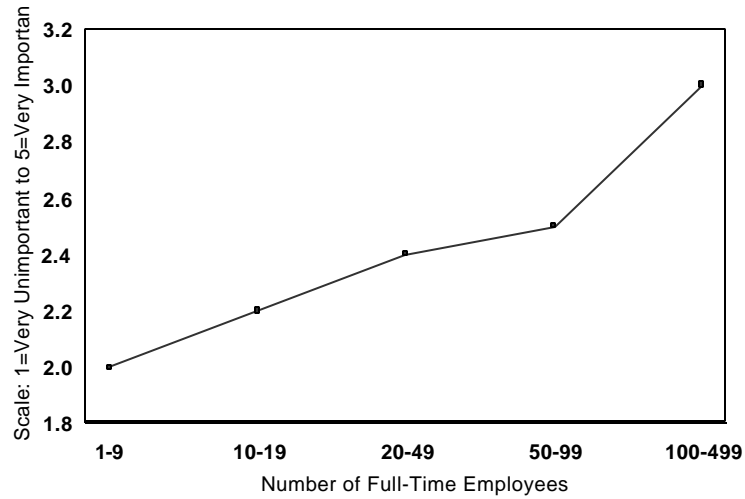
**Employee Knowledge Importance
-machine vision technology-
By Company Size (Current Number of Full-Time Employees)**



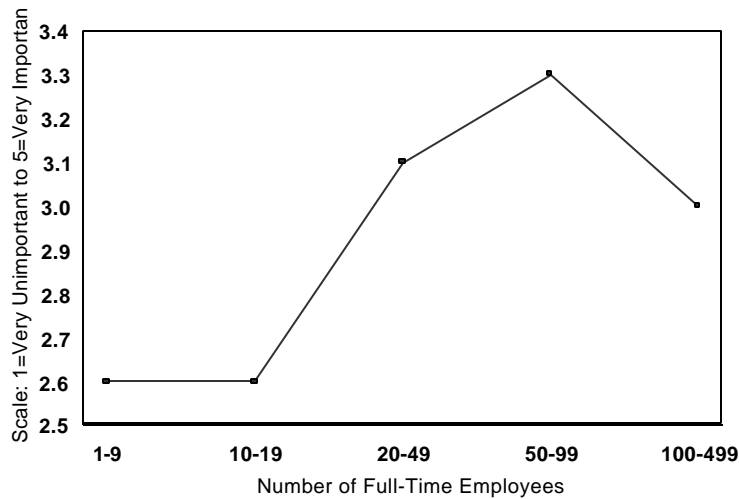
**Employee Knowledge Importance
-utilizing composite products-
By Company Size (Current Number of Full-Time Employees)**

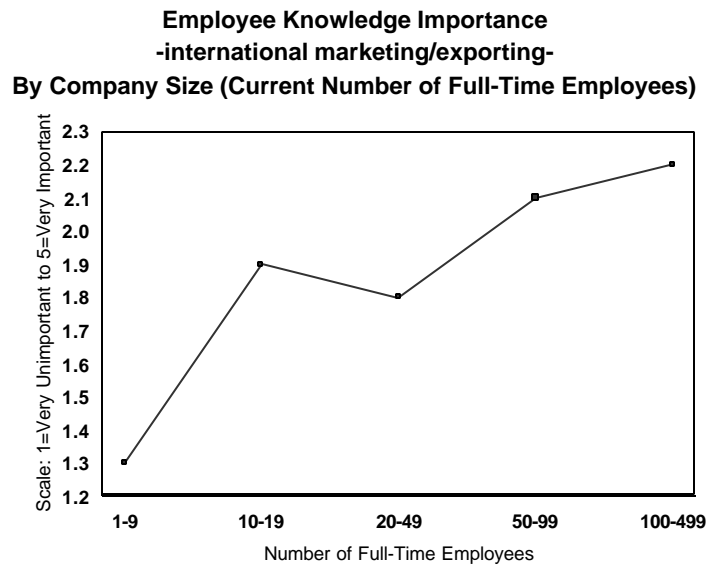


**Employee Knowledge Importance
-CAD/CAN/CNC-
By Company Size (Current Number of Full-Time Employees)**



**Employee Knowledge Importance
-green marketing/product certification-
By Company Size (Current Number of Full-Time Employees)**





Appendix II. Survey Instrument

LOUISIANA WOOD PRODUCTS INDUSTRY EMPLOYEE TRAINING AND DEVELOPMENT QUESTIONNAIRE

This survey is designed to collect information about employee training and equipment usage in the wood products industry in Louisiana. By completing this survey, you will receive key competitive information about this important emerging issue.

The survey is completely confidential and only summary information will be reported in study results. The number at the top of this survey is an identifier only that allows us to track when we receive your completed survey, ensuring that you do not receive subsequent surveys or phone calls.

A complimentary copy of the survey results will be sent to you as a token of our appreciation for completing the survey.

When you have completed the survey, please put it in the postage paid envelope and return to us.

Thank you.

Richard Vlosky
Associate Professor
Forest Products Marketing

→→ Responses need not be exact figures. Estimates or approximations are adequate. All responses are strictly confidential.

1. Please circle the number next to the one category that best describes your primary product line:

Hardwood lumber	Engineered wood (ie LVL)	Windows/Doors
Softwood lumber	Pulp/Paper	Factory Housing
Plywood	Veneer	Furniture
MDF	Pallets and Containers	Panel Products
Particleboard	Cabinets	Wood Preserving
Oriented Strandboard	Flooring	Molding & Millwork

Specialty Product (describe): _____

Other (describe): _____

2. Please indicate the parishes in Louisiana where your company has facilities.

3. Where do you obtain your wood-based raw materials? (Please estimate percentages by value or cost)

Total must equal 100%.

Within my parish..... ____%
Other parishes within Louisiana..... ____%
Other states within the United States..... ____%
From countries outside the United States.... ____%
Total 100%

4. Please mark the category which best describes your position within your company:

Owner Middle Management
 Upper Management Other: _____

5. How many full-time employees work at your company?

1-9 50-99
10-19 100-499
20-49 500+

6. How many part-time employees work at your company?

1-9 50-99
10-19 100-499
20-49 500+

7. Do you plan to increase your work force in 1999?

YES NO
If YES, by how many people _____?

8. Do you plan to increase your work force in the period 2000-2002?

YES NO
If YES, by how many people _____?

9. If you are not planning to add new employees, why not? (Please check all that apply)

Lack of markets
 Labor costs are too high
 Workmen's compensation
 Local taxes
 State taxes
 Can't find adequate labor
 Other: _____
 Other: _____

10. What are the best methods to meet your company's training needs? (Please rate each method on how important you feel it can meet your company's needs).

<u>Importance</u>	Least			Average			
	Most						
	Importance			Importance			
Personal visits	1	2	3	4	5	6	7
Telephone calls	1	2	3	4	5	6	7
Short Courses (off site)	1	2	3	4	5	6	7
Electronic transfer (FAX, e-mail, etc.)	1	2	3	4	5	6	7
Newsletters Videos	1	2	3	4	5	6	7
Training manuals	1	2	3	4	5	6	7
Magazine articles	1	2	3	4	5	6	7
National Conferences	1	2	3	4	5	6	7
In-House Training	1	2	3	4	5	6	7
Correspondence Course	1	2	3	4	5	6	7
At off-site training facility	1	2	3	4	5	6	7

11. Where are the majority of your products sold? (Please check one box only).

West

North/Central

South

Northeast

Export

12. Please rate each subject with regard to its importance to your company's success and the level of knowledge your personnel have in the subject area.

Knowledge	IMPORTANCE To Your Company					KNOWLEDGE Your Personnel Have of:				
	Low		High			Low		High		
	Importance		Importance			Knowledge		Knowledge		
Safety Regulations	1	2	3	4	5	1	2	3	4	5
Wood-Water Relationships (including drying)	1	2	3	4	5	1	2	3	4	5
New Product Development	1	2	3	4	5	1	2	3	4	5
Sales Abilities	1	2	3	4	5	1	2	3	4	5
EPA/DEQ Regulations	1	2	3	4	5	1	2	3	4	5
Product Promotion	1	2	3	4	5	1	2	3	4	5
Basic Wood Properties	1	2	3	4	5	1	2	3	4	5
Motivating Personnel	1	2	3	4	5	1	2	3	4	5
Inventory Control/ Production Scheduling	1	2	3	4	5	1	2	3	4	5
Lumber Grading	1	2	3	4	5	1	2	3	4	5
Quality & Process Control	1	2	3	4	5	1	2	3	4	5
Product Distribution	1	2	3	4	5	1	2	3	4	5
Product Pricing	1	2	3	4	5	1	2	3	4	5
Dealing with customers	1	2	3	4	5	1	2	3	4	5
Sanding/Abrasives	1	2	3	4	5	1	2	3	4	5
Plant Maintenance	1	2	3	4	5	1	2	3	4	5
Finding Market Information	1	2	3	4	5	1	2	3	4	5
Developing Business Plans	1	2	3	4	5	1	2	3	4	5
Utilizing Composite Products	1	2	3	4	5	1	2	3	4	5
Dealing with Changing Raw Materials	1	2	3	4	5	1	2	3	4	5
Green Marketing/ Product Certification	1	2	3	4	5	1	2	3	4	5
Finishing and Coating	1	2	3	4	5	1	2	3	4	5

12 (continued). Please rate each subject with regard to its importance to your company's success and the level of knowledge your personnel have in the subject area.

Knowledge	IMPORTANCE To Your Company					KNOWLEDGE Your Personnel Have of:				
	Low Importance				High Importance	Low Knowledge				High
Plant Management and Finance	1	2	3	4	5	1	2	3	4	5
Strategic Market Planning	1	2	3	4	5	1	2	3	4	5
Total Quality Management	1	2	3	4	5	1	2	3	4	5
Machine Vision Technology	1	2	3	4	5	1	2	3	4	5
Sawing/Cutting Technology	1	2	3	4	5	1	2	3	4	5
Identifying New Markets	1	2	3	4	5	1	2	3	4	5
Competitive Positioning	1	2	3	4	5	1	2	3	4	5
Gluing/Jointing	1	2	3	4	5	1	2	3	4	5
Basic Problem Solving Skills	1	2	3	4	5	1	2	3	4	5
CAD/CAM/CNC (Computer aided design, manufacturing and control).	1	2	3	4	5	1	2	3	4	5
International Marketing (Exporting)	1	2	3	4	5	1	2	3	4	5
Economics	1	2	3	4	5	1	2	3	4	5
Wood identification	1	2	3	4	5	1	2	3	4	5
Wood machining processes	1	2	3	4	5	1	2	3	4	5
Wood gluing	1	2	3	4	5	1	2	3	4	5
Product improvement	1	2	3	4	5	1	2	3	4	5
Cost reduction	1	2	3	4	5	1	2	3	4	5
Computer education	1	2	3	4	5	1	2	3	4	5
Plant layout/design	1	2	3	4	5	1	2	3	4	5
Wood finishing	1	2	3	4	5	1	2	3	4	5

13. Please check off all equipment you currently have in your facility.

- | | | |
|---|--|---|
| <input type="checkbox"/> Table saw | <input type="checkbox"/> Panel saw | <input type="checkbox"/> Bench sander |
| <input type="checkbox"/> Planer | <input type="checkbox"/> Single line rip saw | <input type="checkbox"/> Double end tenoner |
| <input type="checkbox"/> Band saw | <input type="checkbox"/> Scoring saw | <input type="checkbox"/> Kiln |
| <input type="checkbox"/> Router | <input type="checkbox"/> Edge bander | <input type="checkbox"/> Radio freq. dryer |
| <input type="checkbox"/> Radial arm saw | <input type="checkbox"/> Doweler | <input type="checkbox"/> CNC router |
| <input type="checkbox"/> Drill press | <input type="checkbox"/> Gang rip saw | <input type="checkbox"/> Edge sander |
| <input type="checkbox"/> Jointer | <input type="checkbox"/> Belt sander | <input type="checkbox"/> Mortis/tenoner |
| <input type="checkbox"/> Shaper | <input type="checkbox"/> Crosscut saw | <input type="checkbox"/> Pallet machine |
| <input type="checkbox"/> Lathe | <input type="checkbox"/> Drum sander | <input type="checkbox"/> Resaw |
| <input type="checkbox"/> Moulder | <input type="checkbox"/> Duplicating lathe | <input type="checkbox"/> Linebore machine |

Other _____

14. Please check off all equipment that you plan to purchase for your facility in the next year.

- | | | |
|---|--|---|
| <input type="checkbox"/> Table saw | <input type="checkbox"/> Panel saw | <input type="checkbox"/> Bench sander |
| <input type="checkbox"/> Planer | <input type="checkbox"/> Single line rip saw | <input type="checkbox"/> Double end tenoner |
| <input type="checkbox"/> Band saw | <input type="checkbox"/> Scoring saw | <input type="checkbox"/> Kiln |
| <input type="checkbox"/> Router | <input type="checkbox"/> Edge bander | <input type="checkbox"/> Radio freq. dryer |
| <input type="checkbox"/> Radial arm saw | <input type="checkbox"/> Doweler | <input type="checkbox"/> CNC router |
| <input type="checkbox"/> Drill press | <input type="checkbox"/> Gang rip saw | <input type="checkbox"/> Edge sander |
| <input type="checkbox"/> Jointer | <input type="checkbox"/> Belt sander | <input type="checkbox"/> Mortis/tenoner |
| <input type="checkbox"/> Shaper | <input type="checkbox"/> Crosscut saw | <input type="checkbox"/> Pallet machine |
| <input type="checkbox"/> Lathe | <input type="checkbox"/> Drum sander | <input type="checkbox"/> Resaw |
| <input type="checkbox"/> Moulder | <input type="checkbox"/> Duplicating lathe | <input type="checkbox"/> Linebore machine |

Other _____

Other _____

15. What are the greatest challenges your business faces today? What do you think they will be 5 years from now?

In Marketing Your Products	In Manufacturing Your Products
Now:	Now:
Five Years From Now:	Five Year From Now

16. Please indicate the need for employee training in your company for the following categories:

	Training Not Needed			Strong Need for Training	
Management	1	2	3	4	5
Skilled labor	1	2	3	4	5
Unskilled labor	1	2	3	4	5
Remedial education	1	2	3	4	5
Seasonal or Temporary Employees	1	2	3	4	5
Basic woodworking skills	1	2	3	4	5

17. How far would you be willing to have your employees travel to receive training? (Please circle appropriate response)

- | | |
|------------------------------------|---------------------|
| Would not allow travel to training | 26-50 miles |
| 0-10 miles | 51-100 miles |
| 11-25 miles | More than 100 miles |

18. How much time would you be willing to have your employees be away from the company location to receive training? (Please circle appropriate response)

- | | |
|-------------------------------|------------------|
| Would not allow any time away | 2-3 days |
| ½ day | A week |
| 1 day | More than a week |

19. What is the level appropriateness for the following entities to conduct employee training in your industry?

	Least Appropriate			Most Appropriate	
Louisiana Forest Products Laboratory	1	2	3	4	5
Louisiana Cooperative Extension Service	1	2	3	4	5
Industry Experts	1	2	3	4	5
Consultants	1	2	3	4	5
Equipment Manufacturers	1	2	3	4	5
Vocational-Technical System	1	2	3	4	5
Community Colleges	1	2	3	4	5

20. How much would you be willing to pay annually for each employee to receive training? (Please circle appropriate response)

- Would not be willing to pay for employee training
- \$0-\$25
- \$26-\$50
- \$51-\$100
- \$101-\$499
- \$500-\$999
- \$1,000 or more