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CUSTOM SHOP



a sense of orderliness

A new company culture of structured organization, work cells and reduced inventory replaces an outdated one.

By Brooke Baldwin Wisdom

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When Jim Wardlaw walked into Collegedale Casework three years ago, he saw the way things had been done there for the last 40 years. As the new CEO of the Collegedale, TN-based manufacturer of casework for laboratories, libraries and media centers, his challenge was to change that mindset.

Having recently retired from Coca Cola, Wardlaw had been asked to run the company by Collegedale Casework's owner since 1994, Summerfield K. Johnston, former chairman of the board of Coca Cola Enterprises. Wardlaw did not have a background in woodworking, but had plenty of business savvy from his years at Coca Cola.

"The company was doing things the way they had done them forty years ago," says Wardlaw. "There was very little computerization and a lot of disorganization. I knew I had to bring in people who had experience in the woodworking arena." To help change the company culture, Wardlaw contracted with Lignum Consulting in Charlotte, NC. He also brought in Frank Sesko as vice president of manufacturing and Sam George as vice president of finance to help facilitate the changes.



"Whenever you go and work with a new company and start to work with its culture, you first have to get to know the people," says Sesko. "You've also got to show them a better way of doing things. What's rewarding is when the people themselves start to play a role in the process. You're not dictating anymore. When I first came here, we were more of a top-down organization where people were basically told what to do. Now we're in the process of changing to a bottom-up type of situation where we're getting a lot of input from the people on the shop floor. We're trying to move very rapidly with our change so that's not always easy to do. We're working on putting people where they really need to be – working on their strengths and setting expectations for them – motivating them and developing them. We're trying to change the organization to more of a learning organization."

"We've been going through an evaluation of the workforce here and setting criteria," says Georg Frey, project engineer with

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Lignum Consulting about the 13 months he has been at Collegedale as a consultant. "Based on that, we chose in-house people and sent them to training courses. Because the organization training and personnel have been neglected in the past, there's still a lot of catching up to do. We are pushing the organization toward continuous education in various fields. We have brought technicians in to give people training on the machines here in house so employees are learning in a familiar environment. We also are pushing internal education like education in 5S, lean principles, etc. It's a long process, and you don't see results over night, but we are at the point where we can slowly but surely see the shift of the mindset of the people, which is very good indeed."

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Getting lean

The journey to lean manufacturing has been a big part of the successful changes at Collegedale. "We started to implement lean concepts right away," Sesko says. "The 5S is a very big factor in what success we have had — cleaning the place up, eliminating lots of obsolete inventory, doing a lot of things, which believe it or not don't cost that much money, that have made a huge difference. It's organization — being able to find things when you need them. We're still not 100 percent there, and we'll never be 100 percent there, but we have come a long way in the past year. People accepted the changes somewhat reluctantly at the beginning, but now that they are seeing the results, they are responding well. The company is changing drastically, but it doesn't happen without a strong participation from the top. Jim Wardlaw has been very positive and supportive about the changes and wants to see them happen."

Sesko says that eliminating waste and adding value is basically what Collegedale's changes are all about. "We have looked at various processes in our assembly area, for instance, which we have changed 100 percent. All parts are kitted now so that one cabinet is very easily defined and can easily be built. We just went through a big change in our detailing area where we went to a one-piece flow. Before, one person was detailing out the entire cabinet.

Now everyone has a specific task to perform, and everyone is also cross trained. At the end of the day they're not as tired, and that's the key. We're trying to work smarter, not harder.

"If you had come here a year ago, the plant layout wouldn't make much sense to you. But now there is a certain sense of orderliness, and you can actually see the processes and the flow going through the facility. We've had some attrition, yet we're doing the same production volume that we did six months ago with fewer employees. We've increased capacity and available floor space. About 30 percent of our floor has been opened up. We're still working on knocking down inventories, but we have already decreased them substantially."

The cultural change has been phenomenal, says Sesko of the 134 employees in Collegedale's 100,000-sq.-ft. plant. "We now have 80 percent more space in our maintenance department due to 5S initiatives," he says. "Our goal is to be able to find anything in maintenance in 30 seconds. What makes this process of change fun is seeing people change and grow. The company had collected obsolete parts and equipment, never discarding anything, and you virtually had no space to work within the maintenance department. We also are implementing a total preventive maintenance program to help ensure that our workplace is safe and that our production output and quality constantly improve."

Another change at Collegedale had to do with quality stations throughout the plant. In what some might consider a bold step — they were eliminated. "Now everybody is responsible for quality," says Sesko. "If a part gets through to the next station and it is bad, then we go back and ask why. We're not trying to put people on the spot — what it's really about is helping them understand. We ask if there is a problem with the machine or

the material, for instance. We want to find out what caused the defect and then take the steps to eliminate it."

Frey echoes the belief that the organization was outdated. "The production discipline on the floor was not there," he notes. "Organization in terms of manufacturing was not in place. After an initial cleanup of the company, we implemented an organization with work cells, organized material flow and reduced inventory. We have been doing this full time for a year. We have accomplished some pretty good goals so far, basically handling higher production volume and at the same time improving labor efficiency."

Frey says one of the first work cells to be implemented was a cell where four-piece doors are made out of solid lumber. "The way the cell used to work was that we would store components from various door sizes that had been run in big batches and put into component inventory," he explains. "What resulted was misuse — you never have the component that you really need when you get into product variations. So we basically eliminated our component inventory and set up a manufacturing cell with dedicated machinery and then established standard operating procedures to make the required doors just in time on a one-piece flow principle. We have reduced the internal lead time on these doors from a week and a half to a day or two."

Updating equipment

As might be expected, Collegedale's equipment arsenal needed some revamping. Among its new purchases were a Heeseman MFA 8 veneer polisher, a Weeke Profi BHC 500 machining center, a Giben Onix SP panel saw, a SCMI Sandya 5 sander, an Altendorf F45 sliding panel saw, two Ligmatech optimat ZHR01 return conveyors for its edgebanders. And to drive it all, Collegedale is turning to a software package from Cary, North Carolina-based Virtual Systems International.



Collegedale Casework's mission is to respond to its customers with services that provide them with a one-stop shopping place.

"When we got here, the equipment was outdated, poorly maintained, and there was no infrastructure in place to keep the machines at a productive level," says Frey. "We evaluated the machinery, overhauled the pieces that we wanted to keep for a while, got rid of the ones that there was no fix for and started to purchase more advanced equipment that would give us more speed and flexibility in production. We set up the saw cell, for example, with different types of saws dedicated to certain applications so that we could cover a wider variety of cutting requirements very efficiently from a larger book height to a flexible panel saw to a very flexible CNC controlled table saw."

Collegedale Casework had been having a huge number of material defects or rejects caused by sand-through, and it became very obvious that most of them were because of an old wide belt sander that was not sanding the pieces very well. The decision was made to purchase a high-tech Heeseman sander with selected pressure pads. "We were able to reduce the sand-throughs tremendously from 50 or more pieces a day to one or two a day," notes Frey.

"The Weeke was mainly purchased to enable us to consolidate a lot of processes that were distributed in different work centers in the old layout. We had an old double-end tenoner for the grooving and an older point-to-point machine and different operations after those, so it allows us to consolidate processes like grooving and profiling and give us higher quality output. All in all, we will be getting more production out of one work center. The machine is going to be data driven from the upfront processes. We have a new software system from Virtual Systems that will enable us to utilize the integration to basically drive whole manufacturing processes off the order requirements from the customer. So we will get the CNC code, the material requirements, drawings and other shop floor paperwork coming right out of Virtual Systems software."

Planning the future

Sesko says one of the first goals for Collegedale is increased velocity through the plant. "When Virtual Systems is launched, that will help a lot with getting a product out to the shop floor faster. One of the things we want to do as a company is to turn the order around

faster. The faster we can service the customer, the better off we are. All customers want accuracy, availability, somebody to get advice from and to develop a partnership with. We are responding to our customers and providing them with services so that they have a one-stop shopping place here."

An ongoing goal will be to continually push efficiency out on the shop floor, says Frey. "We're basically looking at this as a two-phase project," he says. "On the manufacturing side, we're just about finished with the first phase, which is just a rough streamlining of the manufacturing flow, taking inefficiencies and waste out of the process and building up a department where we can deliver a quality product handled at a higher production volume with much higher efficiency to the customer on time and when it is expected. The second go around will be more of a fine-tuning process. Each process will be looked at again and then there will be adjustments made in machine capacity, technology and labor with the goal to define best practices and manufacturing methods for best possible utilization of resources."

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