Two students help an Oklahoma food bank improve its productivity

A well-fed warehouse

BY MONICA ELLIOTT

EVERY DAY IS A DAY OF THANKSGIVING AT THE REGIONAL Food Bank of Oklahoma in Oklahoma City. In the past fiscal year, the organization distributed 21.1 million pounds of food and other products, and perhaps it will be able to provide a lot more this year now that two young industrial engineers have revamped its facility design.

Lauren Hanshaw and Huong Pham were assigned to the food bank for their senior design project in the industrial engineering program at the University of Oklahoma in January. Their assignment was to realign the picking slot pattern — in other words, improve the method used to pick items. The students used heuristic analyses and a one-order simulation to boost productivity for the food bank by potentially 87 percent.

"When we got there, they really didn't have a method of stocking their items," says Hanshaw, who has since graduated and is now working for truck manufacturer Paccar Inc. "So it was kind of like whenever they received something, they just placed it in the first open slot available. Since it is a food bank, 90 percent of their items are donated, so it's hard for them to predict from week to week what they might have. So we used ABC inventory analysis, and we were able to categorize all their items."

According to Hanshaw, the A items — the most frequently shipped purchased or donated U.S.D.A. products that are always on hand — were being placed in the back of the warehouse farthest from the shipping dock. Based on their analysis, Hanshaw and Pham suggested moving the A items closer to the dock and the B and C items followed in proximity.

The food bank supplies 500 charitable feeding programs in Oklahoma with food and other goods. Recipients include soup kitchens, homeless shelters, senior citizen centers, emergency food pantries, and mobile meal programs. Therefore, any way it can improve its operations means helping a lot more people, which is meaningful during the holiday season as well as the rest of the year.

The food bank's administrators are taking a gradual approach to implementation — moving products into the recommended areas as new products come in — and they are very optimistic about the results, according to Steve Moran, the food bank's associate director. "If our efficiency is increased by only half of what they have calculated, we could completely eliminate overtime hours for the selection function, enabling those funds to be redirected to expand services to Oklahomans in need," Moran asserts.

Both Pham, currently a graduate student at UO, and Hanshaw say the experience was valuable on two levels. "I was glad not only because it applied to my field, but I was also able to help people in need by those projects, and that was very satisfying," says Hanshaw.

The Regional Food Bank of Oklahoma, which acts as a central clearinghouse for the food industry and community to donate food and other goods, needed a little help in maximizing the efficiency of its warehouse. As University of Oklahoma IE undergrads, Huong Pham (above, left) and Lauren Hanshaw took on the challenge for their senior design project and recommended changes that could improve productivity for the organization by as much as 87 percent.