The process of introducing technological change was also examined. The basic finding was that there was a discrepancy between management's attempt to communicate about robots and the workers' need to learn about robots. That is, although many communication techniques were used, few were received by the workers. Those communications received by workers were not seen as particularly helpful in increasing their understanding of the robot.

We think this study has several major strengths. To our knowledge, it is the first systematic evaluation of the effect of introducing a robot on workers. The study used a variety of methods, including interviews, questionnaires, and observations. We collected data before and after the change to get some baseline to study the effects of the introduction over time. In addition, we used a broad sample perspective to identify people directly affected by the change as well as those indirectly affected (e.g., support personnel).

The study, of course, has certain limitations. Data were collected from only one organization. There was only one robot installation and it was the first robot installation. The change also took place in a non-union organization where there were positive relations between labor and management. While interview data on the effects of the robot on various outcomes such as productivity were collected, company records data on these outcomes were not collected. Future research involving multiple organizations and including records or archival data as well as interview data collected over several points in time (e.g., before, shortly after, and a year or so after the robot introduction) is needed.

What can we learn from tliis study that will help in new installations of robotics in factories? Despite the small sample size and the difficulty of systematically testing certain relationships, a number of findings have emerged from this study. These findings *combined with* findings from other studies of increased automation suggest some possible recommendations for managers introducing new technologies.

4.1 Strategies for Introducing Change

1) Prior to any introduction some questions need to be resolved. Questions concerning job security and pay are likely to be uppermost in the minds of the work force. Failure to resolve these questions prior to the introduction of the robot is likely to reduce the effectiveness of the introduction.

2) Diagnosis of the organization prior to introducing change is critical. What effects will the technological change have on activities, interactions, and beliefs of workers? Problems caused by the change need to be anticipated-some will be obvious (in cases of job loss) while others will be subde (in cases of new job activities).

3) A strategy for worker involvement in introducing this new technology needs to be delineated. There are