Chapter 14
Leading Edge Training for Leading Edges:
Experiential Learning to Improve Human Performance and Product Quality

George O. Hanshaw
Purdue University, USA

Victoria Lynn Lowell
https://orcid.org/0000-0002-0300-5304
Purdue University, USA

EXECUTIVE SUMMARY

Ruben, the learning and development manager for Aerosector, was tasked to help the composite manufacturing team increase their production rate and lower the defect rate for the manufacturing of composite leading edge parts for a newly designed aircraft. Initially, it took approximately 28 days to build one of the parts, and the defect rate for the parts was over 30 percent. Ruben put together a cross-functional team to devise a solution that would decrease the production rate of the parts to 15 days or less and reduce the defect rate to less than 0.5 percent for non-repairable defects and less than 2 percent for repairable defects. After performing a gap analysis, the team came up with the solution to build a training class utilizing experiential learning to quickly increase performance in the shop and meet the build requirements.

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ORGANIZATION BACKGROUND

Aerosector is the high technology aerospace section of a larger corporation. Aerosector builds prototypes and designs leading-edge aerospace vehicles (i.e. - airplanes). The aerospace vehicles manufactured by Aerosector are technologically advanced and built to meet the specific needs of their Department of Defense (DOD) clients. Their products are often considered the most technologically advanced in the world. Aerosector primarily works with the United States Department of Defense to manufacture air vehicles to meet the needs of their DOD customer. Aerosector and its parent corporation also sell to international countries and continually look for ways to grow in the countries they partner with.

Along with selling to international countries, Aerosector has multiple international manufacturing locations. The manufacturing plants create well-paying jobs. In turn, these international locations help Aerosector meet the needs of multiple countries and build complementary relationships with those countries. Aerosector is always looking for ways to further their relationship with the DOD and the other countries.

Organizational Culture

Aerosector builds high-tech products that stretch the realm of possibility. People who work there are expected to have high standards and work with excellence. The culture within Aerosector is high-stakes, high-stress, and high-competition. Aerosector uses a team-based approach for problem-solving. The purpose of the team-based approach is to have perspectives from multiple organizations to speak into any high-stakes issue or solution. This utilization of the team approach is used to help minimize any unintended consequences stemming from decisions being made from individuals who may not have a complete perspective.

The high-stress environment often creates competitions within internal Aerosector teams. This competitive culture gives Aerosector an advantage in the competitive world of DOD contracts. This environment also creates some communication barriers within Aerosector such as teams not communicating or sharing information with other teams because one team wants to have an advantage over another team.

This type of culture did not just appear. The organization has a rich history that has been cultivated through years of innovation and meeting customer needs in ways that many people say “changed the game.” Aerosector has created hundreds of new technologies and proved them on several of their aircraft. It was important for Aerosector to cultivate this culture and ensure the culture continued to evolve because the competitive nature of the organization is what drives the innovations created by the organization.