

## Applying Quality Tools within Organizations of Nuevo León: Student Projects

A.M. García-León, A.Y. Aguilar-Villarreal, P. Gómez-Fuentes, E.P. Puente-Aguilar, and A. Vargas-Moreno

Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas,  
Pedro de Alba S/N, Cd. Universitaria, CP. 66450, San Nicolás de los Garza, N.L., México

Corresponding author's Email: [azucenamgl@yahoo.fr](mailto:azucenamgl@yahoo.fr)

**Author Note:** Azucena Minerva García-León is a Full Time Professor (scientist and lecturer) in the Faculty of Chemistry Sciences at the *Universidad Autónoma de Nuevo León* (UANL). She is a member of the graduate field of Industrial Engineering. Since June 2005, she has been working as a researcher in the field of process optimization. She is member of the National System of Researchers (SNI). She got the Applied Economic Philosophy Doctorate degree from the *Université Pierre Mendès France* at Grenoble, France (2004). She received the Industrial Engineering Master degree from the *École Nationale Supérieure de Génie Industriel* at *Institut National Polytechnique de Grenoble*, France (2000). She got the Industrial Engineering Master degree from the *Universidad de la Américas-Puebla* at Puebla, México (1996). Finally, she obtained the Industrial Engineering bachelor degree from the *Universidad de la Américas-Puebla* at Puebla, México (1994).

**Abstract:** The *Universidad Autónoma de Nuevo León* offers within the curriculum of the Industrial Engineering Management undergraduate degree program, the Quality Culture course. This course promotes the learning and application of total quality in order to improve the processes within the organizations of Nuevo León, México. Organizations such as industrial, commercial or services whether public or private. Students select an organization where they make a draft implementation of the methodology of quality cycle: plan, do, check and act. Mainly, they work on the implementation of the tools in the step Plan and sometimes in the step Do, while documenting the steps of Do, Check and Act. Students work in teams supervised by the course Professor. The team seeks an organization, identify opportunities for quality improvement, select an area of opportunity and establish plans for implementing improvement. The project is documented and showed to the rest of the class so that other students learn from each other projects. Three quarters of the organizations studied in this research are industrial and commercial ones and the remaining quarter is service. Areas to improve in industrial organizations are reducing losses. In commercial ones is looking to increase sales and the service ones is to improve the customer service quality. The tools that were used are the cause-effect diagram, tree diagram and Pareto chart.

**Keywords:** Quality Cycle, Quality Tools, Industrial Engineering Education