

## Kaoru Ishikawa



Kaoru Ishikawa was born in 1915 and graduated in 1939 from the Engineering Department of Tokyo University having majored in applied chemistry. In 1947 he was made an Assistant

Professor at the University. He obtained his Doctorate of Engineering and was promoted to Professor in 1960.

While the early origins of Quality Circles can be traced to the United States in the 1950s, Professor Ishikawa is best known as a pioneer of the Quality Circle movement in Japan in the early 1960s, which was re-exported to the West.

### Ishikawa's message-techniques

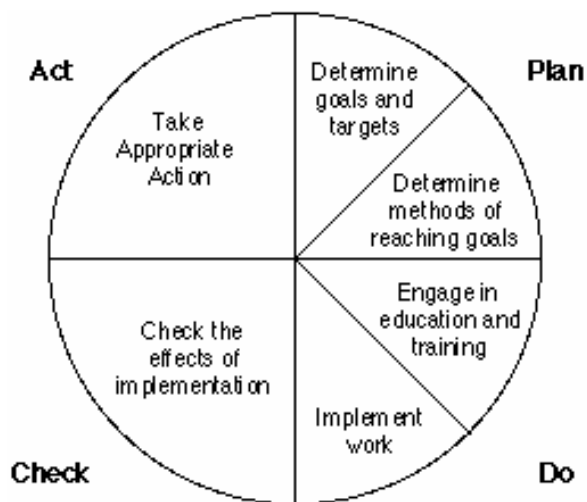
As with the other Japanese quality gurus, such as Genichi Taguchi, Kaoru Ishikawa has paid particular attention to making technical statistical techniques used in quality attainment accessible to those in industry. At the simplest technical level, his work has emphasized good data collection and presentation, the use of Pareto Diagrams to prioritize quality improvements and Cause-and-Effect (or Ishikawa or Fishbone) Diagrams.

With the use of this new diagram, the user can see all possible causes of a result, and hopefully find the root of process imperfections. Both Ishikawa and Deming use this diagram as one the first tools in the quality management process. Ishikawa sees the cause-and-effect diagram, like other tools, as a device to assist groups or quality circles in quality improvement.

Ishikawa diagrams are useful as systematic tools for finding, sorting out and documenting the causes of variation of quality in production and organizing mutual relationships between them.

Ishikawa's biggest contribution is in simplifying statistical techniques for quality control in industry. At the simplest technical level, his work has emphasized good data collection and presentation. He showed the importance of the quality techniques including the seven basic tools: control chart, run chart, histogram, scatter diagram, pareto chart, run chart, flowchart and binomial probability paper and sampling inspection.

Besides his own developments, Ishikawa drew and expounded on principles from other quality gurus, including those of one man in particular: W. Edwards Deming, who introduced the Shewhart Cycle (PDCA). Ishikawa expanded the original four steps into the six step model shown below.



*Ishikawa K., What is Total Quality Control?, Prentice-Hall Inc., Englewood Cliffs, NJ. 1985,*

### Organization-Wide Quality

Turning to organizational, rather than technical contributions to quality, Ishikawa is

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associated with the Organization-wide Quality Control movement that started in Japan in the years 1955-1960 following the visits of Deming and Juran. Under this, quality control in Japan is characterized by company-wide participation from top management to the lower-ranking employees. Further, the entire organization studies and uses statistical methods.

Ishikawa believed in the importance of support and leadership from top level management. Like Deming, Ishikawa continually urged top level executives to take quality control courses, knowing that without the support of the management, these programs would ultimately fail.

Quality control concepts and methods are used for problem solving in all parts of the organization including the production process, for incoming material control and new product design, and management analysis for decision and policy making, and for solving problems in sales, personnel, labor management and administration. He stressed that it would take firm commitment from the entire hierarchy of employees to reach the company's potential for success.

Another area of quality improvement that Ishikawa emphasized is quality throughout a product's life cycle -- not just during production. Although he believed strongly in creating standards, he felt that standards were like continuous quality improvement programs -- they too should be constantly evaluated and changed. Standards are not the ultimate source of decision making; customer satisfaction is.

Kaoru Ishikawa wanted to change the way people think about work. He urged managers to resist becoming content with merely improving a product's quality,

insisting that quality improvement can always go one step further. He wanted managers to consistently meet consumer needs; and from these needs, all other decisions should stem. His notion of organization-wide quality control called for continued customer service. This meant that a customer would continue receiving service even after receiving the product. This service would extend across the company itself in all levels of management, and even beyond the company to the everyday lives of those involved. According to Ishikawa, quality improvement is a continuous process, and it can always be taken one step further.

Publications: In 1968, in his role as Chairman of the Editorial Committee of Genba-To-QC (Quality Control for the Foreman) magazine, Dr Ishikawa built upon quality control articles and exercises written by the editorial committee for the magazine, to produce a 'non-sophisticated' quality analysis textbook for quality circle members. **Guide to Quality Control** was subsequently translated into English in 1971, the most recent (2nd) edition being published by the Asian Productivity Organization in 1986. Amongst other books, he subsequently published **What is Total Quality Control? The Japanese Way** which was again translated into English (Prentice Hall, 1985).

Kaoru Ishikawa has been awarded the Deming Prize and the Nihon Keizai Press Prize, the Industrial Standardization Prize for his writings on Quality Control, and the Grant Award in 1971 from the American Society for Quality Control for his education program on Quality Control. He died in April 1989.

Resources:

[http://www.simplesystemsintl.com/quality\\_gurus/K\\_Ishikawa.htm](http://www.simplesystemsintl.com/quality_gurus/K_Ishikawa.htm)

<http://www.asq.org/join/about/history/ishikawa.html>