

SQC AND SPC
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There is a great deal of confusion about the use of statistics in causing quality improvement. Much of the concern comes from concepts that have nothing to do with statistics as such. After all, the use of mathematics as a tool for understanding is as old as man's trip down from the trees.

The problem arises in the difference in conceptual purpose applied to the use of such systems. It all comes down to: what is the planned result?

SQC (Statistical Quality Control) is oriented around ease of manufacture. If all of the variables can be identified and controlled, then the tolerances can be opened up and made easier. The heart of SQC is the assumption that everything cannot possibly be made right all the time. Therefore, is it best to achieve an optimum?

SPC (Statistical Process Control) is on the other side of the coin. Here the idea is to control the process in order to meet the requirements of the product. The specified tolerance is taken as the upper and lower limits of the control chart rather than the artificial limit developed statistically.

SPC charts then are based on real life. As the individual non-conformance problems in the process are identified and corrected it becomes possible to reduce the chart limits. Many operations have goals of cutting the charted tolerances by 50% so they will never have problems meeting the real specification. They do this routinely.

SPC is aimed at understanding the process and achieving defect-free production; SQC is aimed at rationalizing the process and understanding why defect-free production is not possible.

It is incredible to me that business still accepts concepts that require us to be less than we can be. Even more incredible is the thought that it is not possible to do things right the first time - particularly in face of the evidence we see every day. A lot of people are doing just that.

Improvement in every area from door-to-door sales to machining or international finance depends on understanding the process and learning to eliminate the nonconformances.

Watch a nine month old baby learning to walk. That is exactly what they do - the only difference is determination.