



Greater El Paso
Section
The Global Voice of Quality™

Amigo *Quality*

Volume 36 Number 9

Welcome to the June 2016 issue of the Newsletter, your local provider of information and learning opportunities related to quality professionals.

Membership Meeting

LOCATION: Coca-Cola Plant 11001 Gateway Blvd. West

SCHEDULED TIME: Program begins at 6:30 pm

DATE: Wednesday, June 15, 2016

PROGRAM: “Coca-Cola Plant Tour”

SPEAKER: Plant Tour Host and Guide: Eric Ruvalcaba, CCR QA Manager

INFO: Coca-Cola Enterprises is one of the world’s largest marketers, distributors and producers of liquid non-alcoholic refreshments. It offers a full range of beverages, including energy drinks, still and sparkling waters, juices, sports drinks, milk based products, fruit drinks, coffee-based beverages and teas. The company markets and sells its products under the brand names of Diet Coke, Sprite, Coca-Cola, Fanta, Schweppes and DASANI. The company has a professional staff of more than 75,000 employees and maintains its operations in more than 45 states. It operates more than 430 facilities, over 54,000 delivery vehicles, and nearly 2.4 million vending machines, beverage dispensers and coolers. One of their plants is located in El Paso, Texas and we have a great opportunity to tour their Production facility.

MEETINGS ARE FREE FOR MEMBERS AND NON-MEMBERS ALIKE

THE CHAIR SPEAKS

Eli Gilbert

JUNE is on heating UP!!!

Summer is here, and the children may be getting ready for a break from school, but our education never stops. We can keep up with quality professional development by reading some of the great articles presented in this month’s edition of the Amigo Quality. See what’s a driving force in Chicago, in our automotive section, how educating ourselves on “scaffolding” increases productivity potential, and the best practical uses for linear equations. ASQ, Greater El Paso Section, is here to support your professional development. This

month we have the pleasure of having Coca-Cola open their doors to ASQ 1401 participants. What better place to be on hot summer day than a facility that produces some of the coolest and most refreshing beverages in the world. ASQ online is also a cool place to be in the summer, as it has an abundance of resources to better serve quality professionals just like you. For those looking for personalized training, ASQ offers training opportunities at <http://asq.org/learninginstitute/index.html>. Everyone has the opportunity to consult this resource and it's also free for members, so don't hesitate to take a look. www.asq.org

Sincerely yours,

Eli Gilbert

Elijah M. Gilbert
Chair, ASQ EL PASO 1401

FLASH! FLASH! FLASH! NO Leadership Committee meeting is scheduled this month. Please make arrangements to attend next month's meeting.

AUTOMOTIVE SECTION
HECTOR LUGO

Thank you to the members participating on this section and the "winner" this month is that two UAW officials who represent Ford's Chicago Assembly Plant were shot Friday night during an argument outside the Local 551 union hall shortly after they won re-election.

The incident occurred during a particularly violent stretch for Chicago. Shootings in the city are up 50 percent this year, and the *Chicago Sun Times* reported that shootings around the city overnight Friday killed four people and injured 18. The Ford plant is on the city's south side, where much of the violence has occurred.

The plant, which employs about 4,200 people, produces the Lincoln MKS, Ford Taurus and Ford Explorer, according to Ford's website.

See you at the meeting!

EDUCATION SECTION

KIM PRIES

When training, it is wise to use the educational concept of “scaffolding.” Scaffolding occurs when we first produce a lesson that introduces a simple and single concept. The follow-on lesson will take the simple concept and add some more difficult, but not insurmountable, sub-concepts. In addition, we can also add the “Wooden Approach” to our educational stew: demonstrate the overarching concept, work through the scaffolded components one by one, and return to the overarching concept once trainees have demonstrate some expected level of competence.

Although several books and articles discuss deliberate practice and the oft-misused concept of the 10,000 hours of practice, the best source is to go to the source, namely K. Anders Ericcson and his most recent book, Peak [Ericsson, K. Anders (2016). Peak: Secrets from the New Science of Expertise. Boston: Houghton Mifflin Harcourt. ISBN 978-0544456235]. Contained therein is an extensive discussion of deliberate practice, with part of the material devoted to deliberate practice at work and in everyday life.

Training is important. At previous employment, we took it upon ourselves to implement deliberate practice/training with a squad of production test equipment maintenance technicians. Because we faithfully plotted our unplanned downtime with statistical control charts, we were able to see special cause (our influence) even when it was positive. What we saw was a spectacular decrease in unplanned downtime on the manufacturing lines. Imagine that! We even offered to assume leadership of standard plant maintenance, but even with our numbers, we could not break the political barrier. However, our product test equipment techs’ worst days were far better than the best days of the standard maintenance techs.

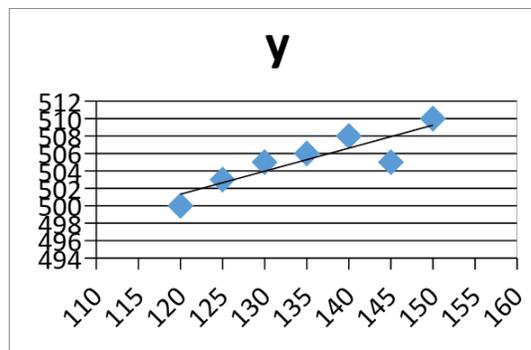
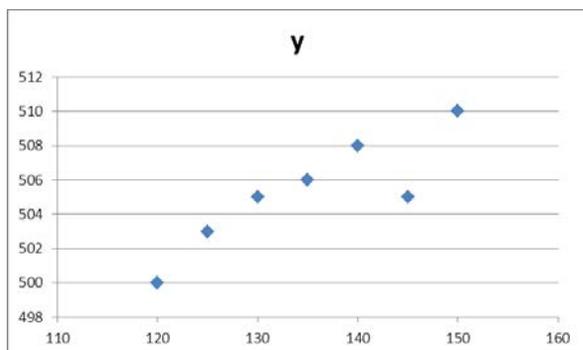
Bear in mind, that deliberate practice focuses on special characteristics of the skill being taught. It is not simply repeating the same thing over and over again. Again, the concept of scaffolding is critical to understanding what we need to do in everything to progress toward mastery. Ericsson observes that even masters must practice in order to sustain their mastery and this I can see myself when observing my Tai Chi teacher. He practices every day!

Check it out!

MANAGEMENT SYSTEMS

ALFONSO ENRIQUEZ

A High School teacher was asking for volunteers to explain to the students how we use linear equations in our everyday work in the industry. Quality Engineers look for the best line that fit for the data frequently to follow up on different variables. We use different software for this purpose, e.g. Excel, we type the data, then we select Insert (scatter) chart, then we right click we the mouse and select linear relationship and obtain the line of best fit.



Let's say we have one independent variable and n observations, we have the following linear equations:

For the first observation we have the equation

$$y_1 = \beta_0 + \beta_1 x_1 + \epsilon_1$$

For the second observation we have the equation

$$y_2 = \beta_0 + \beta_1 x_2 + \epsilon_2$$

And similarly for the rest of n observations, therefore we have a system of n linear equations, these equations can be summarized using matrix notation as: $y = X\beta + \epsilon$ The software (Excel, Minitab, R, etc.) calculates the coefficients of the line using the least squares¹ estimator of $\beta = (X^T X)^{-1} X^T y$

A teacher in a high school presents the definition of an upper triangular matrix, and students might be interested on where this upper triangular matrix is used.

It is faster to solve the equation $\beta = (X^T X)^{-1} X^T y$ using the Cholesky's Decomposition²:

$$\begin{pmatrix} 4 & 12 & -16 \\ 12 & 37 & -43 \\ -16 & -43 & 98 \end{pmatrix} = \begin{pmatrix} 2 & 0 & 0 \\ 6 & 1 & 0 \\ -8 & 5 & 3 \end{pmatrix} \begin{pmatrix} 2 & 6 & -8 \\ 0 & 1 & 5 \\ 0 & 0 & 3 \end{pmatrix}$$

Notice the lower (zeros on the top right) and upper (zeros on the bottom left) triangular matrices. One can use the Cholesky Decomposition command “chol” in software of R as follows: `nums<-c(4,12,-16,12,37,-43,-16,-43,98), mat1=matrix(nums,nrow=3), c<-chol(mat1)`

- ¹ Montgomery D.C. *Design and Analysis of Experiments*, Wiley Eight edition. Chapter 10.
- ² Cholesky decomposition. (2016, April 25). *In Wikipedia, The Free Encyclopedia*. Retrieved 14:46, May 22, 2016, from

RE-CERTIFYING AND ASQ CERTIFICATIONS

STEVEN SCHAFER

Out of a total of 6 member(s) whose certifications expired June 2015, 0 lost their certifications.

Out of a total of 6 member(s) whose certifications expired December 2015, 1 will lose their certifications if they do not re-certify by the end of June 2016, 0 member(s) re-certifications are being processed and 5 member(s) completed their re-certifications.

Out of a total of 11 member(s) whose certifications will expire June 2016, 11 will lose their certifications if they do not re-certify by the end of December 2016, 0 member(s) re-certifications are being processed and 0 member(s) completed their re-certifications.

Members can re-certify early! As long as you have enough points you can re-certify as early as six months before your certification expires. Your Certifications will be extended 3 years beyond the certification expiration date you currently have for your certification, so you don't lose anything by re-certifying early. Remember, you can only claim points that you have accumulated up to the time you submit and these points need to be collected during your 3 year certification period. Out of a total of 6 member(s) whose certifications will expire June 2016, 6 will lose their certifications if they do not re-certify

by the end of December 2016, 0 member(s) re-certifications are being processed and 0 member(s) completed their re-certifications.

If anyone has questions on how to re-certify to extend their ASQ Certifications and/or how to synchronize them if they have more than one, please let me know. Re-certifying by exam costs more and is a lot more difficult than re-certifying through the accumulation of RU points. You can reach me, the Re-Certification Chair, at 915-241-4780 or (501) 615-8170. Please leave a message on the answering machine if no one answers and I will call back you as soon as I can. You can also reach me via the Internet at spikequate@sbcglobal.net. I am ready to help with any questions you might have about Re-Certifying or about any ASQ Certifications you might have, call me. The Re-Certification Journal is at the following link and will guide you in the re-certification process <http://asq.org/cert/recertification/rucredits/index>

When re-certifying, **always get the most recent Re-certification Journal information**. The lasted Re-Certification Journal is November 2014. For ASQ members the fee for one certification is \$69.00 and for two or more \$89.00; for non-members the fee for one \$109.00 and for two or more \$109.00 each).

Members who **renew their membership early online** will receive a **coupon code: RCRT in which \$69.00 will be deducted off their recert fees**.

Year	Month	Date	Day	Topic – Speaker	Location
2016	Jun	11	Saturday	Cancelled	Hilton Garden Inn University
2016	Jun	15	Wednesday 6:30pm	COCA –COLA Tour	11001 Gateway Blvd W. 79935
2016	Jul	16	Saturday 9:00am	LC Training & Planning	424 S. Hills Dr. El Paso, TX 79912
2016	Aug	13	Saturday 9:00am	LC Training & Planning	UBS – 424 S. Hills Dr. El Paso, TX 79912
2016	Sep	21	Wednesday 6:30pm	CEMEX - Production	Hilton Garden Inn University
2016	Sep	21	Wednesday 7:30pm	LC Meeting	TBD
2016	Oct	19	Wednesday 6:30pm	BIZLINK / FOX COM /NEW BUSINESS	Hilton Garden Inn University
2016	Oct	19	Wednesday 7:30pm	LC Meeting	TBD
2016	Nov	16	Wednesday 6:30pm	CAREFUSION Tour	Hilton Garden Inn University
2016	Nov	16	Wednesday 7:30pm	LC Meeting	TBD
2016	Dec	TBD	TBD	CHRISTMAS PARTY	TBD

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