



Rochester Institute of Technology's
John D. Hromi Center for Quality and Applied
Statistics

Notes from CQAS

January 7, 2009

*To all CQAS matriculated students
And Friends and Alums of CQAS*

Welcome!

Notes from CQAS will be e-mailed periodically—but irregularly!—from the Department Chair as a way of keeping in touch with our students.

Puzzler

Bored? Try this puzzle! Answers are (almost) at the end of this newsletter.

I received a “Which Muppet are You?” quiz from one of my brothers several years ago. A Google search of “which Muppet are you” resulted in 2,700 hits, but in the first few, I couldn’t find this particular quiz, so I’m not sure of its origin. However, I am happy to report that it is 100% accurate!!!!

The quiz appears on pages 14 and 15 of this newsletter. Please look at it (but don’t look at the solutions on the immediately preceding pages). Take the quiz. Score yourself to find out your true Muppet personality. If you dare, share it with your close family and friends to really find out what these people are like!

Here is the question. If you had to present an educated guess (before you distributed this test to your friends and family), what fraction of the people who take this test would be Oscar? Ernie? Elmo? Kermit? Bert?

You don’t need to enjoy the Muppets to answer this question! (The Muppets are a Walt Disney production—really bored? Visit www.muppets.com.) Have a puzzler you would like to submit? Do it! Email joseph.voelkel@rit.edu.

A New Chair for Spring 2009

After 10 wonderful years, I will be stepping down as the CQAS Graduate Program Chair. Dr. Steve LaLonde will become the new Chair, starting in the Spring quarter of 2009. Steve has been with CQAS for eight years as a full-time professor, and for several years before that as an adjunct professor while he held a position as a statistician at Eastman Kodak Company here in Rochester.

Random Alum News

Lawrence Madziwa (2008, lawrence.madziwa@gmail.com) writes: I am working as an actuarial student for CIGNA, which is located in Bloomfield, Connecticut. My position is very analytical in nature; I own (am in charge of) two tools the company uses in quoting rates for companies that wish to purchase insurance products for their employees. I am also in constant touch with IT staff and underwriters, so communication skills are key. In addition, I regularly run sensitivity tests to investigate what drives certain price changes. This aids top management when policy changes have to be implemented. The position is so heavily statistical that it only stops a little short of actually carrying out ANOVA tests or official Design of Experiments evaluations. (This is because most of what I do is based in Excel; consequently, some VBA knowledge would be helpful as well. To this extent, learning to program in SAS and R is proving handy; save for syntax differences, the programming logic is similar).

I am expected to be independent as well: I have only been working for a month, and I do find it surprising that my work is regarded with just as much weight as if I have been working for longer. There is a lot to learn in a short while, many meetings to attend, and lots of deadlines to meet that it keeps me on my toes.

I am also studying for the actuarial examinations. As an actuarial student, I am allowed a number of hours each sitting for study. No day is ever quite the same; each brings different challenges. It is what keeps the work interesting.

Matt Janczak (2007, Matthew.Janczak@utah.edu) writes: After graduating from RIT with my Master's in Applied Statistics, I decided to pursue a PhD in biochemistry at the University of Utah. Following a year of core chemistry classes, I joined Dale Poulter's research group and began my research project in enzymology (study of enzymes). While my project focuses on using biological chemistry techniques, I have been able to apply design of experiments, nonlinear regression, and R programming. Using DOE, I am redeveloping a method that uses radioactive material with the goal of reducing both contaminated consumable waste and raw material use. My enzyme kinetic studies require nonlinear regression, where I am using a tremendous amount of R programming. I highly recommend students in CQAS programs spend some time practicing R and reading the statistics literature. Those "extracurricular" activities in the program have saved me time and expanded my knowledge base. So far, I am enjoying a nice balance between laboratory studies and experimental planning and analysis.

Kabir Duggal (2005, kduggal@gmail.com) is working as a Senior Statistician at Microchip Technology Inc. in Chandler, Arizona for the last two and one-half years and recently got certified as a Six Sigma Black Belt. He works in the Process Development Group that is primarily involved in product enhancements, process improvements, quality, reliability and cost reduction projects. He says “I use the techniques that I learned in MS Applied Statistics everyday at my work; my experience at CQAS has been excellent, thanks to the entire faculty.” Kabir has been continuing his education as well and is presently pursuing graduate courses in Risk Management at Stanford.

Veljko Fotak (2005, veljko@ou.edu) has been studying at the University of Oklahoma towards a PhD in Finance; he is expected to graduate in 2010. He currently teaches the introductory finance class for business undergraduate students. He writes, “I have made plenty of use of the knowledge and skills acquired at CQAS. In particular, I was able to breeze through most of my stat and econometric classes thanks to the background I had previously acquired. When my colleagues were struggling in our asset pricing seminar with transformations of variables and truncated distributions, I was thankful for the countless hours of ‘fun’ I had in Dr. Lawrence’s theory class. Another skill I found very useful in my studies and research is SAS programming; truly, it has allowed me to dive into empirical research from day one.”

JGV note:

Veljko has also published two working papers in SSRN (Social Science Research Network) http://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=811356

Ronia Chaar (2004, Ronias.Chaar@census.gov) has been working at the Census Bureau in Suitland, Maryland for over three years, and can’t believe how the time has flown by. She recently finished working on the 2007 Census of Construction sampling and documentation and is currently doing research on noise disclosure for the 2012 Economic Census. She is living in Alexandria, Virginia and can be found on LinkedIn at <http://www.linkedin.com/in/roniachaar>.

Scott Hunter (2003, scott.a.hunter1@us.army.mil) writes: I just recently became the Chief of the Test Design and Analysis branch at U.S. Army Dugway Proving Ground, Utah. Dugway is a testing facility that tests new technologies that the Army or other services may acquire. This is a very rewarding place to work. Our branch continues to improve the quality of testing (and results) through the use of experimental design.

The knowledge learned and the contacts made at RIT have been priceless. I work with CQAS graduate *Dan Blodgett* and we continue to collaborate with fellow graduate *Shari Kraber* at StatEase. I have also published a paper since graduating in the International Test and Evaluation (ITEA) journal. It was titled “Obtaining Higher Confidence from Limited System Test Data” found in the June/July 2005 issue.

Hope all is well. Don’t recall talking much about the alphabet soup of optimal designs, but FYI, we would be in a world of hurt without them, in particular D-

optimal designs. (JGV note: optimal designs are covered in 803 Design of Experiments III course.)

Laura Linder (1993, laura.linder@kodak.com) is employed at Eastman Kodak as a consulting statistician. Since getting her degree, Laura has been consulting on experiments for research and commercialization. She is an avid JMP user, and has written JMP scripts to automate multiple means tests to compare either products, plants, suppliers or components as part of the accreditation process. Laura put together and delivers a 28-hour basic statistics class; she also has taught a JMP scripting class at Kodak. She has branched out into reliability engineering in the last few years, working in the same group as fellow alumnus *Glenn Pestell*.

Laura is a quilter in her spare time. She sold her first art quilt in March, 2008 as part of the MAGnificent Inspirations exhibit held at the Memorial Art Gallery in Rochester.

Gary Mosehauer (2001, Gary.Mosehauer@bausch.com) has been working for Bausch & Lomb's Global Clinical Development group as a Senior Statistician since March. Prior to that, he spent five years at Kraft Foods optimizing formulations and processes for the refreshment beverages and desserts divisions. The transition from industrial statistics to clinical trials has been exciting and challenging for a guy who still thinks of himself as a chemical engineer.

When you become an alum, *please* stay in touch! Just send an email to joseph.voelkel@rit.edu. We'd love to include you in a future newsletter.

Alum in Focus

This issue of the newsletter begins what I hope is a long-running series on taking a look at one alum in more depth. We hope this will you all a learn a bit more about our large CQAS "family," and give you a better idea of the type of work those other alums are doing. The series starts with Wayne Drews, whom I just saw recently at a meeting in Austin, Texas.



WAYNE DREWS is a Rochester native who has is currently living in Austin, Texas. He moved to Austin in 1990 after completing a ME degree in Microelectronic Engineering from RIT. He worked for Advanced Micro Devices, Motorola and Samsung, and spent most of his career in semiconductor process integration.

Several years ago Wayne decided to pursue a career change after seeing that the semiconductor industry, like most other manufacturing industries, was quickly being off-shored. The loss of job opportunities in this industry turned what was once an enjoyable career into one that was uncertain and stressful.

Wayne enrolled in RIT's Applied Statistics program and earned his master's degree through online learning while working full time. He completed his degree in 2007 and is currently employed as an Associate Biostatistician in Austin by i3 Statprobe, which performs clinical trial planning and analysis for the pharmaceutical industry.

Wayne has a profile on LinkedIn (www.linkedin.com/in/waynedrews) that shows his career experience in greater detail.

Outside of work, Wayne is involved in the Austin chapter of ASQ (American Society for Quality – asqaustin.org) as a committee chair and in the Austin chapter of the ASA (American Statistical Association). In March 2008, Wayne gave a presentation to the Austin ASQ chapter on clustering and multidimensional scaling (asqaustin.org/Archives_newsite.htm, [Presentation - March 2008](#) (when asked for a username and password, just click Cancel)) that was based on a project he completed for the Applied Statistics program. Wayne's favorite activity is spending time with his wife, Carolyn, and eleven year old son, Greg.

Favorite course subjects

- Multivariate Analysis
- Design of Experiment

Some statistical thinking or statistical methods used recently

- SAS programming
- Proportion or rate comparisons using exact methods
- Inter-rater reliability and concordance
- Survival analysis

Ideas for current MS students

- Survey how statisticians are used in different fields and how to get into those fields.
- Review the Pharma ICH (International Conference on Harmonisation) E9 document. This document provides guidance for the Pharma industry. I think it is valuable for everyone since it pulls all sorts of ideas together and puts them in perspective in one location (sample size, hypothesis test set-up, frame of reference, multiplicity).
- Focus on keeping the big picture in mind and making tradeoffs regarding perfection and just getting the job done. There are a lot of cases in which things don't have to be perfect to make better or good decisions and add value. In fact, being over meticulous and exact (a character trait of a lot of data-driven statistically-minded people) can be detrimental.

What I wish I could have learned in the MS program

In general, I think the curriculum is very “sufficient,” but here are some ideas:

- Project management leading to PMP certification (this is hot right now).
- Public presentations with emphasis on conveying statistical information to management in such a way that they understand and support you. (Typically management wants things dumbed down into bar charts with a yes/no result.) How to deliver presentations to a wide audience.
- Learning how to do research better on statistical methods. How do you sort the wheat from the chaff (e.g., Bland-Altman vs. more appropriate methods).

Perspective on future opportunities/markets and advice for others

- You have to think about off-shoring and out-sourcing. There may be more job stability in areas that are highly regulated (FDA, EPA) or are related to national security (national labs).
- Manufacturing jobs are much more risky in that they ultimately get moved to “low cost” centers in order to improve efficiency.

Faculty Notes

In June, Dan Lawrence presented a paper entitled “A Forced-Classification Analysis of Paired-Comparison Data Subject to a Polychotomous Criterion Item” at the 2008 International Meeting of the Psychometric Society in Durham, New Hampshire. He was also once again nominated for the OLETA (On-Line Excellence in Teaching Award).

Steve LaLonde has recently joined the executive board of the North East SAS User’s Group (NESUG), and will be serving as the conference co-chair in the 2010 conference in Baltimore, MD.

Peter Bajorski published these papers:

- E. Ientilucci and P. Bajorski, “Statistical Stochastic Modeling of Physically Derived Signature Spaces,” *Journal of Applied Remote Sensing* Vol. 2, 023532 (Aug. 13, 2008)
- P. Bajorski, “A family of distributions for the error term in linear-mixing models for hyperspectral images,” *Proc. SPIE, Imaging Spectrometry XIII*, San Diego, CA, Vol. 7086, August 2008.
- P. Bajorski, “Maximum Gaussianity models for hyperspectral images,” *Proc. SPIE, Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XIV*, Orlando, FL, Vol. 6966, April 2008.

Joe Voelkel attended the Fifth ISMI (International SEMATECH Manufacturing Initiative) Symposium on Manufacturing Effectiveness, in October, in Austin, Texas. While there, he gave a one-day short-course on “ESD’s: a Powerful Aid in the Design and Analysis of Complex Experiments;” presented a talk, “Local-Functional ANOVA for Process Models, Mixture Models, and Deterministic Systems;” and spoke at a joint ASA/ASQ meeting in Austin on “Comparisons of Two Measurement Devices.” He is also a co-author for an abstract of the following

- Higbee, S., Messinger, D., Tra, Y., Voelkel, J., and Chilton, L. (2009), “A Bayesian Approach to Identification of Gaseous Effluents in Passive LWIR Imagery,” SPIE Conference on Defense, Security, and Sensing, Orlando, April.2009.

Professional Associations

We encourage you to join one or more professional statistical associations. This will help you keep in touch with professional activities and will make it easier to stay current in your work. It also looks good on your résumé...

The ASA (American Statistical Association) offers membership to students enrolled in a degree program. It includes online access to several journals, including the *Journal of the American Statistical Association* and *The American Statistician*; print subscriptions to *Amstat News* and *STATS: The Magazine for Students of Statistics*; plus discounts on all additional publications, programs and meetings. See <https://www.amstat.org/membership/index.cfm?fuseaction=onlineapp> and then “Become a Member” for details. The fee is a *very modest \$10*. Why not join? *The American Statistician* and *STATS* alone are worth the cost, and *Amstat News* publishes job notices.

The IMS (Institute of Mathematical Statistics) offers *free* membership for students. In addition, students receive one *free* print journal with this membership, as well as *free* electronic access to past issues of all the IMS journals! Why not take advantage of the generosity of IMS and join? Their *Statistical Science* journal is a review journal and is probably the best choice for most of our students. See <http://www.imstat.org/membership/student.htm> for details.

Careers in Statistics

Fred Kuhlman, one of our current students, recently suggested that it might be interesting to read about careers that could be pursued with an MS in Applied Statistics. This might include career options available or perhaps an article describing a particular career in more depth.

Well, for a more general set of careers, the ASA devotes a number of web pages to this very topic, although it does not distinguish between a PhD and MS options (this is often difficult to do, by the way). While these pages are more aimed toward someone who is thinking about entering the Statistics profession, it is also useful to people in the field who wish to see what other possibilities exist. See <http://www.amstat.org/careers/index.cfm?fuseaction=main>, including the tabs at the top of that page.

This is another reason to join a professional society, by the way. The ASA's *AmStat News* has published articles about professional statisticians and the work they do, and there is a Members Only section at the ASA website that contains news stories about professional statisticians.

I'm also hoping that our "Alum in Focus" section will help give some ideas of what our alums in particular are doing with their degrees. Thanks for the note, Fred.

What to Read?

Students and alums sometimes ask what is a good way to stay current in their field. Because statistics is so broad, this is a hard question to answer. For example, some alums run DOE's almost exclusively, and others many never run one in their careers.

If you want to see what the latest word is in some areas on industrial statistics, the key journals would be *Technometrics* (a joint ASQ (www.asq.org) and ASA journal) and *Journal of Quality Technology* ("JQT", an ASQ journal). The first is more technical. In both journals, look for articles that are of particular interest to you. At first, there will be a lot that you probably won't understand, but after a while it will start to become easier. For an easier read, and more emphasis on applications, consider *Quality Engineering* (also ASQ).

For review articles, consider *Statistical Science* (an IMS journal), as I mentioned above. This journal is also quite technical (that goes hand-in-hand with the purpose of most journals in Statistics), so it may take a few readings to begin to understand the material. *The American Statistician* (an ASA journal, mentioned above) also has readable articles, and sometimes has review articles as well. The ASA also has lighter publications, such as *STATS*.

If journal articles seem a bit too intimidating, or if you prefer a more general approach, read statistics books. There are thousands available, running from very general to very specific topics. I just checked the 20 or so books that I dragged home

over the past six months—they are almost all either from [Wiley](#), [Springer](#), or [Chapman & Hall/CRC](#), in case you want to look at a few key publishers. Did I mention that it is a good idea to join a professional society? Journals such as *Technometrics* and the *Journal of Quality Technology* have book reviews—these can be very useful in seeing the level and quality of the book, and the reviewers often cite similar books.

For a more systematic, textbook approach to learning about some statistical methods that you may not yet know, or as a great refresher, consider the NIST Engineering Statistics handbook, at <http://www.itl.nist.gov/div898/handbook/>. This handbook also contains a number of case studies, along with data sets.

For finding the names of articles from a vast number of statistical journals (as well as books, conference proceedings, book reviews, and more), use the Current Index to Statistics at <http://www.statindex.org/>. Note that this supplies only the *names* of the articles.

For searches on a large number of statistical journals (but not nearly as large as the Current Index), try Project Euclid at <http://projecteuclid.org/>. This site may also give you access to the journals themselves, not simply their names.

Of course, sites such as Wikipedia at http://en.wikipedia.org/wiki/Main_Page or general web searches can provide a wealth of information as well. Some of it will even be correct.

Software Notes

Microsoft Office versions before 2007 used an equation editor that they licensed from Design Science. This was a stripped-down version of Design Science's full-blown MathType editor, but it was still quite good and many of our students used it.

In Office 2007, Microsoft appears to have written their own equation editor. If you feel that this is an inferior version to what you have used in previous Office products, or if you want to have a more powerful (and faster) way to write equations, you may want to purchase the MathType editor from Design Science (<http://www.dessci.com/en/products/mathtype/>). It's \$97 for the wealthy, and \$57 for students.

Positions Available

Are you looking to hire one of our students? Tell us! When we get notices about job positions, we post them here at CQAS.

Also, if you are a current RIT student, see the general links to positions in the myCourses community 0307.700.00 CQAS Stats Q&As. (If you are not part of this community, please ask Francine to add you to it.)

Remembering Dr. Schilling

Edward G. Schilling, professor emeritus of The John D. Hromi Center for Quality and Applied Statistics (CQAS), statistician and internationally recognized expert in statistical quality control, passed away November 1, 2008. Professor Schilling was chair of the master's degree program in Applied and Mathematical Statistics from 1983 to 1992, and director of CQAS from 1992 to 1996. He was also a fellow of the American Society for Quality (ASQ), American Statistical Association (ASA) and The American Society for Testing and Materials (ASTM).



He was awarded many honors for his work in quality control by the ASQ, including the 1983 Shewhart Medal for outstanding technical leadership; the 1999 E.L. Grant Award for the development and presentation of educational programs; the 2005 Freund-Marquardt Medal for contributions to management standards; and its highest award, the Distinguished Service Medal in 2002. In addition, he was the only four-time recipient of the Brumbaugh Award, presented by the ASQ for the paper published in the preceding year that was judged to make the largest single contribution to the development of industrial application of quality control. He was also the recipient of two awards named for his former professors: the 1984 Ellis R. Ott Award for contributions to quality management given by the Metropolitan New York Section of ASQ, and the H.F. Dodge Award by the ASTM EII Committee on Quality and Statistics in 1993. In 2006, he accepted an award for lifetime contributions to statistics at the Joint Research Conference on Statistical Quality, Industry and Technology.

Dr. Schilling has published extensively in the field of quality control and statistics. He served as Founding Series Editor for the Marcel Dekker series of books on Quality and Reliability, and he was associate editor of the fifth edition of Juran's Quality Handbook. His two books, *Acceptance Sampling in Quality Control* and *Process Quality Control* (with E.R. Ott and D. V. Neubauer), are among the leading texts in the field.

The Edward G. Schilling Memorial Endowed Scholarship is being established at RIT. Scholarship contributions may be sent to: RIT Office of Development, P.O. Box 92765, Rochester, NY 14692-8865.

Seven-Year Rule

Graduate students at RIT must complete their coursework within seven years. This is the “seven-year rule,” and is typical of the timing required at other universities. Part-time students who take one course each quarter will finish in about four years, so this rule is not a burden for those students.

If you are getting close to failing to meet the seven-year rule, please contact Francine immediately. While it is sometimes possible to get exemptions from this rule, it is quite difficult to do so, and students who can’t meet this rule will likely need to take additional courses to replace those courses they took in the “distant past.”

Advising

Each student should have filled a Plan of Study form (available at <http://www.rit.edu/kgcoe/cqas/academics/courseschedules.htm>) that has been approved by the student’s advisor. Feel free to contact your advisor about courses or any other academic questions. Don’t remember your advisor? Francine can tell you.

Have Questions, Comments, or Need Information?

Let us know!

Administrative:

Francine Smeltzer, Graduate Coordinator and Senior Staff Assistant
feseqa@rit.edu or (585) 475-2033

Academic:

Your advisor (Don’t remember who your advisor is? Ask Francine)

Praise, gripes, other questions/comments:

Joe Voelkel, Graduate Chair, joseph.voelkel@rit.edu or (585) 475-2231

Web Site

<http://www.rit.edu/kgcoe/cqas/>

Course Schedule

<http://www.rit.edu/kgcoe/cqas/academics/courseschedules.htm>.

This is our standardized schedule (but excludes some courses for non-CQAS students). This schedule is more trustworthy for long-term planning than the schedule from RIT’s SIS, which tends to upload default schedules from the previous year.

Puzzler Solution

There is not enough information to determine a fully justified solution, but the following is a working idea:

- The quiz is a sham! People really don't have Muppet personalities! The people who made this up are just doing it for fun!
- (Or—and this is really the key) People respond pretty much at random from one question to the other.

By the way, you should be able to see that the quiz must be a sham—or else psychologists may need to do a serious review of personality traits! This is because the Muppet personality depends only on the total score, and not directly on the actual frequency of answers. For example, If your scores for the 10 questions were (1,1,1,1,1,5,5,5,5,5) and your friend's scores were (5,5,5,5,5,1,1,1,1,1), then you both obtained scores of 30. You are both Elmo, even though you did not answer one question the same!

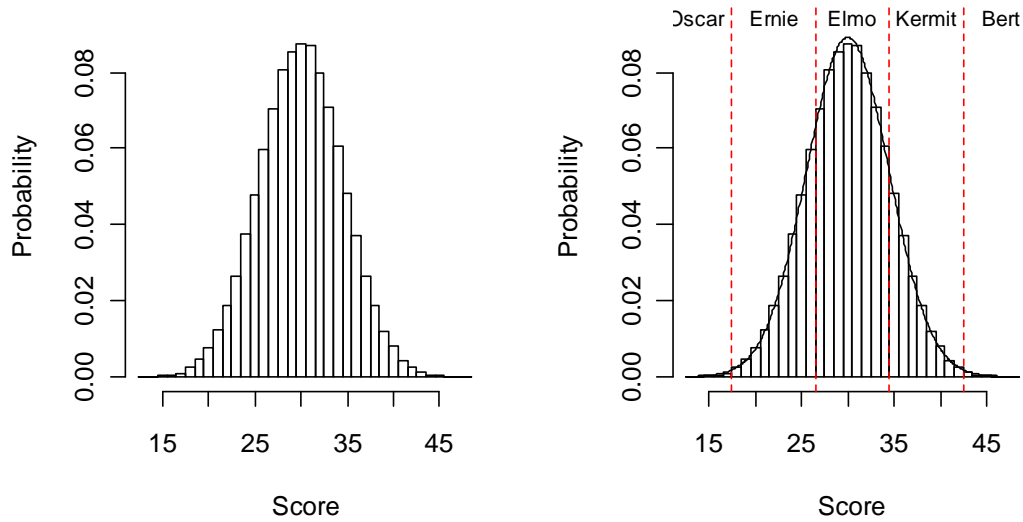
So, if we assume people respond to these questions pretty much at random, then we have the following:

1. The score for question i , say X_i , is a random variable whose distribution is the discrete uniform distribution on the integers $\{1, 2, 3, 4, 5\}$.
2. The mean and sd of X_i are $\mu = 3, \sigma = \sqrt{2}$. Recall that $\{1, 2, 3, 4, 5\}$, with equal probabilities of $1/5$, is the population distribution, not the sample distribution, so you need to divide by n (5) instead of $n - 1$ in finding σ .
3. The total score, $X = \sum_{i=1}^{10} X_i$ is a random variable with a mean of 30 and a sd of $\sqrt{10}\sqrt{2} = \sqrt{20} \approx 4.47$.
4. By the Central Limit Theorem, X is approximately $N(30, 20)$.
5. We could also estimate the distribution of X by simulating draws from the distribution of X (easy to do: simulate draws from the distributions of X_1, X_2, \dots, X_{10} and then add them up). I did this 100,000 times.
6. It is also possible in theory to also find the exact distribution of X (there are $5^{10} \approx 10,000,000$ combinations), but this failed on my PC (about 1 free GB of memory was needed) and it is really overkill.
7. To see the distributions, look at the two graphs below.
8. From this, we can estimate the fraction of people who are Oscar, Ernie, Elmo, Kermit, and Bert. We should incorporate the continuity correction here. For example:
 - Ernie: $P(17.5 < X < 26.5) = 0.214$
9. The results for all the Muppets are presented below the graph. Poor Oscar! Poor Bert!

Muppet Score Distributions.

Left side: results from 100,000 simulations.

Right side: same as left side, but with cut points, names, and normal approximation.



Name	Interval	Prob Simulation	Prob Normal Approx
Oscar	(9.5,17.5]	0.002	0.003
Ernie	(17.5,26.5]	0.217	0.214
Elmo	(26.5,34.5]	0.622	0.626
Kermit	(34.5,42.5]	0.157	0.155
Bert	(42.5,50.5]	0.002	0.003

My brother was amazed that I “knew” that most of his friends were Elmo’s. He was also Elmo. I was an Ernie-almost-Elmo (score of 26). You?

Which Muppet are You?

Have you ever wondered which Muppet character you are most like? A team of researchers got together and analyzed the personalities of Sesame Street characters, and put the information gathered into this quiz. Circle each question with the answer that most nearly describes you. Then add up the points that correspond with your answers to see which Muppet you are.

- 1) What describes your perfect date?
 - a) Candlelight dinner for two
 - b) Amusement park
 - c) Rollerblading in the park
 - d) Rock concert
 - e) See a movie

- 2) What is your favorite type of music?
 - a) Rock and Roll
 - b) Alternative
 - c) Soft Rock
 - d) Classical
 - e) Popular

- 3) What is your favorite type of movie?
 - a) Comedy
 - b) Horror
 - c) Musical
 - d) Romance
 - e) Documentary

- 4) Which of the following jobs would you choose if you had only these choices?
 - a) Waiter/Waitress
 - b) Sports Player
 - c) Teacher
 - d) Policeman
 - e) Bartender

- 5) Which would you rather do if you had an hour to waste?
 - a) Work out
 - b) Read
 - c) Watch TV
 - d) Listen to the radio
 - e) Sleep

- 6) Of the following colors, which do you like best?
- a) Yellow
 - b) White
 - c) Sky Blue
 - d) Teal
 - e) Red
- 7) Which one of the following would you like to eat right now?
- a) Ice Cream
 - b) Pizza
 - c) Sushi
 - d) Pasta
 - e) Salad
- 8) What is your favorite holiday?
- a) Halloween
 - b) Christmas
 - c) New Year's Day
 - d) Valentine's Day
 - e) Thanksgiving
- 9) If you could go to one of the following places, which would it be?
- a) Paris
 - b) Spain
 - c) Las Vegas
 - d) Hawaii
 - e) Hollywood
- 10) Of the following, who would you rather spend time with?
- a) Someone who is smart
 - b) Someone with good looks
 - c) Someone who is a party animal
 - d) Someone who has fun all the time
 - e) Someone who is very emotional

Now total your points and find your character below:

Q 1 a=4 b=2 c=5 d=1 e=3	Q 6 a=1 b=5 c=3 d=2 e=4
Q 2 a=2 b=1 c=4 d=5 e=3	Q 7 a=3 b=2 c=1 d=4 e=5
Q 3 a=2 b=1 c=3 d=4 e=5	Q 8 a=1 b=3 c=2 d=4 e=5
Q 4 a=4 b=5 c=3 d=2 e=1	Q 9 a=4 b=5 c=1 d=2 d=3
Q 5 a=5 b=4 c=2 d=1 e=3	Q 10 a=5 b=2 c=1 d=3 e=4

10-17 points: You are OSCAR. You are wild and crazy and you know it. You know how to have fun, but you may take it to extremes. You know what you are doing though, and are much in control of your own life. People don't always see things your way, but that doesn't mean that you should do away with your beliefs. Try to remember that your wild spirit can lead to hurting yourself and others.

18-26 points: You are ERNIE. You are fun, friendly, and popular. You are a real crowd pleaser. You have probably been out on the town your share of times, yet you come home with the values that your mother taught you. Marriage and children are important to you, but only after you have fun. Don't let the people you please influence you to stray.

27-34 points: You are ELMO. You are cute and everyone loves you. You are a best friend that no one takes the chance of losing. You never hurt feelings but sometimes have your own feelings hurt. Life is a breeze. You are witty and calm most of the time. You're the best of friends. Everyone feels they can confide in you. Just keep clear of back stabbers, and you are worry free.

35-42 points: You are KERMIT. You are a lover. Romance, flowers, and wine are all you need to enjoy yourself. You are serious about all your commitments. A family person. You call your Mom every day, and never forget a birthday. Don't let your passion for romance get confused with the real thing.

43-50 points: You are BERT. You are smart, a realm thinker. Every situation is approached with a plan. You are very healthy in mind and body. You teach strong family values. Keep your feet planted in them, but don't overlook a bad situation when it does happen.