

Using Humor in the Introductory Statistics Course

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Abstract

This paper discusses reasons for using humor in the statistics classroom. Humor strengthens the relationship between student and teacher, reduces stress, makes a course more interesting, and, if relevant to the subject, may even enhance recall of the material. The authors provide examples of humorous material for teaching students such topics as descriptive statistics, probability and independence, sampling, confidence intervals, hypothesis testing, and regression and forecasting. Also, some references, summarized strategies, and suggestions for becoming more humorous in the classroom are provided.

1. Introduction

Christopher Reeve, paralyzed from the neck down after a riding accident, was in a deep depression and contemplating suicide. Suddenly, a strange doctor with a heavy Russian accent entered Reeve's hospital room, announced that he was a proctologist, and declared that he was going to examine him immediately. The "doctor" was Robin Williams and this marked the first time Christopher Reeve laughed since the accident. [Reeve \(1999\)](#) describes how this laughter helped give him hope and changed his life. [Goldin and Bordan \(1999\)](#) describe how humor can be used for both the diagnostic and therapeutic phases of counseling. [Cousins \(1979\)](#), who had a very painful disease, found that several minutes of strong laughter would provide him with several hours of relief from pain and enabled him to sleep. [Lipman \(1991\)](#) is currently working on a book demonstrating how humor and laughter have the ability to help individuals with serious illnesses and disabilities deal with life.

While we stop short (barely) of comparing the quantitative methods classroom to a hospital emergency room, it is very clear that laughter is a powerful tool not to be overlooked by educators. As one of our colleagues has noted, "sadistics" can be a very painful course to students. Indeed, one classic joke about statistics courses is: "If I had only one day left to live, I would live it in my statistics class: it would seem so much longer."

This paper will discuss the benefits of using humor to teaching quantitative material, and will present some examples of how humor can be incorporated into the standard introductory statistics course.

2. Humor in the Classroom

The technique of using humor to enliven lectures is as ancient as the Babylonian Talmud. Rabbah (Babylonian Talmud, Shabbos 30b), a Talmudic sage who lived 1700 years ago, would say something humorous before starting to lecture to the scholars, and they would laugh; after that, he would begin his lecture. Rabbi Meir (Babylonian Talmud, Sanhedrin 38b), another Talmudic sage, was an expert in fox fables and would devote one-third of his lecture to parables. These sages recognized the value of humor in education, even in ethical and religious instruction. Most statistics textbooks do not use a humorous approach, with exceptions such as [Runyon \(1977\)](#) and [Pyrzczak \(1998\)](#).

[Blumenfeld and Alpern \(1985\)](#) discuss ten reasons to use humor in the classroom. These include such factors as opening communication and the humanizing effect of humor on image. Berk ([1996](#), [1998](#)) claims that humor has the ability to decrease students' anxiety, improve the ability to learn, and boost self-esteem. This, in turn, can encourage a more receptive learning atmosphere. One researcher found that having students watch an episode of Seinfeld helped calm them and reduced their heartbeats when they were later forced to do something

stressful, give an impromptu speech about Bosnia, a subject they knew very little about, in front of a camera. The heart rates of students who had watched the humorous Seinfeld episode rose from an average of 70 to averages of 80 to 85 beats per minute while speaking; the heart rates of students who had not been inoculated with humor rose to a mean of 100 ([Burkhart 1998](#)). [Lundberg and Thurston \(1992\)](#) discuss various ways humor can be used in the classroom.

3. Mechanisms of Humor in the Statistics Classroom

Some aspects of humor remarked on in the literature are of particular interest to the statistics instructor. Statistics, like most quantitative courses, is difficult to the point of being almost incomprehensible to most of the students in the class. Unfortunately for these students, it is required in many programs of study; many students are not there by choice. What are some of the mechanisms by which humor serves to transform the statistics classroom into a more effective learning environment? First, humor, in enhancing communication, helps to establish a warm, human relationship between the instructor and the class. Humor can make a potentially boring subject more interesting. Finally, humor has been shown to reduce student stress and enhance recall ([Kaplan and Pascoe 1977](#); Berk [1996](#), [1998](#); [Burkhart 1998](#)).

3.1 Humor Builds Relationships and Enhances Communication

According to a 1985 Robert Half International survey ([Sultanoff 1993](#)), only 15 percent of workers are fired because of incompetence. The other 85 percent are fired because of their inability to communicate and get along with their colleagues. Human resources personnel almost always consider humor to be one of the key attributes of a desired employee. [Brotherton \(1996\)](#) found that humor boosted employee morale and thus led to improved productivity in the workplace. According to [Sultanoff \(1993\)](#), humor in the workplace helps to build relationships and facilitate communication.

Humor may be equally effective in the classroom and is seen as a key attribute for successful teachers. [Bryant, Comisky, Crane, and Zillmann \(1980\)](#) found a positive correlation between use of humor in a classroom and students' evaluations of their male teachers on appeal and general effectiveness. Use of humor by female professors did not correlate with student evaluations. The authors attribute this to social conditioning and stereotyping. [Bryant et al. \(1980\)](#) also cite a study indicating that a sense of humor is one of the most important attributes students want from teachers.

One route by which humor functions in the classroom is to make instructors seem more approachable, down-to-earth, and friendly. [Flowers \(2001\)](#) suggests that the use of humor in technology education lessens the gap between student and teacher and stimulates cooperative work.

In particular, self-effacing humor is a positive way of increasing rapport between teachers and students. It is very important to start a course with a bit of humor so that students recognize that you are approachable. Let students see that their professor is friendly and caring. Students should not be afraid to ask questions, especially in difficult quantitative courses. Try starting any course by telling students: "To succeed in life youse gots to talks good." Or, try the following: "The administration wanted several of us professors to take early retirement. My response to the administration was: I thought that this was a job you retire to, not from."

Last term, one of us cancelled a class in order to present a paper at a conference. The class was told the following: "I heard that many of you complained to the Dean about my canceling a class. At first, I was so happy that you actually missed my lectures. The Dean then informed me that the complaint was, why was I not more scholarly?"

The best way to deal with students who are talking during class is to first try some humor. Nasty retorts to students often lead to confrontations, which can escalate. You might try: "What! I hear voices again. My psychiatrist told me that if I keep taking my Prozac the voices will go away." Or, "I have an inferiority complex so please don't lecture while I'm lecturing. I am afraid that the class will prefer your lecture over mine."

3.2 Humor as a Stress-Reducing Tool

As noted above, humor has the ability to relax people, reduce tension, and thereby create an atmosphere conducive to learning and communication. One study on postoperative pain found that patients spoken to gently and sympathetically by an anesthetist needed half the pain-killing medication and were discharged on average 2.6 days earlier than patients treated brusquely ([Talbot 2000](#)). Humor in the classroom relaxes students and makes lectures more interesting. It is a non-threatening way for professors and students to communicate without raising emotions.

Humor is especially important before examinations when students are often "stressed out." Students frequently take up time during a review with questions about how many questions there will be, the point value of each question, partial credit, and so on. We find we can often relieve some of the tension by explaining the following partial credit rule: If you make certain very egregious errors (for example, a negative probability), not only will you not get partial credit, but we will somehow manage to take points off of exams you are taking in other subjects. We might even take away points from courses taken in high school. In fact, one day, when your children and grandchildren are taking my class, we will take away points from their exams too! Alternatively, "Give me a probability greater than one and I will take away your car."

The exams themselves should have humorous questions to alleviate some of the tension.

Instead of using the names of companies such as Microsoft, refer to companies with names such as Morons-R-Us, The Morons' Assoseation of Americka, Half-wit Enterprises, Cowdung Perfume, or Cosmo Kramer Frozen Yogurt. [Berk \(2000\)](#) found that humorous exam questions in undergraduate and graduate statistics classes could indeed reduce student stress. Berk ([1998](#), [2000](#)) suggests several strategies for injecting humor into exams, one of which is to add an irrelevant choice to some questions of a multiple-choice test. The choice would be so outrageously funny that no student would possibly consider it a correct answer. Just in case, the author suggests including the following statement in the exam instructions: "... is intended solely for your entertainment. Any other use, such as for the correct answer, is strictly prohibited without prior written consent." Of course, some degree of caution should be exercised, especially in a class with a large proportion of foreign students. However, some humor is universal. Certainly there will be some television or movie characters or brand names that everyone can relate to.

A possible warm-up joke before the final examination: The Top Ten Reasons to Become a Statistician.

- 10. Deviation is considered normal.
- 9. We feel complete and sufficient.
- 8. We are mean lovers.
- 7. Statisticians do it discretely and continuously.
- 6. We are right 95 percent of the time.
- 5. We can safely comment on someone's posterior distribution.
- 4. We may not be normal but we are transformable.
- 3. We never have to say we are certain.
- 2. We are honestly significantly different.
- 1. No one wants our jobs.

3.3 Humor Makes a Course More Interesting

Humor makes the course more interesting to students ([Whisonant 1998](#); [Trefts and Blakeslee 2000](#)). It promotes attendance since students do not like attending boring classes. You might

tell your students: "Education is the only paid-for commodity regarding which, the less you provide, the happier the customer."

Even a supposedly boring course such as statistics can be livened up with interesting and humorous examples. Before teaching permutations, ask the class why there is always a fight at a wedding over seating -- some relatives will always be insulted over where they have been seated. Then discuss the problem of permutations. How many ways can you seat ten people at a table with ten seats? Ask the class why it is so difficult for two couples to remain friends and relatively easy for two individuals to remain friends? Again, the answer has to do with the number of permutations involved.

[Trefts and Blakeslee \(2000\)](#), in a study dealing with library instruction, find that humor is a good way of making a boring subject more interesting for both students and instructors. [Friedman, Halpern, and Salb \(1999\)](#) show how humorous anecdotes can be employed to make a statistics course more interesting to students. For example: Dr. Nona Nitawitz has noticed that there is a strong inverse correlation between the amount of clothing people wear and the weather, that is, when it is very cold (low temperatures) individuals wear more clothing and when it is hot (high temperature) individuals wear less clothing. There has been a very bitter cold spell for the last ten days. Dr. Nitawitz suggests that, given the strong inverse correlation between amount of clothing and weather, everyone should go out in their underwear for the next few days and thus cause the temperature to rise.

3.4 Humor Enhances Recall of Information

While humor certainly makes a course more interesting, it can also promote long-term recall. [Korobkin \(1988\)](#) found that classroom information is retained longer when presented in a humorous manner. Numerous studies in the field of advertising have noted that humor is the most effective tool for enhancing recall of advertisements. For instance, [Stewart and Furse \(1986\)](#), in a study that analyzed 1059 commercials on 150 elements found the highest correlation between humor and recall of a commercial. A study by the ASI Corporation found that humorous commercials were remembered by 17 percent more viewers than the average commercial. The advertisements people tend to remember are the funny ones, for example, the humorous milk campaign ("Got milk?").

Humor is a way of getting students to pay attention, and it enhances the recall of lecture information ([Powell and Andresen 1985](#)). Years - some would say days - from now, students will have forgotten much of what we teach them. But they remember the humorous methods used to illustrate important points.

[Kaplan and Pascoe \(1977\)](#) claim that humor that is relevant to the subject material enhances the retention of the concepts being taught. [Edwards and Gibboney \(1992\)](#) suggest that humor

in the classroom is particularly effective if it helps make a point or clarify a concept, that is, if it is relevant to the subject material.

4. Some Examples

Some of the following jokes and witticisms have been around a very long time, and some of these may be found on the Internet resources listed at the end of the paper. Most have been used in class by one or more of the authors. We have tried to present this small subset of the available humor in the approximate order of presentation of a typical introductory statistics class.

4.1 Introduction

- Two statisticians were traveling in an airplane from Los Angeles to New York City. About an hour into the flight, the pilot announced that although they had lost an engine, there was no need for worry as the plane had three engines left. However, instead of 5 hours travel time it would now take them 7 hours to get to New York. A short while later, the pilot announced that a second engine failed. They still had two left, but it would take 10 hours to get to New York. Somewhat later, the pilot announced that a third engine had died. Never fear, he announced, because the plane could fly on a single engine. However, it would now take 18 hours to get to New York. At this point, one statistician turned to the other and said, "Gee, I hope we don't lose that last engine, or we'll be up here forever!"
- Three adventurers are in a hot-air balloon. Soon, they find themselves lost in a canyon in the middle of nowhere. One of the three says, "I've got an idea. We can call for help in this canyon and the echo will carry our voices far." So he leans over the basket and yells out, "Helllllooooo! Where are we?" They hear his voice echoing in the distance. Fifteen minutes pass. Then they hear this echoing voice: "Helllllooooo! You're lost!!" One of the three says, "That must have been a statistician." Puzzled, his friend asks, "Why do you say that?" The reply: "For three reasons. One - he took a long time to answer, two - he was absolutely correct, and three - his answer was absolutely useless."

4.2 Descriptive Statistics

- According to recent surveys, 51 percent of the people are in the majority.
- Did you hear the one about the politician who promised that, if he was elected, he'd make certain that everybody would have an above average income?

- A statistician is someone who can have his head in an oven and his feet in ice, and say that on the average he feels great.
- It is proven that the celebration of birthdays is healthy. Statistics show that those people who celebrate the most birthdays will be the oldest.
- 42.35 percent of statistics are meaningless.
- Meaningless statistics are up 6.5 percent from last year.

4.3 Probability and Statistical Independence

- A statistics major was completely hung over the day of his final exam. It was a true/false test, so he decided to flip a coin for the answers. The statistics professor watched the student the entire two hours as he was flipping the coin ... writing the answer ... flipping the coin ... writing the answer. At the end of the two hours, everyone else had finished the exam and left the room except for that lone student. The professor walked over and said, "Listen, I see that you did not study for this statistics test, you didn't even look at the exam questions. If you are just flipping a coin for your answers, what in the world is taking you so long?" Still flipping the coin, the student replied "Shhh! I am checking my answers!"
- I read that there is about one chance in one million that someone will board an airplane carrying a bomb, and I started carrying a bomb with me on every flight I take. The way I figure it, the odds against two people having a bomb on the same plane are 1 in a trillion.
- Patient: Will I survive this risky operation? Surgeon: Yes, I'm absolutely sure that you will survive the operation. Patient: How can you be so sure? Surgeon: Well, 9 out of 10 patients die in this operation, and yesterday my ninth patient died.
- A total of 4000 cans are opened around the world every second. Ten babies are conceived around the world every second. Therefore, each time you open a can, you stand a 1 in 400 chance of becoming pregnant.
- There was a statistician who, when driving his car, would always accelerate hard before coming to an intersection, whiz straight over it, and slow down again once he was beyond it. One day, a passenger, understandably unnerved by his driving style, asked him why he would cross intersections so rapidly. The erudite statistician replied: "Well, statistically speaking, you are for more likely to have an accident at an intersection, so I just make sure that I spend less time there."

4.4 Sampling

- One day some papers catch fire in a wastebasket in the Dean's office. Luckily, a physicist, a chemist, and a statistician happen to be nearby. Naturally, they rush in to help. The physicist whips out a notebook and starts to work on how much energy would have to be removed from the fire in order to stop the combustion. The chemist works on determining which reagent would have to be added to the fire to prevent oxidation. While they are doing this, the statistician is setting fires to all the other wastebaskets in the adjacent offices. "What are you doing?" the Dean demands. To which the statistician replies, "To solve a problem of this magnitude, you need a large sample size."

Confidence Interval Estimation

- Logic is a systematic method for getting the wrong conclusion with confidence. Statistics is a systematic method for getting the wrong conclusion with 95 percent confidence.
- Did you hear the one about the statistician who took the Dale Carnegie course? He improved his confidence from 0.95 to 0.99.
- Statistics means never having to say you're certain.
- Q: How many statisticians does it take to change a light bulb? A: One plus or minus three.

Hypothesis Testing

- Q: Did you hear about the statistician who was thrown in jail? A: He now has zero degrees of freedom.
- A statistician is a person whose lifetime ambition is to be wrong 5 percent of the time.

Regression and Forecasting

- Regression is a powerful tool for forecasting. Economists using it successfully predicted ten out of the last two recessions.
- Forecasting is like trying to drive a car blindfolded while following directions given by someone looking out of the rear window.

5. How to Produce Humor

This paper has provided some avenues for including humor in a statistics course - for example, humorous exam questions. A good starting point for professors interested in adding humor to their classrooms would be [Berk \(1996\)](#), in which ten strategies are provided. These include the use of humorous material on syllabi, humorous examples, humorous problem sets, and humorous material on exams. Some books that might be helpful include [Vorhaus \(1994\)](#) and [Allen \(1998\)](#).

[Lipman \(2002\)](#) advises those interested in creating their own classroom humor to read books of jokes and to listen to professional comics. Take notes, especially to learn about the professionals' use of such techniques as exaggeration, pauses, and timing. Take reality and exaggerate it - much humor lies in observations about real life and truthful situations (as an example, watch any episode of Seinfeld). Make sure never to laugh at your audience, the students. It is fine to laugh at yourself - self-deprecating humor is always appreciated.

6. Conclusion

In conclusion, humor not only plays an important role in the healing process but is also very important in education. Humor can create a positive learning environment, reduce the stress of both teachers and students, improve communication between students and the teacher, and can increase the amount of information absorbed by students. The last day of class you might emphasize the importance of quantitative skills with the following: Three out of four, or 90%, of successful business people attribute their success to mathematical skills.

7. Resources

Statistics humor may be found at several Internet sites, including the following:

Gary C. Ramseyer's First Internet Gallery of Statistics Jokes and Archives of Statistics Fun. (www.ilstu.edu/~gcramsey/Gallery.html)

Gary Ramseyer's Archives of Statistics Fun. (www.ilstu.edu/~gcramsey/FunArchives.html)

Statistics and Statistician Jokes (by Joachim Verhagen). (http://www.xs4all.nl/~jcdverha/scijokes/1_2.html#subindex)

Statistician Jokes. (www.geocities.com/CapeCanaveral/4661/projoke48.htm)

IdeaBank. (www.idea-bank.com/ib/html/samples-statistics.html)

Statistician Jokes. (<http://info.business.utah.edu/~bebrblf/statjoke.html>)

Stat Jokes. (<http://eval1.crc.uiuc.edu/edpsy390/statjokes.html>)

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Addendum

Volume 11, Number 1, of the *Journal of Statistics Education*
[to the Editor](#) concerning this article.

contains a [Letter](#)

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