

Teaching Dossier

Erik Barry Erhardt

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Work

Dept of Mathematics and Statistics
1 University of New Mexico
MSC01 1115
Albuquerque, New Mexico, 87131-0001
erike@stat.unm.edu
+1 (505) 750-4424
Fax: +1 (505) 277-5505



Home

Albuquerque, New Mexico 87108
+1 (505) 480-4462
StatAcumen.com
erik@StatAcumen.com

US Citizen

The goal of this living portfolio is to be reflective about teaching, for the recording of teaching accomplishments, as the foundation for further reflection, and for recording teaching experience.

Recognition

Nominated for New Faculty Teacher of the Year Award, UNM. 2011 – 2012.
Outstanding Teaching Assistant of the Year Award, UNM. 2005 – 2006.
Excellence in Teaching Award, Dept of Math and Stats, UNM. 2006.

Navigation

In recognition of the completeness of this document, the Reflective Statement in [1.1](#) is my teaching statement. The remaining document provides more detail and chronicles my teaching career.

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1 Reflective Statement on Teaching Philosophy, Practices, and Goals

1.1 Reflective Statement

The reflective statement explicitly describes my thoughts and goals for teaching.

My teaching philosophy is not an abstraction independent of the actual educational experience. Rather, my teaching philosophy is woven throughout the goals I have set for my students. Class goals are determined by the learning needs of my students, their expected profile when they leave the college or university, and what I value as important skills, knowledge, and abilities. Teaching, for me, should connect with the real experiences and expectations of students and should be shaped around students' practical and educational needs. In the following narrative, I expose my teaching philosophy using a statistics course as reference and illustration of my goals as an instructor.

There are a number of *strategies* that I employ to help my students accomplish the goals I have for them. The teaching experience is a synergistic process that is enriched by the collaboration of everyone involved, starting with the instructor. For me, one important step for being an effective teacher is my thorough and expert knowledge of the subject matter. Having this continually-developing understanding, I am more effective at presenting and relating new ideas to my students, putting ideas in context, finding useful analogies and examples, presenting current thinking on the subject, and establishing appropriate emphases. One strategy I employ is to review several textbooks for each lecture topic. Because no single textbook explains everything in the best way, by comparing several sources I am able to distill the best definitions, explanations, and examples and am less likely to overlook important aspects of the topic. As a supplement to the textbook, each time I reteach a class I reread the relevant sections of the texts assigned to students. This makes the material fresh in my mind, and allows me to acknowledge the parts I have found dull, unclear, or especially important.

In the classroom, I emphasize the importance of *conceptual understanding*. I begin by giving students a conceptual framework on which to ground the major ideas and the factual information of the course. In statistics, the framework is a structure detailing methods for working with different types of data motivated by types of hypotheses or questions. Throughout the course, I indicate where we are on the data analysis framework. My goal is that the study of statistics does not appear as a mass of formulas and hypothesis tests, but rather as an organized and structured tool for making sense of the world. I emphasize the underlying ideas that are common among methods in the course, tying the basic facts together in order to facilitate the conceptual linkages for students. I repeatedly touch base with the fundamentals. While there are dozens of equations in basic statistics, nearly all stem from a handful of basic ones. I stress the essential form and variations so that each new formula is familiar by analogy. I model the processes of statistical reasoning and explain what and how we learn when applying a statistical analysis, as well as what cannot be learned.

Conceptual understanding, however, must be supported by *concrete applications*. In this respect, the ability to palpably explain ideas and apply skills to solve problems is a fundamental goal of my courses. For instance, when covering common distributions (binomial,

geometric, Poisson, normal) I ask my students which everyday situations can be modelled by each distribution. Since statistics is an applied mathematics, I give my students concrete real-life situations to analyze, trying to include examples that span my students' majors and interests. It is more important that they recognize general patterns than remember formulas exactly.

One excellent way of crystallizing ideas is related to the use of *appropriate examples*. Ideas are made accessible, and hopefully memorable, through the way they are related to experience. I favor examples that are personal or humorous because students tend to remember those best. When possible, I solicit data from students because this engages them and gives them a stake in the results. One strategy is to encourage students to apply their own backgrounds. I sometimes develop examples in class by asking the students if anyone has dealt with data recently, and if so I use their context to frame a problem. On several occasions, this invitation has led students to volunteer scenarios and approach me after lecture to discuss the work they are doing.

In addition, I both *demonstrate and describe* statistical concepts. A course in introductory statistics emphasizes concepts rather than calculations; however, each of the ideas can be demonstrated by the equations we use for inference. For example, many students intuitively understand that before observing data that the mean (average) of several observations is less variable than any individual observation, but this intuition becomes concrete when equations demonstrate why this is the case. Most importantly, learning is an active process that requires the learner to work with and apply new material to past knowledge and to everyday life. Whenever possible, I have my students articulate similarities and differences among ideas — for example, explaining when and why it is more appropriate to describe the center of data using the median (skewed distribution) rather than the mean (symmetric distribution). I have my students relate outside events or activities to the ideas covered in the class. This helps students to develop skills for independent and critical thinking.

How classes are *designed and organized* greatly influences learning. For me, improving the structure of a course is an effort to improve student understanding. For example, I divide my courses into parts. The first few weeks we cover the basic concepts and fundamental ideas in a thorough way. The rest of the course builds on this established base. Along with design and organization, a clear teaching style contributes positively to the learning environment. Each lecture focuses on a few main points in order to keep the concepts clear and improve understanding. I also organize my individual lectures into short, timed segments. This helps me organize the lectures to leave time for a summary, improving both the pace and timing of the lecture. If I find a lecture is running long, I find a good stopping point, summarize up to that point, and pick up with a summary of where we ended in the next class. It is important to try not to include too much material in a single lecture and to feel comfortable to stop early, if necessary, to use remaining time to review and answer questions.

I begin each lecture with a *brief summary* of the main points covered in the last meeting and then call for students' questions. This helps students identify what I consider most important, evaluate students' understanding of major concepts and ideas, and provide a good transition between major topics. At the end of each major and minor topic, I give a summary of what was just covered and how the information can be applied.

After the recapitulation, I *introduce and motivate the current lesson*, explaining why it is important. By clearly laying out what I am going to do, my aim is to eliminate a lot of

avoidable confusion. I want my students to concentrate on what I'm saying, rather than to wonder how it relates to the whole. I follow the general principle of "Tell 'em what you're gonna to tell 'em; tell 'em; and then tell 'em what you've told 'em." I explicitly convey to my students the main points of the lecture, cover those ideas, and then summarize ideas at the end of class.

When my lectures exceed an hour and fifteen minutes, I *schedule a break* for my students. I recognize that a long lecture is more fatiguing for students than for me, the lecturer. This is one way I can show interest and concern for my students: by giving them a chance to regain their concentration.

Logistical aspects play an important part in good class design. One way I achieve this is by paying attention to my board work. I plan my boardwork in my lecture notes, sometimes leaving an outline or set of equations up for the entire lecture. Because I have a soft voice, I say what I'm writing on the board as I write it, and then I turn to face the class and repeat it. When making important points I am careful to face the class so that I can read the students' faces to determine whether they are comprehending the material. I am also consistent in my style. For example, when presenting a definition, I write the symbol DEF/ and then underline the word I am defining (I specify at the beginning of the course that this is how I will always define a term). When performing a multipart procedure, I will often name the steps and write the step names on the board as I am performing it; this practice emphasizes the structural aspects of problem solving and reinforces student learning. For example, for a hypothesis test, the steps include (1) stating the hypothesis in words and notation, (2) calculating the test statistic, (3) finding the associated p-value with the correct reference distribution, (4) stating the conclusions in terms of the original problem, and (5) checking model assumptions and consider another statistical test if evidence of violation.

I believe, nonetheless, that class design and organization must be molded around students' different *learning styles*. In order to reach every student, I rephrase explanations of major points several times. No single explanation will be clear to all students, and repetition, analogy, and variation leads to learning. One way I address different learning styles is by developing the same point in two or three different modes: mathematically, verbally, and graphically. Having struggled with difficult statistical concepts myself, I empathize with students' difficulties in learning the material for the first time. I acknowledge the difficulty of certain concepts before introducing them, but assure them that everyone will be able to understand with practice. I keep this in mind so that I don't forget that ideas that have become natural for me can still be challenging for students.

Effective *eye contact* is a great tool for assessing students' understanding of concepts and ideas. Eye contact helps me determine if the class is understanding or if students are bored or confused. If I see a glazed look which suggests that students are not following me, I interrupt my lecture and say, "We may be going too fast..." or "This point doesn't seem to be clear to some of you..." Asking direct questions is another tool for assessing students' learning. When students look confused, but won't ask questions, I ask them directly whether they understand what I am saying. At the beginning of a course, when students feel apprehensive about speaking up, I let them know that it's okay to be confused and that they're encouraged to ask questions in my class. I may say something that indicates that students often find a given topic difficult the first time and go on to say a little more about it.

I will also *ask questions* during lecture, often choosing students at random so that they

will learn that they need to consider questions personally and not rely on the same few vocal students. When solving a problem at the board, I often ask leading questions to have the students start thinking ahead. Questions also give me immediate feedback of whether the class is understanding, and introduces variety into lecture. Each class period, I arrive early and stay late to allow time for questions. Some students feel more comfortable initially approaching me with questions privately, rather than asking publicly.

Involvement in the class is strengthened if students develop *high expectations* for themselves. I foster an environment where students have high expectations of themselves, of their classmates, and of their teacher. I tell students that I expect them to spend time and to work hard in my classes. I emphasize the importance of holding high standards for academic achievement.

An environment of high expectations is supported by *constant feedback*. I periodically discuss how well we are doing in the course, both by schedule and by achievement. Moreover, I provide students with frequent opportunities to perform and receive suggestions for improvement. Classroom exercises, for instance, give students immediate feedback on how well they do. I may ask my students to schedule conferences with me to discuss their progress. Also, I try to be available to students for assistance with their work when they need it. I return homework, quizzes, and exams the following class, in most cases, and I post solutions for all work assigned, whether graded or not. After grading work, I send an email to the class giving a summary of the class' performance. My goal is that when they leave my course they will be able to apply what they've learned to real-life problems and be prepared for further instruction in the topic.

I also solicit and use feedback from my students in the form of a midsemester *formative evaluation*. This formative evaluation (as differentiated from a summative or end-of-course evaluation) is designed to give very specific, concrete information on where I can make improvements in course content or organization, assignments, or aspects of my teaching effectiveness during the same semester rather than next time I teach the course. Responding visibly to student suggestions and criticisms is an important part of the formative evaluations, letting the students know that their comments have been thoughtfully considered. The day I receive the evaluations I summarize them and send an e-mail to the students so that they know how the class responded. I thank the students for their comments and their suggestions and give a brief, non-defensive account of those suggestions I can use this semester, those which must wait until the next time I teach the course, and those which I either cannot or, for pedagogical reasons, will not change.

Finally, I participate in teaching workshops and training whenever there is an opportunity. My most valuable response to training has been the development of my teaching dossier. The goal of that portfolio is to be reflective about teaching, for the recording of teaching accomplishments, as the foundation for further reflection, and for recording teaching experience. The experience of critically thinking and writing about teaching continues to have a profound impact on my development from a good teacher into an excellent educator. For more, see statacumen.com/pub/ErikBarryErhardt_TeachingDossier.pdf.

1.2 Practices

Practices details my strategies for fulfilling my thoughts and goals for teaching.

Emphasizing Conceptual Understanding

I begin by giving students a *conceptual framework* on which to hang the major ideas and the factual information of the course. In statistics the framework is a structure, detailing common methods for working with different types of data motivated by types of hypotheses or questions. Throughout the course, I indicate where we are on the data analysis framework. I hope that the study of statistics does not appear as a mass of formulas and tests, but rather as an organized and structured tool for making sense of the world. I emphasize the underlying ideas that are common among methods in the course, tying the basic facts together, to make the conceptual linkages for students.

I repeatedly touch base with the *fundamentals*. While there are dozens of equations in basic statistics, nearly all stem from a handful of basic ones. I stress the essential form and variations so that each new formula is familiar by analogy.

I model the processes of statistical *reasoning* and explain what and how we learn when applying a statistical analysis, as well as what can not be learned.

To improve the structure of the course in an effort to improve student understanding, I divide the course into *parts*. The first few weeks cover the basic concepts and fundamental ideas in a thorough way. The rest of the course builds on this established base.

Explaining Clearly

Each lecture focuses on a *few main points* in order to keep the concepts clear and improve understanding. I try to tell my students the main points of the lecture, cover those ideas, then summarize the ideas at the end. It is important to try not to include too much material in a single lecture, feeling comfortable to stop early, or to use remaining time to review and take questions.

I carefully *define* all concepts and terms used the first time they are introduced. I do not assume that the students know or remember concepts and terms from previous courses. If necessary, I look at a few introductory texts to find the clearest definition of a term, especially if it is either not defined or not defined well in the textbook used in the course.

In order to try to reach every student, I *rephrase* explanations of major points several times. No single explanation will be clear to all students, and repetition, analogy, and variation leads to learning. When possible, I develop the same point in two or three different modes: mathematically, verbally, and graphically.

Ideas are also emphasized using many concrete, and hopefully memorable, *examples*. I favor examples that are personal or humorous because students tend to remember those best. I solicit data from the students when I can because it engages them and gives them a stake in the results. For example, to illustrate bias in people's choices of random numbers, I have each student write a number from a range down on a piece of paper, then I create a stem-and-leaf plot on the board; the numbers are always clustered in the low range.

I both *demonstrate* and describe statistical concepts. A course in introductory statistics emphasizes concepts rather than calculations; however, each of the ideas can be demonstrated

by the equations we use for inference. For example, many students intuitively understand that the mean (average) of several observations is less variable than any individual observation, but this intuition becomes concrete when the equation demonstrates why this is the case.

Having struggled with difficult statistical concepts myself, I *empathize* with students' difficulties in learning the material for the first time. I *acknowledge the difficulty* of certain concepts before introducing them, but assure them that everyone will be able to understand with practice. I let them know that some of the ideas of statistics are much more difficult than even many of those from calculus. I keep this in mind so that I don't forget that ideas that have become natural for me are still difficult for the students.

Being Well Prepared

I keep a set of *cumulative notes* for each course topic so that my presentation each subsequent teaching of a course will be more complete and can be more specific to the audience of students.

As a *journal*, after each lecture I record some notes for what worked, what didn't work, and improvement ideas to implement next time I teach each topic. I often make the changes immediately while the ideas are fresh.

I review *several textbooks* for each lecture topic. Because no single textbook explains everything best, by comparing several, I am able to distill the best definitions, explanations, and examples and am less likely to overlook important aspects of the topic.

So that I can complement the textbook, each time I reteach a class I *reread* the relevant sections of the texts assigned to students. This makes the material fresh in my mind, and allows me to acknowledge the parts I found dull, unclear, or especially important.

For each course I prepare a *detailed course syllabus*, have it available on the course website with links to resources I have prepared for use throughout the course. I either pass it out the first day or have the students print it to bring to the second class (depending on the department's photocopying policy). On it I include information such as the course description, prerequisites, the majors it will help prepare students for, and policies on grading, homework, quizzes, and exams. Also, there is my contact information, a link to the textbook, availability and links to software resources used in the course, my lecture notes (scanned if handwritten), common statistical tables, and policy about students with disabilities. Additionally, I provide a calendar by week of the entire course, with sections covered in the text, links to handouts and datasets used, homework exercises assigned and solutions, example quizzes and exams with solutions, and actual quizzes and exams after they are taken with solutions.

I was fortunate to teach the *same course* subsequent semesters several times. At UNM this occurred for Stat 145 for Fall 2004 and Spring 2005, and Stat 345 Summers of 2005 and 2006. This gave me the opportunities to profit from my mistakes. For example, I might make a note to myself in my lecture notes to remind me to spend more time on a difficult idea. Executing these suggestions to myself the very next semester reinforces my own learning.

By *auditing* the same course taught by colleagues, I was able to get ideas for teaching a course for the first time. The experience provides a good review of the content, and I may pick up two or three good teaching techniques, as well.

Giving Lectures That Are Easy to Outline

I begin each lecture by letting the students know *what the lesson is about and why it is important*. Then I state the objectives for the lesson, and end by summarizing the major points. By laying out what I am going to do, I hope to eliminate a lot of avoidable student confusion. I want my students to concentrate on what I'm saying, rather than wondering how it relates to the whole. I follow the general principle of "Tell 'em what you're going to tell 'em; tell 'em; and then tell 'em what you've told 'em."

I plan to improve my lecture by writing an *outline* on the blackboard before beginning. When I prepare electronic class notes (Stat 538–9, Stat 427–428), I format them so that a table of contents is automatically generated, being something of an outline. When I teach from a computer I page through the notes at the beginning to let the students know what will be covered, and give a quick visual of how that will be done.

I organize my lectures into *short, timable* segments. This helps organize the lectures to leave time for a summary, and improves both the pace and timing of the lecture. If I find during a lecture that I'm running long (rarely short) I can find a good stopping point, summarize up to that point, and pick up with a summary of where we ended next time.

When my lectures exceed an hour and fifteen minutes, I *schedule a break* for my students. A long lecture is more fatiguing for students than for me, the lecturer. This is one way I can show interest and concern for my students, by giving them a chance to regain their concentration.

I pay attention to my *board work*. On the first day of lecture, I begin by determining the visibility of the board from several vantage points in the room. Because I have a soft voice, I say what I'm writing on the board as I write it, then I turn to face the class and repeat it. I also am careful to face the class when making important points so that I can read in the students' faces whether they are comprehending. I am consistent in my style, for example, when presenting a definition I start with "Def/" then underline the word I am defining, and I point out the first instance that this is how I will always define a term. When performing a multipart procedure, I will often name the steps and write the step names on the board as I am performing it; this practice emphasizes the structural aspects of problem solving and reinforces student learning. For example, for a hypothesis test, the steps include (1) stating the hypothesis in words and notation, (2) calculating the test statistic, (3) finding the associated p-value with the correct reference distribution, (4) stating the conclusions in terms of the original problem, and (5) checking model assumptions and consider another statistical test if evidence of violation. I do not erase what I have just written, for example to simplify an expression, but write out each simplification, regardless of how tedious.

Summarizing Major Points

I begin each lecture with a *brief summary* of the main points covered in the last meeting and then call for students' questions. This helps the students identify what I consider most important, check students' understanding of major concepts and ideas, and provide a good transition between major topics. At the end of each minor and major topic, I give a summary of what was just covered and when the information can be used.

Identifying Important Ideas

I explicitly *call attention* to the most important ideas in each lecture. It is a lot to ask of a student seeing the information for the first time, and trying to keep up with note taking, to also have to guess what is important, so I tell them.

I explain or demonstrate to students *why a particular point is important*. The best way to cue students to the importance of an idea is to show them the role that idea plays in an overall understanding of the course material or in applications beyond the course. Explaining why an idea is important not only gets the students' attention, it gives them a framework on which to hang the idea.

I use *repetition* to draw students' attention to the main ideas. I try to express an idea using different language or examples to communicate important points.

Inviting Students to Share their Knowledge and Experiences

I encourage students to apply their *backgrounds*. I sometimes develop examples in class by asking the students if anyone has dealt with data recently, and if so I use their context to frame a problem. On several occasions, this invitation has led students to later volunteer scenarios, and approach me after lecture to discuss the work they are doing.

Knowing If the Class Is Understanding

Getting and Using Feedback

I have improved the amount of *eye-contact* I have with the students during my lectures. It has helped me determine if the class is understanding, determine if the students are bored or confused, and I think it has improved the presentation. If I see a glazed look which suggests the students are not following me, I interrupt my lecture and say, "We may be going too fast. . .," or "This point doesn't seem to be clear to some of you. . ." I have also found that if someone is daydreaming, they will tune back in if I ask a question.

When students look confused, but won't ask questions, I *ask students directly* whether they understand what I am saying. At the beginning of a course, when students feel apprehensive about speaking up, I let them know that it's OK to be confused and that it's OK to ask questions in my class. I may say something that indicates that students often find such-and-such a topic difficult the first time, and go on to say a little more about it.

I will *ask questions* during lecture, often choosing students at random so that they will learn they need to consider questions personally and not rely on the same few vocal students. When solving a problem at the board, I often ask leading questions to have the students start thinking ahead. Questions also give me immediate feedback of whether the class is understanding, and introduces dynamics and variety into lecture.

Each class period, I arrive early and stay late to allow *time for questions*. Some students feel more comfortable initially approaching me with questions privately, rather than asking publically.

In my courses I give *frequent assignments* to have students apply concepts to demonstrate understanding, identify problems individual students may be having, and know whether the class is understanding or confused. Assignments for each week are typically posted even before the semester begins, and I encourage students to begin work on the current assignment

soon after we complete the relevant material. In some classes I do not collect homework, relying instead on quizzes and exams, but the solutions are posted for students to identify their own questions and bring them to class.

I had the freedom to design Stat 345 when I taught it, and I gave *frequent quizzes*. These 10–15 minute quizzes counted for a small part of their grade. One primary purpose was to make sure the class was keeping up with the ideas and are able to apply them. Another is to identify and help students who are having difficulty, and know what kinds of difficulties students are having.

I have scheduled *individual appointments* with students whom I notice are not performing as well as I think they might. One benefit was that they later seemed to feel more comfortable asking and answering questions in class. Learning that I was approachable, they would start to seek me out after class. I think having made this effort to get to know them individually made a difference in their success.

Evaluating Instruction

At least once a semester I hand out a *short questionnaire* to get anonymous feedback from the students. See Section 6.2 for detailed information and results from these formative evaluations.

This *formative evaluation* at midsemester (as differentiated from a summative or end-of-course evaluation) is designed to give very specific, concrete information on where I can make improvements in course content or organization, assignments, or aspects of my teaching effectiveness during the same semester rather than next time I teach the course.

In my evaluations I ask *three questions*: (1) What do you like most about the class? (2) What do you like least about the class? (3) What do you suggest of me (Instructor Erik) to improve your learning experience?

I have found the formative evaluation to be especially helpful when I am teaching a new course. These evaluations dramatically improve my communication and rapport with students, even if there are few basic changes that I am able to make in the course that semester.

Responding visibly to student suggestions and criticisms is an important part of the formative evaluations, letting the students know that their comments have been thoughtfully considered. The day I receive the evaluations I summarize them and send an e-mail to the students so that they know how the class responded. I thank the students for their comments and their suggestions and give a brief, non-defensive account of those suggestions I can use this semester, those which must wait until the next time I teach the course, and those which I either cannot or, for pedagogical reasons, will not change.

Students often make valuable suggestions or point out problems that can be easily remedied. Of course, not all student suggestions can or should be followed. The important thing is to acknowledge their suggestions and to give a brief explanation as to why I cannot follow all of their suggestions.

Finally, I provide some general comments about how I feel the class is going. Then I use the rest of the semester to try to follow through on the improvements I commit to.

My first several courses, I *videotaped* my lectures to get feedback on my teaching and to give me ideas on how to develop a more interesting style of presentation. The first time I watched my teaching I was surprised, and quickly worked to rid my lectures of annoying

mannerisms, worked to vary the speed of my delivery, and worked to put more expression and greater clarity into my explanations. I learned something new each time I watched one of my own lectures.

Having Students Apply Concepts

When posing a question to the class I am careful to provide students with *time to think* about an answer. In my own experience, many teachers are too quick to answer their own questions without giving students a chance to reflect on the question and volunteer a response. The more important and complex the question, the more important a few moments of thinking time become. I announce that I'm giving a couple of minutes to work on a certain exercise. When the time has passed, I ask if anyone needs more time. If not, I solicit a solution and find that many more students are willing to answer having had the time to develop an answer.

Occasionally I must *probe for an adequate answer* from students. Probing involves asking the same student a series of questions, when his or her initial response is inadequate. Often I suspect the student has the knowledge for handling the question, but does not produce the full or correct answer. For example, I may ask a question that makes a leap from our current understanding of an idea. If a student is not able to respond, I move to a lower level question based on components we understand or use an example. I will typically continue in this way until the student can build up arguments to answer the original question. The same technique can be used with an entire class. The process can proceed in the fashion of the *Socratic method*.

Giving Personal Help to Students

For the large introductory courses (Stat 145), I have proposed to the course coordinator to give a *diagnostic test* at the beginning of the semester. This idea came from a seasoned physics professor who reported his experience with the method at *Success in the Classroom: Sharing Practices That Work, A UNM Conference, CASTL (February 24, 2006)*. While an introductory statistics course does not require the mathematical ability that physics demands, such a diagnostic test would serve to both identify students requiring more preparation and to discover what knowledge and skills students bring into the course. Often the prerequisite knowledge is thin for a proportion of the students, and it is those who will typically struggle with ideas I may otherwise assume they know. Also, students need to recognize their own weaknesses and begin to correct them if they are to succeed in the course.

I ask students to see me who *perform below "C"-level work* (or below which I know they are capable) on assignments or quizzes. Sometimes students need personal help and motivation to do their best work. It's important to find out why students score low, whether it is difficulty understanding the material or a question of motivation. I have found showing concern is a powerful motivator for some students. As an example, in my summer 2005 Stat 345 class I asked a student to see me after a surprisingly low grade on a quiz, much lower than I had expected from her. I gave her a second chance on the quiz, after understanding her situation. I received the following e-mail from her (see Section 11), and she performed at a level with the top of the rest of the class for the remaining semester:

“Thank you very much for giving me a second chance today. I obviously need to get a better grasp on some of the material, but your support really encourages me to want to do better. I appreciate the fact that you will take time to help your students and I just wanted to let you know that. It makes a huge difference.”

I schedule *regular meetings* with each student who does poorly on exams. I talk with them about the exam results, trying to discover each individual student’s problem. I tell the students that they can do better and usually strike a bargain with them that I will count the offending exam less than the remaining exams, on the condition that they agree to meet with me weekly or get additional help until they have mastery of the material. In a class of fifty, I may have three to five students who take advantage of this help, and those who do thank me for given the opportunity to do much better than they would have. Giving students a *second chance* is a powerful motivator.

Relating to Students

Getting Acquainted

I have had have students fill out a brief questionnaire describing their *backgrounds and interests*. In the past I have had the students in turn say their name, major, and something interesting about themselves. I have also had students fill out an index card including information on the student’s major, prerequisite or related courses taken, job experiences, career plans, something fun about themselves, and so forth. This information will help me relate to students as individuals by inviting them to share their knowledge and experiences. Because I will learn something about the students’ backgrounds, I can design examples relevant to specific students throughout the semester.

I host *social gathering* for my graduate students, either informally or as the founding member and local chair of Mu Sigma Rho, the national honorary society for statistics we hold meetings among the members and other students interested in statistics. I invite students to the meetings to give them an opportunity to be exposed to undergraduate and graduate students of statistics as a way of making a career in statistics a possible avenue for them. The experience will also give me the opportunity to relate to my students as individuals, to get to know them better.

Learn Students’ Names

Learning names is difficult for me, which is why I *ask students their names* whenever possible. Learning names requires concentration and repetition, so I ask a student his/her name whenever we meet, even outside class. When I have learned a name, I try to *address the student with his/her name* at every opportunity. If later I can’t remember a name, I simply admit it and ask the student to tell me again. Then I make a point of using the name right away to help me remember it next time. Using their names gives the students some recognition of their individuality, which they appreciate enormously.

Arriving to class early gives me both the chance to answer questions and to casually *talk with students*. I try to talk informally with students sitting in different sections of the room each day. I can learn and remember student names, and connect to them as individuals. Also, addressing students by name helps break the excessive formality of a lecture class and creates a more positive classroom environment.

Being Accessible Outside of Class

I try to keep *some time free after class* to talk with students. At the completion of a lecture, I loiter a bit after class, slowly erasing the boards and talking with students as they leave. The result is that some students linger as well and I get to know many of them in that way. If another class is scheduled in the room immediately following my class, I tell my students that I will stay in the hall for a few minutes following lecture. When possible, I hold office hours immediately following class because they are more likely to have questions or comments when the material is still fresh.

I arrive at class *before it begins* for a few reasons. I want to be able to prepare the room and equipment if necessary, erasing the chalkboard and arranging desks. Often I will write announcements and a short review on the board, nothing the students need to copy down, but information useful to them. Being available early also increasing the opportunities I have to talk informally with students.

I keep my *office door open*, and for that matter my *e-mail inbox open*, as much as I can. Students are welcome to stop by my office any time I am there. Increasingly, I receive more e-mails than actual visits to my office, and I often reply immediately to a student's question. A response usually only takes a few minutes, and is most useful to the student if they are at that moment working on the problem. If they are working on a data analysis and they have the software open and data on the screen, what better time than then to give them the answer or guidance they need?

Having an Interesting Presentation Style

When introducing a topic, I think of an *incident, example, or anecdote* to capture the students' interest. For example, a lecture on probability begins with famous statistician Karl Pearson flipping a single coin 24,000 times and observing 12,012 heads (true).

I try to *open strong and finish strong*. As comedian Mitch Hedberg says, a performace can't be like pancakes — delicious at first, but by the end you're sick of 'em. I start with an example to capture the students' interest, and end by recapitulating what new skills the students now have. Occationally I will pose a question that can be answered by the tools developed in the class, but the solution is challenging enough that it will require some thought.

I begin my lectures with *a quote, a joke, or a plot* relavant to the material of the lecture. I have collected a wide range of statistical quotes, and have assigned each to a topic of my Stat 145 and 345 lectures. Arriving early to class, I have this written on the board as the students take their seats. It provides them an easy way to transition into learning about statistics. Even those students who did not enjoy statistics comment on my evaluations that they liked the quotes very much.

I *vary the pace* and instructional activities of the course when it adds to learning the content. When teaching about sampling distributions, for example, I have students flip coins or roll dice to demonstrate the ideas, using the data the students generate to provide a demonstration of the idea. If I'm teaching from the computer, I will step to the white board and animate the ideas with colored markers.

Varying Speed and Tone of Voice

To keep from lecturing too quickly, I use the *blackboard as a brake*. I write every idea and its initial explanation on the board. Then I reexplain the idea in several other ways. This gives students time to copy the notes, and to reflect on and absorb the idea in the following explanations.

I build *deliberate pauses* into my lectures for a few reasons. I use pauses to get the attention of the class before an important point. When I complete a topic I pause to allow time for questions to rise up as students assimilate the new ideas in their minds.

Motivating Students' Best Work

Giving Students Skills and Knowledge to Do Well In Class

At the end of a course, I devote the last day of class to an *overall review* of the main ideas covered. I stress what they are capable of doing now, and likely opportunities for using their new skills. Also, by highlighting the main ideas and how they fit together, the students will develop a conceptual framework for retaining what they have learned. I hope students leave my class confident that they can handle statistical problems that they may face in their studies, or elsewhere in their life.

Developing Positive Relationships With Students

After getting to know students, I *individualize instruction* as much as possible. I focus on each student's weak points, and try to draw them out to overcome their weaknesses. Students who are excessively shy or lack confidence, I might prompt for answers to easy questions at first, then give them more challenging questions when they appear comfortable talking in class. For those with aggressive over-confidence or who are smart-alecky, I might challenge with a question he/she can't answer, but prompt through the steps of solving the problem. I think some "C" students are really "A" or "B" students, and can reach that potential with encouragement and specific help to correct bad habits or faulty techniques and gain self-confidence.

My students are *treated like colleagues*. As a former graduate student myself, all students are colleagues at some level. But, I mean that I never talk down to my students. I talk to undergraduate students, graduate students, instructors, professors, and others the same way. My attitude is that every person is expert at something, and even if it is not statistics, I surely have something to learn from everyone and I keep that opportunity open.

High Standards

I have high standards, and I *model my high standards* to students. I expect students to show up on time, to be prepared, to do their best, to have clear presentation, to participate, to have respect for themselves and others, and to develop high expectations for themselves. But I can't expect them to embody these goals if I don't show them a model. I point out that I prepare several hours for each lecture, and I expect them to prepare also. If I work hard preparing and am excited about the course, then students will be, too.

Giving Exams Demonstrating Student Understanding

I write *exam questions similar* to those used in homework, quizzes, and lecture examples so there are no surprises. I also try to include problems everyone should be able to do (some easy ones) as well as questions that require more thought and really make students go beyond the material. I want students to demonstrate their mastery of the material in the same ways I have emphasized in my presentation of it.

I *post exam review questions with solutions* before the exam (in fact, before the semester begins). This helps relieve test anxiety, because, coupled with a pre-exam review, they know what to expect. I get no complaints about the fairness of the exam, and I think it helps most of the students really do their best. I am much more interested in helping students learn how to do well in the course than I am in grading them.

Before each exam, I devote a day of class to a *exam review session*. In the review, I tell students exactly what will be stressed on the exam. I think this is an important boost to help students do their best work. The review also relieves much of the anxiety associated with an exam, allowing students to ask their questions and focus their attention on the exam instead of fear.

I permit students to bring in *one page of notes* to be used during an exam. This decreases students' anxiety about having to memorize formulas, and the preparation of these crib sheets help the students focus their studying. My exams test primarily for understanding of the statistical methods and interpretation of the results. The many formulas are not important to memorize.

I give *more quizzes than count* to eliminate problems with make-up quizzes.

Keeping Students Informed of Their Progress

I do my best to *return graded exams and assignments the next class*. This keeps students informed of their progress and emphasize the learning experience of exams and assignments. I schedule time for grading exams immediately following class. The quick turn around time ensures that students are still thinking about the assignment, thus any criticism or feedback is likely to have a stronger impact than if it were delayed a week or more. Also, prompt feedback indicates to the students the importance of what they are doing and my interest and concern for their learning the material.

When I return an exam, I *discuss the solutions* the next class. Even if I cannot return graded exams, I discuss the answers at the next class meeting. I want to correct any misunderstandings and reinforce their learning as soon as possible, since they are more receptive to this right after completing an exam.

I *post solutions as soon as work is turned in*. There is no point in making students wait several days or weeks to find out how they did. They are most interested in the results at the time of the exam, and it is at the time of exam that the greatest reinforcement of the learning can take place. This method also gives the students immediate feedback even though their individually graded and commented exams won't be returned until the next class.

On any graded assignments, I *summarize how students performed*. I copy and paste into an e-mail from my gradesheet summary statistics such as mean, standard deviation, and the five-number summary (quantiles). Then I provide a summary of how the class did as a

whole, indicating common problems, or universal successes. Students know right away what the scores were, and can compare later where they fall in the distribution. Some students come to me after finding that they scored in the bottom part of the class.

After each exam, I either *post grades*, or write each student's *cumulative grade* on their returned exam. This keeps the student well informed about how they are doing in the course, and eliminates any (often hopeful) speculation.

2 Summary of Teaching Responsibilities

Listing my experience places my teaching thoughts and goals into the context of what I've done.

2.1 Professor

University of New Mexico, Fall 2011 – current

- Graduate Courses:
 - Stat 527. Advanced Data Analysis I. Instructor. *Co-wrote lecture notes, maintained course website, held office hours.*
 - * Fall 2011 (21)
 - Stat 528. Advanced Data Analysis II. Instructor. *Co-wrote lecture notes, maintained course website, held office hours.*
 - * Spring 2012 (23)
 - Stat 579. Response Surface Methodology. Instructor. *Wrote lecture notes, maintained course website, held office hours, set and graded homework.*
 - * Fall 2011 (22)
- Undergraduate Courses:
 - Stat 427. Advanced Data Analysis I. Instructor. *Co-wrote lecture notes, maintained course website, held office hours.*
 - * Fall 2011 (21)
 - Stat 428. Advanced Data Analysis I. Instructor. *Co-wrote lecture notes, maintained course website, held office hours.*
 - * Spring 2012 (23)

2.2 Postdoctorate

University of New Mexico, Fall 2010

- Graduate Courses:
 - Stat 520. Topics in Interdisciplinary Biology and Biomedical Sciences. Co-organized and taught unit: “Imaging as a means for understanding the brain.” *Gave two lectures, wrote assignments, graded homework.*
 - * Fall 2010 (20)

2.3 Graduate TA experience

University of New Mexico, Fall 2004 – Spring 2008 As a graduate teaching assistant at UNM, I was responsible for teaching a course each semester. I have also served on a number of thesis committees in departments other than statistics (section 5).

- Graduate Courses:
 - Stat 553. Statistical Inference. Graduate Assistant. *Gave a selection of lectures.*
 - * Spring 2008 (19)
 - Stat 590. Statistical Computing. Graduate Assistant. *Gave a selection of lectures.*
 - * Spring 2008 (18)
 - Stat 539. Biostatistical Methods II for Public Health & Medical Science. Teaching Assistant. *Designed my own course materials. Wrote lab notes for teaching computer package Stata in the context of the statistical theory, maintained course website, held office hours.*
 - * Spring 2006 (15)
 - Stat 538. Biostatistical Methods I for Public Health & Medical Science. Teaching Assistant. *Designed my own course materials. Wrote lab notes for teaching computer package Minitab in the context of the statistical theory, maintained course website, held office hours.*
 - * Fall 2005 (14)
 - BMS 516. Molecular Genetics and Genomics. Teaching Assistant. *Maintained course website, pretested computer labs.*
 - * Spring 2005 (16)
- Undergraduate Courses:
 - Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor. *Designed my own course materials. Wrote lecture notes, assigned homework, designed handouts, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.*
 - * Summer 2006 (17)
 - * Summer 2005 (13)
 - Stat 145. Introduction to Statistics. Instructor. *Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.*
 - * Spring 2005 (12)
 - * Fall 2004 (11)

Worcester Polytechnic Institute, Spring 2002 – Fall 2004: As a graduate teaching assistant at WPI, I conducted computer labs for MA2611 and MA2612 Applied Statistics I and II, and conferences for MA 2621 Probability for Applications. For each, I held office hours and was responsible for grading the labs, homeworks, and quizzes.

- Undergraduate Courses:
 - Probability for Applications. MA 2621.
 - * Spring (Term C) Jan. to Feb. 2004 (9)
 - * Spring (Term A) Aug. to Oct. 2004 (10)
 - Applied Statistics II. MA 2612.
 - * Fall (Term D) Mar. to May 2003 (6)
 - * Spring (Term B) Oct. to Dec. 2003 (8)
 - Applied Statistics I. MA 2611.
 - * Fall (Term C) Jan. to Feb. 2003 (5)
 - * Spring (Term A) Aug. to Oct. 2003 (7)
 - * Spring (Term B) Oct. to Dec. 2002 (4)
 - * Spring (Term A) Aug. to Oct. 2002 (3)
 - * Fall (Term D) Mar. to May 2002 (2)
 - * Fall (Term C) Jan. to Feb. 2002 (1)

2.4 Undergraduate Tutoring experience

Franklin Pierce College, Fall 1993 – Spring 1997 As an undergraduate at FPC, I worked as a tutor in many subjects. I helped students prepare homeworks, prepare for quizzes, tests, and exams, and understand the material closer to their own experience and learning styles. The subjects included Calculus, Statistics, Algebra, Chaos Theory, Physics, and programming languages BASIC and C.

- Lectured on fractals, chaos, paradoxes, and other mathematical subjects at college colloquia and local middle school.
- Mathematics Tutor:
 - Calculus, Statistics, Algebra, Chaos, and Physics.
- Computer Science Tutor:
 - BASIC and C.
- First Franklin Pierce Web Master during the time I was Novell Network Supervisor assistant.
- Worked at the College Library all four years, one year in each department: Front desk, Serials, Technical Services, and Reference.

3 Course Development and Modification

3.1 Course syllabus

A syllabus is a plan for a semester that should be designed in accordance with a teacher's philosophy of teaching.

Refer to teaching section at my website for course syllabi and sample exams.

4 Development of Teaching Materials

4.1 Preparation of instructional materials for teaching one concept

In preparing instructional materials, it is important to include in the content and style the elements I've defined in my philosophy. When possible I get students to actively participate in their learning by asking questions, leading them to the answer in Socratic style if time permits, and by pairing up to discuss problems.

- Stat 345 Notes, Exercises, Handouts, Quizzes, Exams
- Stat 538 Labs
- Stat 539 Labs

5 Products of Good Teaching

As a graduate student and teaching assistant, I have had the good fortune to teach a large number of excellent students and to participate on thesis committees of graduate students in departments other than statistics. Students for whom I supervised on their master's theses include:

Jennifer Glee Buntz, M.S. (Biology, Eastern New Mexico University, 2005)

Zoë Gardner, M.S. (Biology, University of Massachusetts, 2005)

- Thesis collaborative paper submitted to the Linnean Society, in revision.

Tammy L. Whitney, M.S. (Dental Hygiene, University of New Mexico, 2006)

Melissa M. Plese (Mcdougal) (M.S. Dental Hygiene, University of New Mexico, 2006)

- Thesis Poster presented at American Dental Hygienists' Association (ADHA) June 20 – 27, 2007

Ani M. Humberson (Dorgan), M.S. (Dental Hygiene, University of New Mexico, 2006)

- Thesis submitted to the "Journal of Dental Hygiene", in revision.

Lisa M. Esparza, M.S. (Dental Hygiene, University of New Mexico, 2006)

Tamara L. Donald, M.S. (Dental Hygiene, University of New Mexico, 2006)

Pamela Marlene Lujan, M.S. (Public Administration, University of New Mexico, 2006)

Anne Scott (Dental Hygiene, University of New Mexico, 2007)

Stephanie Baca (Dental Hygiene, University of New Mexico, 2008)

Melissa Van Witzenburg (Dental Hygiene, University of New Mexico, 2009)

Students who have taken undergraduate courses from me and have become graduate students in statistics include **Jason Lucero, B.S.** (Mathematics, University of New Mexico, 2005).

6 Description of Steps Taken to Evaluate and Improve My Teaching

Development of my teaching is an on-going process. To effectively develop my teaching I must set clear goals and find means to accomplish these goals. The reason for having a growth plan is to develop skills to respond to the multitude of abilities which are reflected in the student population.

Important elements and goals of my teaching development include an emphasis on teaching skills and the instructional process, clear expectations for myself for each class I teach, long-term graduated skill development, expectations for level of performance for each class, keeping current with teaching and learning research, having student objectives, perhaps pairing up with peer faculty for maintenance and monitoring of our teaching, and allowing myself the freedom to fail. This list will grow and be revised as my teaching career progresses. Imperative to this list is my consistent reflection and effort to meet my goals and incorporate other goals as I advance.

Programs for doing this may include credit or non-credit courses, conferences, lectures or workshops, reading, planned programs of travel, formal or informal discussions with colleagues, mentoring or peer coaching. But it is not enough just to learn about teaching. I must incorporate skills and attitudes acquired into classroom practice with the primary goal to improve the students' achievement level.

To improve my teaching skills and instructional process I monitor my teaching by video tape each year, by peer review when possible and by reflection after each class. These three alone should improve my teaching substantially. Each time I teach I can focus on an aspect of my teaching that I want to improve. I can define an expected level of performance for each class. Being conscious and active is important for my improvement.

Among the ways of evaluating my teaching, the video critique may become an important tool for me. Evaluating the first video of my teaching was easy and remarkable revealing. Additionally, by using peer review of the videos, I gain insights about teaching effectiveness that I would not otherwise get. Since I describe in my philosophy that I want to be effective and efficient at organizing the material I present and establish appropriate emphases for ideas, some form of periodic self-evaluation is necessary, especially early in my career, to assure I'm consistent with my goals. Video critiques are included in the Appendix.

For each class I teach I will develop a set of clear and realistic expectations for myself. This will always include defining a clear syllabus and following the goals and objects contained in it, striving to include every student in class activities over the course of the term/semester when the class size is not prohibitive, meeting student objectives, and fairly evaluating each student, among others. Expectations may differ from class to class. For a class I have taught before, an expectation might be to improve a method that did not work well last time, or abandon it altogether in favor of another approach. Likewise, I may expand a method that worked particularly well for one topic to include other topics using that same method. Before each course I will itemize a list of expectations and follow my progress throughout the course.

In addition to short-term improvements, a plan for long-term graduated skill development is important. I intend to continue my education of topics in my field but outside my expertise. Not only will I be further qualified to teach within the discipline, but I can bring a wider range of analogies and connections to class discussion. I will try to keep current with teaching

and learning research in my discipline. I may pursue a degree in education to complement my primary training.

In time I may contribute to curriculum development, making decisions about which courses should be taught and outlining the outcomes each student should achieve. Developing new classes or modifying existing ones will include writing a course description explaining general goals, outcomes to be achieved, special projects or assignments, and methods by which grades will be determined. Further, I may participate in the preparation of a textbook, lab manuals, courseware, etc.

As I become an experienced teacher, I may become a mentor to a beginning teacher. The process of pairing with a beginning teacher can prove to be a professional growth experience for both. The beginning teacher benefits from the support and expertise of a skilled experienced colleague. The experienced teacher benefits from exposure to the enthusiasm and the knowledge of recent training methods.

Along these lines it may be a useful exercise to participate in team teaching a course. This could be structured in sections so a colleague and I are jointly responsible for a two-to-three week unit of instruction. This allows to more easily develop a multi disciplinary, integrated approach and would respond well to classes composed of students from a variety of majors (such as an introductory statistics or calculus class).

In all my efforts I will allow myself the freedom to fail. As long as I give my best effort without overwhelming myself, I can be satisfied with the result.

6.1 UNM courses and Training

6.1.1 TARC

UNM Teaching Assistant Resource Center (TARC) certificate of completion for Interest and Concern for Teaching Excellence. (Fall 2004)

6.1.2 CASTL

Success in the Classroom: Sharing Practices That Work, A UNM Conference, CASTL. (February 24, 2006)

6.1.3 Solomon Friedberg workshop

Solomon Friedberg. Teaching graduate students how to teach. (January 30, 2006)

6.1.4 WPI courses and training

WPI Graduate Student TA Training Seminar Certificate. (Spring 2004)

WPI Seminar in College Teaching. (IDG 501. Summer 2002)

6.2 Formative Evaluations

At least once a semester I hand out a short questionnaire to get anonymous feedback from the students. This formative evaluation at midsemester (as differentiated from a summative or end-of-course evaluation) is designed to give very specific, concrete information on where I can make improvements in course content or organization, assignments, or aspects of my teaching effectiveness during the same semester rather than next time I teach the course.

In my evaluations I ask three questions: (1) What do you like most about the class? (2) What do you like least about the class? (3) What do you suggest of me (Instructor Erik) to improve your learning experience?

I have found the formative evaluation to be especially helpful when I am teaching a new course. These evaluations dramatically improve my communication and rapport with students, even if there are few basic changes that I am able to make in the course that semester.

Responding visibly to student suggestions and criticisms is an important part of the formative evaluations, letting the students know that their comments have been thoughtfully considered. The day I receive the evaluations I summarize them and send an e-mail to the students so that they know how the class responded. I thank the students for their comments and their suggestions and give a brief, non-defensive account of those suggestions I can use this semester, those which must wait until the next time I teach the course, and those which I either cannot or, for pedagogical reasons, will not change.

Students often make valuable suggestions or point out problems that can be easily remedied. Of course, not all student suggestions can or should be followed. The important thing is to acknowledge their suggestions and to give a brief explanation as to why I cannot follow all of their suggestions.

Finally, I provide some general comments about how I feel the class is going. Then I use the rest of the semester to try to follow through on the improvements I commit to.

Below are the e-mail summaries that I have sent to my students for the courses where I have collected midsemester evaluations.

6.2.1 Fall 2004, Stat 145

Date: Tue, 12 Oct 2004 16:34:12 -0600 (MDT)

From: Erik B. Erhardt <erike@stat.unm.edu>

To: "Statistics 145.10 Class list": ;

Subject: Stat 145 midterm question results

Class,

I very much appreciate the few minutes you took today to complete the three midterm questions; they were, basically, (1) what you like most and (2) least about the class, and (3) what I can do to improve your learning experience. I just read through all of them and categorized your responses. I got a lot of common answers. I'll share some of those with you.

1. What you like:

As a class you tend to like the organization, that the notes are thorough and clear and that I give examples. Many also like the quotes I start with. Some of you like that there are

only 4 exams. The pre-exam review session was useful to some.

2. What you don't like:

Many of you feel the class is tedious/long and boring. Some don't like that there are no graded homework, extra credit, think the grading is picky and that each exam is only out of 25. Some also don't like that the final grade is only 4 exams (basically, no other graded assignments).

3. Suggestions of me:

Many want more test-like examples or more examples in general, some even want in-class experiments to see the ideas put to work on real problems. A few want me to speak in a less monotone voice and be a bit more energetic.

Things I can do:

I will tend to continue to do the things I mentioned above that you like. My notes are consistent all the way through. I will always try to have a pre-exam review the class before the exam. When the material allows, I will try to give more examples and try to make it more interesting. I think the material itself will be a little more interesting when we begin discussing hypothesis testing. I will try, myself, to be less monotone, especially after an exam. I happen to dislike exams and understand very well the stress associated with them. It's even stressful for me to return the exams because I know, as a fellow student, how it feels get an exam back where I made mistakes or did not know the answers. But please know that I give partial credit when it is clear you understand the concept but make some other mistake, and I try to be as consistent as possible among all the grading I do. I'm on your side, I want you all to do your best. However, I also can't give points when things are wrong. That's the system we're all a part of.

Finally, I will be bringing in a real-life problem from my life having to do with unicycling (planned ahead of time, but also requested).

Things I can't do:

That the grade is out of 4 exams and nothing else (homeworks, quizzes, extra credit, etc.) is the structure of this coordinated course (11 sections). If this was my own class, I would have the flexibility to address these concerns.

General studying comments:

Since the exams are strongly based on the homework and examples in the text (I think 1 question was a review problem directly from the text), I suggest studying in this way. (1) Read the chapter summary, (2) Look at the assigned homework problems and read the text looking for the concepts that will help answer each question, (3) Answer the homework problem, (4) Bring questions about the homework to the next class or to my office hours, (5) During in-class pre-exam review make sure you understand everything I outline. I bet that if you've been doing this, you have been doing well on the exams.

A general comment about reading textbooks or academic papers. Unlike novels or prose where you start at the beginning and continue until you reach the last fullstop (what we call a period). The strategy for a textbook is to read the introduction and summaries (abstract) first, then read the text with the intention of understanding the points made in the summary (abstract). It's like identifying goals and finding your way to the goals. No one told me this when I started, so I hope it will be helpful to you.

Statistics:

By the way, I could use the information I collected on your sheets, along with my catego-

ricing procedure, to make inference on a new student's experience in my Stat 145 class. For example, a proportion (let's say $1/3$) of students said "class is well-organized" as one of the top things on your minds. I might say with probability $1/3$ a new student would think that "class is well-organized" was one of the things (s)he liked most about the class. Note that this would not apply to other classes I might teach because many of the qualities of this class are inherent in the subject matter. Thus, we must be careful to apply the results of data gathered in this way (Stat 145 midterm) only to the situation, and not to other situations. Beware bias, lurking variables and confusing sampling populations.

Thanks very much, I will try to make more enjoyable those things you don't like (if I can) and do my best to take some of the suggestions you provided for me.

I do want to be the best instructor I can be because I want each of you to be your best.
Regards,
Erik

6.2.2 Spring 2005, Stat 145

Date: Thu, 10 Mar 2005 16:40:47 -0700 (MST)

From: Erik B. Erhardt <erike@stat.unm.edu>

To: "Statistics 145.08 Class list": ;

Subject: Stat 145 Midterm questions (course evaluation)

Class,

For those who weren't in class today, I gave you an opportunity to say what you like and dislike about the class and what you suggest to me to improve the class.

Here's a summary of what you think of the class:

1. What you like:

You like the pace and thoroughness of the lecture material; it closely follows the text so that the homework can be done without reading. Some like that solutions are posted online and that homework isn't graded. Some like the quizzes. Some like the quotes (which I have been painfully neglecting, sorry). You think I am knowledgeable, efficient and active, both online and in class. You like that I'm quick with grading and give summaries by e-mail, and have posted the grades to the website. Expectations are clear. You like exam reviews and that I give lots of examples.

2. What you don't like:

The class is LONG – it is long for me, too. Some find it slow; some find it boring. Some find it fast. There were lots of unique answers: no homework collected, few grades (exams, quizzes), lots of notes, the class is required.

3. What I can do:

More in class examples. Don't lose my voice (no substitute instructors). Unicycle demo. Improve my handwriting, articulation.

Here's what I can do:

1.

I'll continue my thoroughness and pace of my lecture. I will always grade exams within a day of the exam and tell you the distribution.

2.

There's nothing I can do about the length of the lecture. Some of you like only meeting twice a week; the trade off is that it's 1:15 instead of :50 minutes. Since most of you find it slow, I will ask everyone how the pace is. I can speed up and we can see if the new pace is preferred over my current pace. As this is a coordinated class (11 sections), the number of exams and quizzes and that there's no homework graded is out of my hands. You're welcome to give feedback to the course coordinator (who's site is linked to from the course website). If you think there are a lot of notes, only write what you want to write.

3.

I can improve my handwriting by going a little slower in writing (may keep me from going faster). I will also pay more attention to my speaking voice, which I want to improve anyway. I will try to draw more examples from what you are interested in; that is, I will ask you in class for an example of such and such. This will require some of you to participate by being thoughtful about how your discipline relates to the question and telling me a situation we can consider. I would love these suggestions!

I can give a simple uni demo, but can't really do much on my commuting wheel as it is so big. What will you demo in return...?

Thank you all for your feedback. It is a valuable tool for me. I care very much about my teaching because I want you all to learn these basic statistical ideas and do very well. Please feel free to approach me any time after class, during office hours or by e-mail about anything (not too personal).

Enjoy your well deserved spring break. May you have a safe one.

Regards,

Erik

p.s. By the way, for one of you... "anonymous" does not mean "open for sarcasm". When I ask for answers to questions to improve your experience, I really shouldn't get any disrespect. In fact, I should never get disrespect since I respect each of you. It is much easier for me to give the lectures in a minimal way, give no review, not care, and let you be on your own as much as possible. It is because I care that I put in the effort I do and that I ask for your suggestions. If your sarcasm is a vote to be somewhere other than in my class, you have my vote, too.

6.2.3 Summer 2005, Stat 345

Date: Thu, 7 Jul 2005 14:44:12 -0600 (MDT)
From: Erik B. Erhardt <erike@stat.unm.edu>
To: "Statistics 345.01 Summer 2005 Class list": ;
Subject: Stat 345 midterm instructor evaluation results

Class,

Thanks again for taking the time to fill out my midterm evaluations. Here's a summary of what you think.

1. What you like most:

You like my clear explanations, that I'm organized, that there are many good examples, and that I go over equations. You feel the pace is comfortable. You like the website, the posted solutions, the posted lecture notes. You like that I provide quick feedback by e-mail

about results of quizzes and exams. You like that I'm available for lots of help, with office hours everyday. You appreciate my enthusiasm for what I'm teaching. You like the quizzes to reinforce your learning. You appreciate the comfortable learning environment, the grading. You like that I include everyone. One of you likes that you are "actually learning".

My response: What can I say, I was pretty happy with this feedback.

2. What you like least:

There are too many notes, Minitab is not at all the computer pods. Individuals find the examples boring, that the grading is tough, that I cover calculus too quickly, class is too long, we go too fast, there are too many quizzes, word problems.

My response: First, thanks for giving your comments here. Notes: I have posted all my notes on line so if you find yourself fatigued from note taking, you can annotate my own notes. Minitab: You can download a trial version for your own machine, or you can use a different software, or go to the computer pod with the software. The rest concerns only single people, but for Calculus and Word problems I can say that calc was a prereq so I assume you know it, but am happy to help during office hours, and in our life we communicate our problems in language so to be able to translate word problems into an analytic framework is an important skill.

3. Suggestions to improve:

There were a few suggestions, but all were unique, with no two people wanting the same thing. Here are a few: Make more people answer questions, slow down, go faster, go over quiz/exam, quiz/exam review session, more example handouts so less writing, class outside under a tree with a portable blackboard.

My response: I will try to call on more people, I'll keep the pace, I provide solutions to quizzes/exams so see me during office hours with questions after you've looked at the solutions, I consider the practice exams a review but see me with questions during my office hours. To have more example handouts is a great idea — I will see if it will help for the remainder of the class, also I will consider that for next time. When I do my seminar on James Joyce's *Finnegans Wake*, we'll have a class outside. Until then, I'm sticking to the traditional method which I think works rather well for this type of material.

Thank you all for your comments, and I hope you enjoyed this summary.

-Erik

6.2.4 Summer 2006, Stat 345

Date: Thu, 13 Jul 2006 13:44:44 -0600 (MDT)
From: Erik B. Erhardt <erike@stat.unm.edu>
To: "Statistics 345.01 Summer 2006 Class list": ;
Subject: Stat 354 midterm instructor evaluation results

Class,

Thanks again for taking the time to fill out my midterm evaluations. Here's a summary of what you think.

1. What you like most:

You like everything on the perpetually updated website: that the notes are posted, quizzes with solutions, practice exams, and handouts. You like that I am prepared, have a thorough

teaching style with a clear presentation, am personable in class by facing you when I talk, that I engage the class, and am helpful. You like the example handout, the quizzes, and you feel prepared for the exam. Some of you even like the subject matter.

My response: Thank you for your positive feedback.

2. What you like least:

You don't like the M-F class schedule. You think the examples are overused. One person didn't like each of these: the difficulty (too difficult?), too many exams, too many quizzes, that I randomly call on people, no handed in homework, doesn't like the book, behind schedule, only two days from new material to exam.

My response: First, thanks for giving your comments here. I, too, would prefer a MWF or TR schedule of a couple hours instead of everyday, but that is up to a higher power – the registrar. I agree that my examples are overused; I do that so that the continuity of the material is obvious – but even I am very tired of wafers. Typically students don't like all of the word problems, but no complaints this time.

3. Suggestions to improve:

There were a few suggestions, but most were unique. Here they are: More practical examples, more visualizations, don't skip steps, more interaction, more extra credit, want takehome exams, go faster, send students with continuous questions to office hours.

My response: For more practical examples, I can break from my lecture notes for examples and solicit the subject matter from you. If you're studying something and can help me frame an example from your interests, I'll use those in class. The extra credit I give appears on some quizzes where I give 12/10 or 11/10 points; and don't forget that I drop your two lowest which is like extra credit. In life you often get only one opportunity to do your best, with no extra credit, just the credit you earned. I would like to go faster, but am taking the pace I feel best accomodates every student.

Thank you all for your comments, and I hope you enjoyed this summary.

-Erik

6.2.5 Fall 2005, Stat 538

Not administered this semester because I received a good deal of feedback in the extra hour I added to the beginning of the lab session. Also, this class was team taught.

6.2.6 Spring 2006, Stat 539

Not administered this semester because most of the students were also in Stat 538, and I knew already most of their requests. Also, this class was team taught.

6.2.7 Fall 2011, Stat 427/527

Date: Tue, Oct 18, 2011 at 10:13

From: Erik Barry Erhardt

Subject: Stat 427/527 ADA1 midterm instructor evaluation feedback

ADA1 class,

Thank you very much for the time you spent to complete my midterm evaluation. I've summarized the results below. I grouped responses when I could. See my discussion at the bottom.

What you like:

instructor:

- 6 - explanations
- 3 - funny
- 3 - approachable in office hours and email
- 2 - answering questions
- 1 - knowledgeable
- 1 - patient
- 1 - board descriptions are good
- 1 - energetic
- 1 - enjoys teaching
- 1 - going back to summarize

course:

- 7 - examples in notes are real problems
- 6 - good/regular HW
- 5 - online notes
- 4 - opening graphs/cartoons
- 3 - speed/pace
- 3 - minitab examples
- 3 - emphasis on concepts and meaning, not calculations
- 2 - midterm format
- 1 - no book cost

What you don't like:

- 3 - problems not worked out on board
- 2 - hard to write on board
- 2 - good online notes means I don't pay attention in class
- 2 - undefined terms (ask me more questions to define what's unclear)
- 2 - tangents in class that are math/theory-intensive
- 2 - length of class too long (maybe better as a MWF class, instead of TR)
- 1 - sometimes dry
- 1 - needing "intuition" for normality
- 1 - lecture too slow, sometimes
- 1 - course too fast

1 - confusing examples

Homework:

- 2 - not enough HW feedback
- 2 - HW problem topics seem obscure
- 2 - too much HW
- 1 - HW repetitive, sometimes
- 1 - HW open-ended questions

What you suggest to improve your experience:

Presentation: 3 - more board work 2 - chalk for board 2 - define terms more 1 - clearly model phrasing interpretations 1 - clearer examples 1 - notes are wordy, make concise 1 - more math

Class:

- 2 - more step-by-step minitab
- 1 - write instead of arm-wave explanations
- 1 - would like other online reference in addition to notes (see Wikipedia, or others)
- 1 - want a pre-final review of all topics
- 1 - speak more loudly
- 1 - more interdisciplinary (not sure what this means, examples are from many disciplines)
- 1 - go slower
- 1 - more class involvement
- 1 - ask a question for them to solve in class, then discuss

Homework:

- 2 - due date schedule for HW, midterm, and final
- 2 - HW, reduce amount
- 2 - HW, more feedback

Discussion:

Most of you seem to like me, which I'm happy to hear. You seem to like the examples in the notes and homework problems, that they are from real studies. You like that the notes are online and can be printed so you can focus on the lecture and annotating the notes. The opening graphs/cartoons seem to be a nice transition into class.

Some would like more board work (I love using the board – I'm bringing chalk from home, today). Some would like more careful defining of terms used. My tangents may not be interesting to all of you. I'll try to not go so "far out" on my tangents, deferring further details until after class to those who are interested.

I can try to be more careful about defining terms clearly in the notes to make examples and concepts less confusing. I will try to better model how to write/phrase what to say for interpretations. For example, what to say when you fail to reject the null hypothesis. I will try to think about ways to have you be more involved in class. Much of what we do is hard to do quickly by hand, but there are certainly ways of having you interpret output from the screen, then have a vote to see whether you understand it. Asking the question, then pausing, will be better than me simply telling you everything. For HW, you'd like due dates

more clearly indicated (on website), have less of it (I think learning by doing is important), and more feedback (I agree, totally, though given the amount of HW it is hard for my TA to provide so much feedback – I encourage you to read over the solutions when they are available).

I encourage you to ask me more questions. When a term is unclear, ask me to define it. If I am speaking quietly, ask me to get louder. If you'd like me to try to explain a concept in a different way, give me that challenge. I need your in-class feedback to help me give you the best experience.

Thanks, again,

Erik

6.2.8 Fall 2011, Stat 579

Date: Mon, Oct 17, 2011 at 17:35

From: Erik Barry Erhardt

Subject: Stat 579 RSM midterm evaluation summary

RSM class,

Summary

You like:

- 7 - Topic
- 4 - clear/organized lecture
- 3 - discussion format of class
- 1 - HW
- 1 - apply previous knowledge

You don't like:

- 3 - too much HW
- 1 - need more lecture-HW connection
- 1 - copying notes from whiteboard
- 1 - lack of theory
- 1 - I go quickly over some important topics

To improve:

- 5 - more examples
- 1 - typed notes
- 1 - more theory
- 1 - a large dataset example
- 1 - relate chapters together more.

What I'll try to do

I'll try to include more examples in class.

Recommendation: For HW, I recommend reading over the HW questions the day I finish the chapter (or before), then discuss how you understand the questions with your classmates, and then come to me with questions. Doing all of this BEFORE you start working on the HW may save you a great deal of time. I think interpreting the questions may be taking a lot of time. Let me know if I misunderstand what might help reduce the length of time.

7 Becoming Faculty

My thoughts on my future as a faculty member will certainly change over time. What follows assumes my direction is toward a faculty position.

7.1 Service

Community Service

- Special Awards Judge for American Statistical Association (ASA), awarding "Special Award from the American Statistical Association" in Senior Division (grades 9–12). Intel International Science and Engineering Fair (Intel ISEF).
 - 58th Annual, May 13-19, 2007, Albuquerque, New Mexico.
- Special Judge for American Statistical Association awarding "Best Use of Statistics" in High School Senior class. New Mexico Science & Engineering Fair, New Mexico Tech, Socorro, NM.
 - 55th Annual, April 13–14, 2007.
 - 54th Annual, April 7–8, 2006.
 - 53rd Annual, April 8–9, 2005.
- Judge for Jefferson Middle School Science Fair, Albuquerque, NM.
 - January 27, 2006.

UNM Service

- Judge for UNM Celebration of Undergraduate Research Symposium. PROFOUND.
 - 3rd Annual, April 12, 2006.
 - 2nd Annual, April 13, 2005.
- Judge for UNM Undergraduate Research and Creativity Symposium. Explore.
 - November 21, 2005.

8 Presentations, Research and Publications on Teaching

none

9 Administrative and Committee Work Related to Teaching

none

10 Course evaluations

Evaluations for Teaching *Student evaluations are one form of providing evidence of teaching effectiveness. These evaluations also can help guide teaching improvement efforts. These are valuable to know whether I'm reaching my goals from the students' perspective. If I'm not, I can focus my attention trying to improve what is lacking. If I am, then I can fine tune my efforts.*

10.1 University of New Mexico: Fall 2011 – current

10.1.1 Stat 427/527, Advanced Data Analysis I

	Fall 2011		
	427	527	
IDEA short form evaluations. Progress on:			
Gaining factual knowledge (terminology, classifications, methods, trends)	4.6	4.1	(of 5)
Learning fundamental principles, generalizations, or theories	4.6	3.9	(of 5)
Learning to apply course material (to improve thinking, problem-solving, and decisions)	4.6	4.2	(of 5)
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	4.5	3.9	(of 5)
Acquiring skills in working with others as a member of the team	3.1	1.5	(of 5)
Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	3.5	2.1	(of 5)
Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	3.6	2.7	(of 5)
Developing skills in expressing myself orally or in writing	3.6	2.7	(of 5)
Learning how to find and use resources for answering questions or solving problems	4.1	3.1	(of 5)
Developing a clearer understanding of, and commitment to, personal values	3.6	2.4	(of 5)
Learning to analyze and critically evaluate ideas, arguments, and points of view	4.7	3.8	(of 5)
Acquiring an interest in learning more by asking my own questions and seeking answers	4.1	3.3	(of 5)
As a rule, I put forth more effort than other students on academic work	4.0	3.8	(of 5)
My background prepared me well for this course's requirements	4.4	3.9	(of 5)
I really wanted to take this course regardless of who taught it	4.4	4.4	(of 5)
As a result of taking this course, I have more positive feelings toward this field of study	4.4	3.9	(of 5)
Overall, I rate this instructor an excellent teacher	4.7	3.8	(of 5)
Overall, I rate this course as excellent	4.5	3.7	(of 5)

Comments

Fall 2011 Stat 427 Comments

“Absolutely great class! Looking forward to more programming next semester.”

“Dr. Erhardt has almost convinced me to change my field of study to statistics!”

“You are a very good professor. I would suggest doing the entire class in R, or just something other than Minitab. I feel like Minitab makes things *too* simple.”

“One of the best teachers I’ve ever had, clear and to the point. I really liked how he started the class with a different graph each time and helped us understand the good and bad of it. Not just how to find and mess with data but how to understand it and help others do the same.”

“It would have been nice to do a little more hands-on activity with the data while in class. This class would benefit if taught in an actual computer lab so that students have more of an opportunity to work with the data while the instructor was at hand to answer questions that may arise.”

“Dr. Erhardt is a great teacher who is willing to take the time to explain things. Fun and has a great sense of humor! He makes the topics less intimidating and easier to understand.”

“Dr. Erhardt used a user-friendly statistical package, Minitab, which worked well to explain the protocols for various types of data analysis. He did an excellent job explaining assumptions and ‘diagnostics’, however I would appreciate greater mathematical rigor. Students generally want to know how to *get* and *interpret* software output, but I want to know *how* that output is calculated. An understanding of the theoretical underpinnings would make application of the material a hell of a lot easier.”

Fall 2011 Stat 527 Comments

“He was a very compassionate teacher and wanted the class to learn and excel.”

“Excellent notes – was a life-saver. More live board work and initial work would be helpful.”

10.1.2 Stat 579, Response Surface Methodology

IDEA short form evaluations. Progress on:	F11	
Gaining factual knowledge (terminology, classifications, methods, trends)	4.9	(of 5)
Learning fundamental principles, generalizations, or theories	5.0	(of 5)
Learning to apply course material (to improve thinking, problem-solving, and decisions)	4.7	(of 5)
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	4.9	(of 5)
Acquiring skills in working with others as a member of the team	5.0	(of 5)
Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	4.4	(of 5)
Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	4.3	(of 5)
Developing skills in expressing myself orally or in writing	4.6	(of 5)
Learning how to find and use resources for answering questions or solving problems	4.7	(of 5)
Developing a clearer understanding of, and commitment to, personal values	4.9	(of 5)
Learning to analyze and critically evaluate ideas, arguments, and points of view	5.0	(of 5)
Acquiring an interest in learning more by asking my own questions and seeking answers	5.0	(of 5)
As a rule, I put forth more effort than other students on academic work	4.3	(of 5)
My background prepared me well for this course's requirements	4.6	(of 5)
I really wanted to take this course regardless of who taught it	3.9	(of 5)
As a result of taking this course, I have more positive feelings toward this field of study	5.0	(of 5)
Overall, I rate this instructor an excellent teacher	5.0	(of 5)
Overall, I rate this course as excellent	5.0	(of 5)

Comments

“Pro: The class is very interesting, very helpful and useful. I like the style of the teacher and the way he present class and explaing questions. The final project is FUN.

Con: Giving me a hard time to think of one con :)

It is a great class, thank you.”

“Prof. Erik Erhardt is an excellent scholar and great person and good friend. We learned a lot from him. He takes care about his students. He is willing to dedicate a lot of time after the class. He brought many good ideas. Now I'm a better statistician. Brings motivations constantly. Thank you, Erik. I wish you had come earlier to our department.”

10.2 University of New Mexico: September 2004 – Summer 2006

10.2.1 Stat 538, Biostatistical Methods I for Public Health & Medical Science

Evaluations as a Course Instructor Evaluation summary from Statistics students from the University of New Mexico as a graduate Instructor in the Fall 2005. Class size is 20 students, and most filled out evaluations.

	F05	
Rate the instructor.	5.8	(of 6)
... well prepared for classes.	4.8	(of 5)
... ability to explain?	4.8	(of 5)
... attitude toward students?	4.8	(of 5)
... instructor was a model teacher?	4.8	(of 5)
... instructor's knowledge of subject?	4.8	(of 5)
... use of blackboard and other materials (handouts) effective?	4.9	(of 5)
... examples/demonstrations were clear and concise?	4.7	(of 5)
... instructor was sensitive to student needs?	4.9	(of 5)

What are the major strengths of the instructor?

“Teaching skills were outstanding. Understood stats only during his lab class.”

“Erik did great job with lab and was great at bringing info to ‘non-math’ level.”

“Very student-oriented and helpful. He explained things in many different ways for all students. Excellent instructor!”

“Erik was well-prepared and very helpful in explaining concepts and models. Also, he created ‘conference’ time to address specific issues.”

“Very committed and helpful to students.”

“Great student rapport, excellent teaching methods.”

“Very patient. Erik has an innate ability to teach to all different levels as needed.”

What are the major weaknesses of the instructor?

“Didn’t really need book and it was very expensive.”

What aspects of this course were most beneficial to you?

“Going over examples. Having time to try out examples on the software.”

“MPH (Masters in Public Health) focus.”

“Applying lectures to lab were key to our understanding.”

“The extra lab time, being able to email questions.”

“Having Erik as a resource.”

What do you suggest to improve this course?

“Better integration of lecture with lab.”

“Less material to cover, more real life examples.”

10.2.2 Stat 539, Biostatistical Methods II for Public Health & Medical Science

Evaluations as a Course Instructor Evaluation summary from Statistics students from the University of New Mexico as a graduate Instructor in the Spring 2006. Class size is 7 students, and all filled out evaluations.

	<u>S06</u>	
Rate the instructor.	5.9	(of 6)
... well prepared for classes.	4.6	(of 5)
... ability to explain?	4.7	(of 5)
... attitude toward students?	4.7	(of 5)
... instructor was a model teacher?	4.7	(of 5)
... instructor's knowledge of subject?	4.6	(of 5)
... use of blackboard and other materials (handouts) effective?	4.7	(of 5)
... examples/demonstrations were clear and concise?	4.7	(of 5)
... instructor was able to explain difficult material to your satisfaction?	4.6	(of 5)
... instructor was sensitive to student needs?	4.6	(of 5)
... were labs important to learning in this course?	4.7	(of 5)
... instructor relate lab exercises to information from lectures?	4.7	(of 5)

What are the major strengths of the instructor?

“Erik communicates and relates to the students very well.”

“Well organized, good explanations, took time to answer questions.”

“Very good at explaining material. Ron's lectures were too theoretical for our use and we needed to have more ‘practical’ explanations.”

What are the major weaknesses of the instructor?

[none noted]

What aspects of this course were most beneficial to you?

“Labs.”

What do you suggest to improve this course?

“Perhaps more real-life; ‘here's the data ... now what do you need to do’ scenarios.”

“Include a ‘global’ view to integrate methods we have learned – i.e. more on what method to use when.”

“More clarity on what's wanted on the homework.”

10.2.3 Stat 345, Elements of Mathematical Statistics & Probability Theory

Evaluations as a Course Instructor Evaluation summary from Statistics students from the University of New Mexico as a graduate Instructor in the Summer 2005 and Summer 2006. In 2005, class size is 23 students, and all completed evaluations. In 2006, class size is 24 students, and 18 completed evaluations – evaluations were prepared last minute instead of ahead of time, so not all the desired questions were included.

	Sum05	Sum06	
Rate the instructor.	6.0	5.5	(of 6)
... well prepared for classes.	5.0	4.9	(of 5)
... ability to explain?	4.9	4.5	(of 5)
... attitude toward students?	4.9	4.4	(of 5)
... prepared students for exams?	4.9		(of 5)
... pace was suitable?	-0.1		(-2 (slow) to 2 (fast))
... instructor's knowledge of subject?	5.0		(of 5)
... presentation allowed for easy note taking?	4.9		(of 5)
... use of blackboard and other materials (handouts) effective?	4.9		(of 5)
... examples/demonstrations were clear and concise?	4.8		(of 5)
... explained steps carefully when discussing processes/techniques?	4.7		(of 5)

What are the major strengths of the instructor?

"I think Erik is one of the best professors I've ever had. He kept things clear and organized and this facilitated a fluid learning process for those who wanted to learn."

"Very knowledgeable, organized, kept up with grading better than all of my other professors. Simply a fun class to take due to a professional teacher."

"Excellent instructor. Students know they can approach him at any time and receive the help they need in the class. Explains all material thoroughly and in a way we can apply it to the real world."

"You are amazingly dedicated to your students and their concerns. Very organized and prepared in your lectures. Very prompt and fair in graded material."

"Erik is one of the best instructors I've ever had."

"Organization, enthusiasm, preparation. Awesome job. Best math instructor I've had at UNM."

"He provided exams and quiz grades very quickly. This was really good feedback. He gave a lot of examples in class which was very helpful. He explained the material very well. The class was organized and he was always well prepared."

"He was very well prepared and was concerned that his students do well."

"Teaching, communication, positive attitude."

"Clear discussion style is a strength as well as developed class notes."

"He has a great ability for explaining material that could be thought of as very difficult."

"He listened to my needs in order for me to learn and cared about my learning when he saw I did."

What are the major weaknesses of the instructor?

"None."

"He does not write out steps such as: step 1 . . . , step 2 . . . , for solving certain problems."

"Needs to push remedial discussions into office hours to keep on schedule."

"Limit time answering questions."

What aspects of this course were most beneficial to you?

“The handouts were very helpful for understanding how the problems should be worked out. Frequent quizzes kept me up to date on material. The website and answers to homework problems were very beneficial to me.”

“Learned a lot from the class can now apply knowledge in the workplace.”

“Never had statistics, everything I learned I can use in my future field.”

“I enjoyed the practicality of the coursework.”

“Instructor was the best.”

“Confidence intervals and hypothesis testing.”

“Erik would stay connected with the students and see if we really understood what he was teaching. It made the class very comfortable to ask questions all semester. Also, his organization of the class was incredibly useful making understanding easier.”

What do you suggest to improve this course?

“Very little is needed to improve.”

“I appreciate the quick responses & returning quizzes and exams in a timely manner.”

“There was a lot of note taking I hate that cause it doesn’t allow me to pay attention in class.”

“Add more of the examples on handouts to be more efficient with the class time.”

“The material in the last part of the course should be covered more slowly.”

“It was a great class!!”

10.2.4 Stat 145, Introduction to Statistics

Evaluations as a Course Instructor Evaluation summaries from Statistics students from the University of New Mexico as a graduate Instructor from Fall 2004 through Spring 2005. Class sizes are roughly 50 students, though fewer tend to fill out evaluations.

	F04	S05	
Rate the instructor.	5.0	5.0	(of 6)
... well prepared for classes.	4.9	4.5	(of 5)
... ability to explain?	4.1	4.3	(of 5)
... attitude toward students?	4.9	4.3	(of 5)
... prepared students for exams?		4.2	(of 5)
... pace was suitable?		-0.2	(-2 (slow) to 2 (fast))
... instructor’s knowledge of subject?		4.7	(of 5)
... presentation allowed for easy note taking?		4.5	(of 5)
... use of blackboard and other materials (handouts) effective?		4.4	(of 5)
... examples/demonstrations were clear and concise?		4.1	(of 5)
... explained steps carefully when discussing processes/techniques?		4.2	(of 5)

What are the major strengths of the instructor?

“Very knowledgeable, fair and good at explaining. His lectures were very well organized and easy to follow.”

“Always very prepared for class! Obvious strong understanding of material.”

“Always willing to help and excited about what he was doing.”

“Very efficient. Always willing to help, spend extra time with students, enthusiastic, and full of energy.”

“The teacher was very thorough and very understandable. Very fair. He was always prepared and organized. Enjoyed his teaching style. I didn’t see any weaknesses in his teaching.”

“Very clear and understandable, good lecture for note taking, very willing to work with students.”

“The instructor was great. Clear, concise, very helpful, always explained things thoroughly.”

“The instructor has a great amount of knowledge about the material.”

“Expertise in subject matter, professionalism.”

What are the major weaknesses of the instructor?

“Partly due to course content, he was often dry. The quotes and occasional jokes helped!”

“Seemed a little unsure of himself while teaching although it was unnecessary.”

What aspects of this course were most beneficial to you?

“Instructor’s flexibility with office hours for tutoring and help.”

“Website, handouts, updates, and e-mail.”

“I needed this credit so I would say the instructor, because of his teaching I understood things on the first try and that made this class that much better.”

“Real world examples.”

What do you suggest to improve this course?

“Encourage more class participation.”

Comment on the grading procedures and exams.

“We took an exam or quiz and it was graded quickly and returned to us. We received an e-mail explaining it.”

“It was always fair and if you didn’t understand what you did wrong he would redo the problem with you.”

10.3 Worcester Polytechnic Institute: January 2002 through May 2004

10.3.1 Evaluations as a course Teaching Assistant

Evaluation summaries from Statistics students from Worcester Polytechnic Institute from when I was a graduate TA from January, 2002 through May, 2004. The undergraduate schedule is in terms, where a term is one half the traditional semester. Each year I would teach four terms of undergraduate classes. Additionally, each of my classes were large, roughly 120, and were divided into sections, often four.

A score of 1 indicates the lowest evaluation, and a score of 4 indicates the highest.

Year	Term/Sem	Course	Percent in each Category					Average	<i>N</i>
			SD(1)	D(2)	A(3)	SA(4)	A or SA		
2002	C (Fall)	MA2611	0.04	0.04	0.70	0.22	0.92	3.10	22
2002	D (Fall)	MA2611	0.00	0.03	0.38	0.59	0.97	3.56	29
2003	A (Spring)	MA2611	0.01	0.07	0.75	0.17	0.92	3.08	51
2003	B (Spring)	MA2612	0.00	0.02	0.50	0.48	0.98	3.46	31
2003	C (Fall)	MA2611	0.05	0.04	0.57	0.34	0.91	3.20	46
2003	D (Fall)	MA2612	0.01	0.08	0.50	0.41	0.91	3.31	27
2004	A (Spring)	MA2621	0.00	0.07	0.40	0.53	0.93	3.46	13
2004	C (Fall)	MA2621	0.03	0.08	0.52	0.37	0.89	3.23	38

11 Information from Students

Student Feedback *Unsolicited letters or e-mails from students commenting on the course or my teaching provide direct and honest descriptive feedback.*

11.1 University of New Mexico: Fall 2011 – current

11.1.1 Stat 579, Response Surface Methodology

Date: Sun, Dec 11, 2011 at 21:42

Dr. Erhardt,

...

I also wanted to thank you for such a great semester... RSM was by far my favorite class I've taken at UNM and definitely one of the top classes I've taken throughout my entire education. I really enjoyed the way you made class "interactive". My the time 3:30 rolled around on most days I was burned out and ready to take a nap, but you taught with such a great energy that kept me mentally stimulated that when class ended I felt rejuvenated.

Thanks,
Becca

11.1.2 Stat 427/527, Advanced Data Analysis I

Date: Tue, Oct 18, 2011 at 12:30

I'd just like to say that it's refreshing to have a professor who seems to genuinely care about teaching and the iterative process of being a better teacher.

I'd like to let you know that the information from class has already been extremely useful to my research. I've done more ANOVA and KW ANOVA for work than for class!

It's also been really helpful to have the assumptions used in each type of analysis enforced on the homework, even though I'm sure many students might think that it's kind of a pain and "mathy," because it not only helps to critically evaluate the results of other journal articles we read, but also reminds us not to delude ourselves into seeing "significant" results where we would like to.

Cheers,
Jennifer Ong

11.2 University of New Mexico: September 2004 – Summer 2006

11.2.1 Stat 538, Biostatistical Methods I for Public Health & Medical Science

Date: Sun, 20 Nov 2005 17:08:45 EST

Hi Erik!

Nice compliment on the HWK #9 but I think you are an awesome professor. There are sooo many of us (probably all 20 of us) who rely on you clarifying and detailing the content of whatever test we are learning in lab. You seem to talk our "lingo" and draw us the perfect

picture to bring everything full circle. We have discussed this as a class and think we are lucky to have you.

Lisa M. Esparza

11.2.2 Stat 539, Biostatistical Methods II for Public Health & Medical Science

11.2.3 Stat 345, Elements of Mathematical Statistics & Probability Theory

Date: Sun, 7 Aug 2005 15:29:35 -0600

Subject: Stat 345

Erik,

Now that the semester is over, and grades are posted, and I won't come off sounding like a big suck-up... I'd like to tell you how much I enjoyed your Stat 345 class. Statistics was not a subject that I was expecting to find that interesting, but nonetheless, I found that I learned a tremendous amount. I specifically liked the section on probability as it really appealed to the math nerd in me (I spent a month calculating the probability of everything I could apply the formulas to, much to the annoyance of my friends and family). :)

I also wanted to thank you for your excellent teaching method and your organization. You are by far the best math teacher I've had at UNM (tenured and non), and I have had upwards of 15 math classes there, so that statement isn't to be taken lightly. I know you are a graduate student, and that you may or may not end up teaching your field to others, however if you DO wind up becoming a professor somewhere, I have no doubt that you will be highly successful and very well regarded.

Please keep in touch (I read your hobbies page on your web-site, and I too am a fan of puzzles and games, including a growing interest in cryptology/cryptography... perhaps I'll mail you something now and again).

Hope to see you unicycling around campus next semester.

Sincerely,

Geno Santistevan

Date: Tue, 12 Jul 2005 16:31:32 -0600

Subject: Re: Stat 345 Exam 2 Q 7

Erik,

Thank you very much for giving me a second chance today. I obviously need to get a better grasp on some of the material, but your support really encourages me to want to do better. I appreciate the fact that you will take time to help your students and I just wanted to let you know that. It makes a huge difference.

Thank you,

Martha Sucsy

11.2.4 Stat 145, Introduction to Statistics

Date: Fri, 03 Dec 2004 10:32:27 -0700

Subject: Thanks

This course has been really interesting, thanks for putting forth all the effort, and helping us when we needed it. I don't have any suggestions I thought it was excellent as is. I have

really enjoyed statistics, and would just like to say thank you for a great semester. Good Luck in the future.

Andrea Montoya

Date: Thu, 16 Dec 2004 00:16:03 -0700 (GMT-07:00)

Subject: Student reaction/permission to forward.

I was a student in Mr Erhardt's Statistics 145 class, Fall 2004. I found his lectures to be very comprehensive and well paced. The lecture notes were well thought out and organized. Also, the review sessions with questions and answers were extremely helpful for exams. Mr. Erhardt was easily accessible to address student concerns. I would recommend his class.

Sincerely,

Julie Matthews

Date: Sat, 07 May 2005 18:21:37 -0600

Subject: Re: Stat 145 Final Grades

Erik,

I just wanted to say thank you for a great semester. At the beginning I was extremely nervous about the course, but you actually make the class somewhat easy for me. Your lectures were very well organized and very clearly stated. I wish you lots of luck in your goal to one day become a professor, I think you would be great. Thanks again!!!

— Melissa Sandoval

12 Student Letters of Recommendation

12.1 For UNM's 2011–2012 New Faculty of the Year Award

These letters were written in support of my nomination for UNM's 2011–2012 New Faculty of the Year Award.

John Pesko, student Stat 579, Fall 2011

March 06, 2012

A few months ago, I nominated Dr. Erik Barry Erhardt for the New Teacher of the Year Award, and I am writing now to resound my support for Erik. I first met Dr. Erhardt as a student in his Response Surface Methodology course. It is not a trifle to note that this was my all-time favorite class, in part due to the fascinating subject matter, but more because of Erik's rare ability to present the material in such a fashion that, by the end of the course, I had achieved a level of expertise in a widely applicable, albeit precisely technical, skill set. It is true to say that Erik has left an indelible impact on my own teaching philosophy, and helped galvanize my love for the science of statistics.

It seems strange to me, looking back, that this was indeed a very rigorous course, and Dr. Erhardt demanded a significant amount of work from us; although many of the experiments we designed and analyzed were quite serious, Erik's style of teaching made the worth of the problems obvious, and his eagerness to inspire interaction in the classroom not only facilitated learning for all, but allowed us to feel more like a family than mere colleagues. I was always thrilled to attend this course, and even looked forward to working on assignments when I got home! Thanks to this course, masterfully-orchestrated by Dr. Erhardt, I am not only much better prepared for work in industry and applied statistics, but I have memories to cherish for the rest of my life; I'll never forget the feeling of pride in winning our paper-helicopter competition (some levity for a final project, one that also managed to effectively highlight the beauty and efficiency of RSM).

I have never met an instructor that cared so much about the personal well-being and development of his students as Dr. Erhardt, and am glad to say that he continues to be instrumental in my advancement as a statistician. Erik has offered me many beautiful consulting opportunities that would likely have been unavailable without his intervention, and I am constantly grateful for his confidence in my ability (and his unyielding patience and willingness to assist me, be it in regard to my job, education, or career goals). It gives me great confidence to realize I have found a true mentor in Erik; the type of person you would be lucky to meet in a lifetime, and a certified godsend to the UNM Department of Mathematics and Statistics, and while there is no doubt that Dr. Erhardt will continue to bring excellence to everything he does, it would be a tragic oversight not to recognize him with this award.

John Pesko

Graduate Assistant:

UNM Dept. of Mathematics and Statistics

Statistical Consultant:

RWJF Center for Public Health Policy

Yong Lin, student Stat 579, Fall 2011

Office of Support for Effective Teaching,
University of New Mexico,
MSC06-3695
1 University
Albuquerque, NM 87131-0001

I had been in Professor Erik Erhardt's class Response Surface Methodology (Stat 579) in the fall of 2011. It is my honor to write this support letter on behalf of Professor Erik Erhardt. He is a great and exceptional teacher. I strongly support him for New Teacher of the Year award.

Professor Erik Erhardt is a great professor in all aspects. He is very professional with strong passion of dedicating to transferring advanced statistical knowledge to his students. He is viewed by all the students that I know of as one of the best teachers they have ever had in their lives. The class materials are clearly presented and the class notes are tidy and clean which are impossible without careful preparations. Although he is clearly an expert in Response Surface Methodology, he patiently stops to listen to the students' questions, ideas and encourage them to think about the problem for alternative solutions. Unlike most teachers answering questions by directly giving answers, he directs students to solve the questions by first asking their ideas of the questions and what they would do. The way he helps students is special and effective.

Professor Erik Erhardt is definitely an exceptional professor. Response Surface Methodology is an advanced statistics course, which is considered to be challenging by most students. However, Professor Erik Erhardt found such a way to make it easier to understand by giving an interesting project: holding a paper helicopter competition. It allowed us to use what we have learned in his class to maximize the performance of the dropping time of paper helicopters. It helps to form a link between statistical theorems and the practical problems in the world. When we practiced dropping the paper helicopters, we got frequently asked by other people passing by what class it was for and when it would be offered again. This is extraordinary as it made the abstract mathematical equations alive and interesting to people even not majoring in statistics. In the end, we learned more than what we expected from the class of course with a beautifully designed paper helicopter as a souvenir. What is more, being in his class is an enjoyable experience and we had a wonderful time.

Professor Erik Erhardt is more than just a professor to most of his students. He is very patient, willing to take time and extra effort to advise students. To me, he is an important mentor and role model in my life. What makes me feel precious about him is that he cares about the students as friends and co-workers. His dedication and hard work greatly influences all the people around him.

In general, Professor Erik Erhardt is a knowledgeable professor in statistics, a great teacher, a mentor and an exceptional role model. He is an asset of the Department of Mathematics and Statistics and definitely of UNM as well. I totally support him for this award. If you need more information please contact me.

Yong Lin
Ph.d Candidate,
Department of Mathematics and Statistics

University of New Mexico

Jacqueline Cromer, student Stat 427, Fall 2011

March 4, 2012

Office of Support for Effective Teaching

This letter is on behalf of Professor Erik Barry Erhardt. Professor Erhardt has been my professor for two semesters in Advanced Data Analysis I and II. Even in a class so large, Professor Erhardt has done an outstanding job at creating relationships with the students that foster learning in and out of the classroom. He is ready and willing to assist struggling students in class, in office hours, by email, and in extra appointments. I have been in college for three years and attended three different universities. Out of all the professors who have taught me, Professor Erhardt stands out among them all. He uses real life examples during the lecture to engage the students and he always encourages asking questions. I am a math major but being in Professor Erhardt's class has turned me into a statistician. I feel that the knowledge I have gained from Professor Erhardt's class is more useful and applicable to real life than any other courses I have taken. In my opinion, Professor Erhardt is a perfect candidate for the New Teacher of the Year award.

Sincerely,

Jackie Cromer

Michael Hunter, student Stat 427/527, Fall 2011

March 4, 2012

Office of Support for Effective Teaching

Regarding: Teacher of the Year Award Erik Erhardt

Dear Review Committee:

I am writing this letter because I believe that Professor Erhardt is a perfect match for OSET's teacher of the year award. I am a non-traditional student, studying statistics in my final year at the University of New Mexico. In my time here I have never had a more concise, open, and insightful teacher. The field of statistics is one that I have found, open to a broad interpretative schema. Professor Erhardt's teaching methodology coupled with his genuine enjoyment of statistics has made my time in his classrooms, efficient and well placed. He has also taken the initiative to lead a mathematics and statistics clinic. This clinic helps not only students in the statistics department but also other students that require the use of strong statistical analysis methods to substantiate their research. Feel free to contact me should you need further information.

Sincerely, Michael Hunter

Xueqin Wang, student Stat 579, Fall 2011

March 4, 2012

Support for Effective Teaching(OSET)

The University of New Mexico

Subject:

Letter of recommendation for Professor Erik Barry Erhardt for New Teacher of the Year award.

To Whom May concern,

I am writing this letter to support Professor Erik Barry Erhardt for New Teacher of the Year Award. I was in his “Response Surface Methodology” class in the fall, 2011. He is one of the best professors I have come across, in all aspects of teaching and personality.

What I most admire about Professor Erik Barry Erhardt is his remarkable ability to teach and add personality to the course material. His dynamic teaching style makes students listen attentively to him, instead of piling notes for later study. He is also extremely organized. He spends much time in giving feedback for the assignments, which helps everyone understand what the most common mistakes were, and provides comments to each student with regards to his/her weak and strong points. He posts the correct solutions online after an assignment so that everyone can track their mistakes and learn from it right away. He not only gave excellent lectures, lots of homework to practice, but also design a fun final project to cover the main techniques we learned in his class.

Besides teach exceptionally well, Professor Erik Barry Erhardt also cares a lot about the level of understanding of each student. He is one of those rare professors that take the extra effort to make sure all students that need extra help are accommodated, despite his busy schedule. His office hours are not the only time he can be found to answer questions; students can make appointments or just walk to his office for some clarification. He answers e-mails instantly. It is tough to mention all of his amazing qualities here and the ones mentioned above only scratch the surface.

Professor Erik Barry Erhardt deserves “New Teacher of the Year Award”, his hard work and achievements in teaching need to be recognized with this teaching award.

Sincerely,

Xueqin Wang

12.2 For UNM’s 2005–2006 Outstanding Teaching Assistant Award

These letters were written in support of my nomination for UNM’s 2005–2006 Outstanding Teaching Assistant Award, which I was awarded on May 3, 2006.

Jason Lucero, student Stat 345, Summer 2005

March 1, 2006

To the Teaching Enhancement Committee:

I am writing to you in regards to the support of teaching excellence for a former University of New Mexico instructor I had named Erik Bany Erhardt. During the summer semester of 2005, I enrolled in a statistics course that was taught by Mr. Erhardt entitled “Stat 345: Elements of Probability and Statistics for Engineers.”

I did not know what to expect of neither the course nor Mr. Erhardt, since I have never taken any previous statistics courses during my undergraduate studies of applied mathematics. During the semester, I was amazed on how clearly Mr. Erhardt presented the course topics. Thanks to Mr. Erhardt’s clear and precise explanations, I actually was able to understand the difficult concepts of probability for the first time in my life.

Mr. Erhardt would always go the extra mile to make sure that all of his students fully understood the topics that he was presenting. He would go beyond the book by creating

additional handouts that had clear explanations and examples on statistical topics. In addition, Mr. Erhardt was always available to his students for help, and he would periodically conduct course evaluation surveys to make sure that his teaching style was meeting the needs of all of his students in the class. It made me very happy to see that Mr. Erhardt was an instructor that actually cared for not only the performance of his students, but with quality of his teaching skills as well. It is very rare to see a college instructor that holds as much enthusiasm about teaching as Mr. Erhardt has.

I recently graduated in the Fall 2005 semester with a Bachelor of Science in applied mathematics. Because of the experience I had with statistics through the teachings of Mr. Erhardt, I have decided to pursue statistics as my course of study in graduate school. Mr. Erhardt will always have a lasting impression on me because of his teaching abilities, and I would definitely take another course with Mr. Erhardt.

Mr. Erhardt's teaching style made the statistics course run very smoothly, and he is definitely one of the best instructors that I ever had during my undergraduate studies at the University of New Mexico. In my own opinion, Mr. Erhardt's teaching style is so clear and precise, that it can even rival the teaching styles of some of the best full-time faculty professors. In closing, I believe that the teaching style of Mr. Erhardt defines what teaching excellence should be at the University of New Mexico.

Yours sincerely,

Jason Lucero, M.S. Student Statistics

Leyma P. De Haro, student Biomed 516, Spring 2005, student Stat 538, Spring 2005

March 2, 2006

To Teaching Enhancement Committee:

My name is Leyma P. De Haro and I am a graduate student in the Biomedical Sciences Graduate Program at UNM. I have been a student of Erik B. Erhardt in two courses: Biomed 516 (Genomics) and Biostat 538 (Statistics for Biological Sciences) during the Spring and Fall of 2005 respectively. During both courses, I had extensive interactions with Erik, who was very helpful as a T.A. Erik was a wonderful instructor, he was always available, and he treated us with respect and professional etiquette.

During the Biomed 516 course, Erik went beyond his responsibilities with the class, and helped the students achieve a much deeper understanding of the subject. He was very patient with us, coming from a biology background, where programming and other complicated computer operations are intimidating. He successfully bridged the Biology questions we were trying to answer with the computational tools needed; thus, making us more comfortable venturing into interdisciplinary research. He did a wonderful job of complementing the professors' teaching with his command of computational sciences and statistics. Thanks to Erik's help, I successfully completed this course and have used many of the concepts I learned from him in my research and other courses.

Erik instructed the lab section of Biostat 538. This section was divided into a brief lecture complementing material discussed in lecture and an introduction to the software and manipulations needed to solve the homework problems. He prepared his lecture notes and instructions to solve problems similar to the ones in the homework. The students in this class had very basic math and computer skills, and Erik did a good job of explaining everything

in detail yet in a simple and understandable way. I especially enjoyed having him as an instructor for this course because he went out of his comfort zone to bring relevant statistics problems to the class. I was very impressed because he prepared very well and he understood the real importance of the problems we discussed. This was vital to me because the class became much more than learning how to do statistics. I can now apply a great tool to my thesis work. I spent many hours in Erik's office talking about statistical analyses in much more depth than covered in class. Thanks to these long discussions, I now feel confident in my statistical analyses.

Erik's easygoing personality and his dedication to teaching inspired me. I highly admire him as a teacher and as a colleague. I consider him a bright scientist and I am honored to share science with people as talented as Erik. I hope he continues to teach while at UNM. He is doing great work to bridge disciplines, train students successfully, and spread the passion for computational sciences, statistics and mathematics.

Sincerely,

Leyma P. De Haro

Second Year Biomedical Sciences Ph.D. Program

Jac A. Nickoloff Laboratory

Cancer Research Center

University of New Mexico School of Medicine

Ani Humberson, student Stat 538, Fall 2005

February 11, 2006

Dear Members of the Teaching Enhancement Committee,

It gives me great pleasure to write this letter of support on behalf of Erik Erhardt and his demonstration of excellence in teaching. In the Fall Semester of 2005, I had the pleasure of being a student of Erik's in Statistics 538-Lab. He was the teaching assistant for that course.

I always knew what constituted a "good" teacher. A "good" educator is one who can teach the material in a well-organized yet interesting fashion. However, why should teachers strive for "good" when they can strive for "excellence?" While having Erik as my instructor for the lab portion of the class, I have been able to expand on my original tenants of "excellence" in teaching.

An excellent teacher is able to bring out a student's natural desire to learn by presenting the material in a way that makes learning it enjoyable. I will admit I went into statistics with the attitude that numbers in any shape or form will not be enjoyable. By the end of the semester, my feelings had changed drastically. It is because of Erik and his teaching methods, passion for what he does, knowledge of the subject and dedication to the learning institution that I walked out of a math class feeling confident about my abilities.

In addition to Erik's passion, he has a natural ability in seeking to understand the world of the student in order to bridge that gap between school and the outside world, not walls. His ability to spark desires, provide positive and negative feedback, and develop rapport with each student to increase the chances of instilling good, educative habits far exceeds the qualities of a "good teacher".

Finally, Erik routinely ensured that each student felt welcomed and respected in the classroom. Although it is impossible to teach every student the same, Erik found a way to

give his students a quality education adjusted to our individual needs. An example of this is he often challenged more advanced students and offered outside assistance to students struggling with a concept, always finding time to meet with students beyond office hours.

I heartily encourage your favorable consideration of Mr. Erhardt as the recipient of the 2005–2006 Teaching Excellence Award. He will prove to be a strong attribute to your educational institution and a responsive and enthusiastic cohort to the mathematical profession.

Sincerely,

Ani Humberson, RDH, BS, MSDH©

Geno Santistevan, student Stat 345, Summer 2005 February 20, 2006

Dear Teaching Enhancement Committee Member:

I am writing this letter in support of Erik Erhardt regarding his nomination for a 2005–2006 Outstanding Teaching Award.

I had Erik as my instructor for Stat 345 in the summer of 2005. Statistics was not a subject that I was expecting to find that interesting, but nonetheless, I found that I learned a tremendous amount, primarily due to Erik's enthusiasm and dedication to the topic. Furthermore, Erik's attention to detail and exceptional organizational ability, made learning new conceptual ideas and jargon quite easy compared to other classes I have taken. Erik also seemed to care about each and every student individually, making sure to address all of our questions and concerns thoroughly, even when this ran well after class and on weekends.

I know that Erik is a graduate student, and that he may or may not end up teaching his field to others, however if he does wind up becoming a professor somewhere, I have no doubt that he will be highly successful and very well regarded.

Please feel free to contact me regarding any questions about this recommendation, or to further discuss Erik Erhardt.

Sincerely,

Geno Santistevan

Lana Reihani, student Stat 145, Spring 2005

February 23, 2006

Teaching Enhancement Committee:

I am writing on behalf of Erik B. Erhardt. I was fortunate enough to have him as a teacher for my Intro to Statistics 145 class in the spring of 2005. Throughout my academic career, I have never taken an interest in Math. I have performed well enough in various courses, from Algebra to Geometry, but it always felt like a chore I had to complete. This was not the case in my Intro to Statistics class with Mr. Erhardt.

From the very first lecture, I was interested in the material. It was because of Mr. Erhardt's teaching style. His lectures were very detailed and organized. He was consistently well prepared. It was apparent he was very knowledgeable in his field. He explained the concepts thoroughly and in a manner that I found highly understandable. He took the time to show examples of the concepts taught and answered everyone's questions with a respectable way. He paced the class as best as possible to match the understanding of his students. I enjoyed coming to class every meeting, and I wanted to learn more.

He motivated his students to do their absolute best and I was encouraged by his teaching style. I did very well in the class, and I have him to thank for it. Overall, he is one of the best teachers I have had at the University of New Mexico and I fully support him and his teaching excellence.

Sincerely,
Lana Reihani

Becky Griesemer, student Stat 538, Fall 2005

February 6, 2006

Dear Teaching Enhancement Committee:

My name is Becky Gnesemer and I am a student of Erik Erhardt I am wilting in support of his teaching excellence which he has demonstrated during Biostatistics I and Biostatistics II labs. His teaching characteristics that are I admire most are: (1) his lectures are easy to follow, (2) he explains the material clearly, (3) he is concerned if students understand the material, and (4) he is readily accessible outside of class.

Erik performs thorough preparation before class and is evident in his systematic lectures. He posts his class notes on the web site and allows students to review the notes prior to class. The notes are very informative and well outlined. Having the information taught in conjunction with the outlined notes facilitates a better understanding of the material.

Erik is remarkable at explaining statistics. He carefully defines all concepts and terms. I particularly appreciate the time he takes to utilize different colored markers on the white board to help explain the different facets of statistics (i.e. distinguishes multiple values of a graph). His teaching technique allows the examples to be less confusing and easier to understand. Also, he has a knack for rephrasing explanations of major points so that all the students grasp the information.

Erik always shows concern of students' comprehension of the material. He frequently asks the class if the material is taught too slow or too fast, if everyone understands the material covered, or if anyone has any questions. In addition, Erik is accessible outside of class to help answer any questions about statistics. He is available immediately following class and during office hours to answer students' questions. Furthermore, he answers questions via e-mail at all hours of the day, from early morning to late evening.

Due to Erik's outstanding teaching techniques and his empathy for his students, I believe he creates an ideal learning environment for all the students. Erik's lectures are easy to follow, he thoroughly explains the material, and he ensures that all students are learning the material. From speaking to my other classmates and from my own experience, the knowledge we have gained from Biostatistics I and Biostatistics II is greatly attributed to Erik's excellent teaching ability.

Sincerely,
Becky Griesemer
Student UNM Biostatistics II

Gena Love, student Stat 538, Fall 2005

February 28, 2006

Dear Sir or Madam:

I am writing to recommend Erik B. Erhardt as an excellent instructor and essential component of my successful completion of the required statistics course for my Master of Public Health (MPH) degree. The course, Biostatistics I for MPH (Stat 538) taught last spring, was interesting and very relevant to my professional work and the completion of my MPH. However, without Erik's support and assistance as the Laboratory Instructor I would not have completed the course, nor received a grade of A+. While I am a reasonably high performing student, this grade is due in large part to the attention, time and support Erik offered to each student throughout the semester.

He brought clarity to difficult concepts by introducing relevant and realistic examples from MPH research. He adjusted lab time and his own office hours to accommodate the varying needs of 20 graduate students. He responded to questions through email, voice mail and in person with patience, persistence and respect for the varying levels of comprehension and experience. Personally, his kind and thorough explanations helped remove much of the panic that overtook me after each lecture session. Gradually through the semester I came to understand that no matter how lost and confused I might feel after lecture, by completion of the next lab I would have gained some sense of comfort, even mastery, over the concepts and applications covered.

Erik was one of the best instructors I have ever had. I recommend him to you as a true professional who facilitated the growth and mastery of many students. While I would not consider making statistics my profession, because of Erik's guidance and instruction I certainly learned more from this one course than I have in any previous mathematics/statistics courses offered at the University of New Mexico.

Sincerely,
Gena Love
MPH student

Jennifer S. Roberts, student Stat 538, Fall 2005

February 10, 2006

Teaching Enhancement Committee,

The intent of this letter is to support Erik Erhardt in his teaching excellence and recommend him highly for Teaching Awards. As a graduate student at the University of New Mexico, I had the privilege of being instructed by Erik in STAT 538 Biostatistical Methods I, Statistical Summaries and Inference and STAT 539, Biostatistical Methods III, Introduction to Statistical Modeling. Erik was an excellent laboratory instructor for these courses in that he gave a clear, concise indication of what information was most important; demonstrated the overall concepts of statistical analyses, including application to real-world scenarios; explained the material in a variety of ways, appealing to all different learning styles and using hands-on software applications, white board drawings, lectures, class discussion and providing lecture notes in advance; while displaying a style which captures the students' attention. Erik maintains a personal and caring demeanor towards the students and goes out of his way to be available for additional instruction outside of designated class time. In both of the aforementioned courses, challenging homework was given on a weekly basis and papers were consistently reviewed in a fair and timely manner, being returned to the students the very next week with comments and scores. I encourage the Teaching Enhancement Committee to recognize Erik Erhardt for his outstanding teaching methods and skills and his dedication

to the academia.

Sincerely,

Jennifer S. Roberts

Senior Quality Assurance Specialist

Lovelace Respiratory Research Institute

Albuquerque, NM

Lama Breidi, student Stat 538, Fall 2005

To Whom It May Concern:

It is a great pleasure to write this letter for Erik Barry Erhardt to participate in his nomination for one of the 2005–2006 Teaching Awards by the Chair of Dept of Math. I met Erik when I took the Bio-Stat class during the fall of 2006, as he joined our class as a teacher assistant.

Erik persistently worked very hard to bring the class to a competitive academic track and has a particular interest in improving the teaching quality of the entire student in the program.

One cannot write about Erik without talking about his personality. Erik has a very desirable, pleasing personality and attitude that makes him a very fine teacher and allows him to get along well with the entire student.

He is very nice and modest. I believe that he will be very successful in all aspect of his academic career.

Above all, I believe that he exercises the highest ethical principles in the teaching process and practice of teaching. I would have absolutely no hesitation in recommending Erik Barry Erhardt for this Award.

Sincerely yours,

Lama Breidi, MD

Lisa M. Esparza, student Stat 538, Fall 2005

February 17, 2006

Dear Teaching Enhancement Committee:

It is a great honor to enlighten the award committee and recommend Erik B. Erhardt, BS, MS for the 2005–2006 University of New Mexico Teaching Assistant Award.

Mr. Erhardt is an exemplary teaching assistant/lab instructor for the Mathematics and Statistics Department at the University of New Mexico. We became acquainted last fall, I was a graduate student in his Biostatistics 539 Methods for Public Health and Medical Sciences course. At the first computer laboratory session Mr. Erhardt's strong commitment to his teaching responsibilities was evident. He set clear boundaries of his expectations and his enthusiasm for statistics was energizing. The learning methodologies he utilized, organized and detailed lab handouts and engaging lab lectures brought these challenging statistical concepts to reality. Mr. Erhardt did not want us to just "make it through" the course, he instilled the importance and value of learning the concepts and computer applications in order for us to succeed with our future research endeavors. Beyond the call of teaching Mr. Erhardt established an optional one-hour pre-class lab session in the computer laboratory allowing us access to his expertise. Although attendance was optional the majority of the

class attended without fail. Every week Mr. Erhardt endured a multitude of questions, emails and/or office visits but his attitude and passion for teaching never wavered.

As a dedicated alumnus for the past eighteen years I can state without reservation that Mr. Erik B. Erhardt is an excellent teacher, role model, and advocate for higher education in New Mexico. Please accept my recommendation and award Mr. Erhardt the 2005–2006 Teaching Assistant honor, he is an asset to his students, department and the University of New Mexico.

Sincerely,

Lisa M. Esparza, RDH, MS©

Masters Candidate, Dental Hygiene

Martha Sucsy, student Stat 345, Summer 2005

March 6, 2006

I am writing this memo in regards to Erik Erhardt's excellent teaching skills, as were demonstrated to me in STAT 345, Elementary Probability and Statistics. I took this class in summer 2005, for which Erik was the TA. There were many great qualities about Erik's teaching, some of which I would like to mention.

Erik had great classroom presence. He always came in well prepared for the day and with a positive attitude, ready to teach. His notes were organized and thorough, which provided him with the readiness he needed to lecture, and it provided us, the students with an easy-to-follow lesson plan, schematically laying out each step to a problem. Erik's sense of humor in the classroom was a great trait of his teaching, and he did an excellent job of making the course content as interesting as possible (even the dimly dry material of calculating the probability of a factory machine making an error in production).

In addition to the requirements of providing a lecture for the course, Erik went well out of his way to help his students learn as much as possible. He worked hard to make himself available to students by providing accommodating office hours and keeping his schedule flexible in order to make appointments an option as well. Erik's availability outside of class was probably one of the most helpful aspects of the course to me. In the beginning of the summer I was having a hard time understanding the material, but due to his patience and skill in explaining the concepts, my understanding greatly increased and I was able to come out of the course with an A+! Erik is probably the best TA that I've had in regards to his one-on-one teaching skills. He was great because he took the time to see what I understood and what I was struggling with. He never criticized or belittled me for things that I should have already known, but instead focused on my strengths and encouraged me in those, which in turn helped me to conquer those areas in which I struggled.

Finally, there were two other aspects of teaching that Erik should get credit for. One of them was his website. He did a great job at keeping his site up-to-date with solutions for homework, quizzes, and exams. In addition to the course site, he also had a link to his personal site, which I thought was neat because it allowed the students to have a better understanding of him as a person. I think once the student can connect on some level other than through the course material, it helps bridge the gap between the student and the teacher, which helps a lot in classroom atmosphere. Once the student feels comfortable, they are that much more likely to participate in class by asking questions and making sure that they have a complete understanding of the material. Besides the website, the other

very helpful tool that Erik provided was feedback. Throughout the semester he gave each student an update on their grades. These reports were tremendously helpful in keeping us as students aware of how our progress was, and gave us somewhat of a flag in case we were falling behind.

Overall, Erik Erhardt was one of the best teachers that I had while at UNM (including TA5 and professors alike). I really benefited from his teaching and I highly recommend him for this teaching award.

Martha Sucsy, UNM Alumna

Missy Plese, student Stat 538, Fall 2005

February 22, 2006

Teaching Enhancement Committee,

Please accept this letter in support of Erik Erhardt and the nomination he received to honor his excellence in teaching. As a student of Erik's I was able to witness first hand his exceptional teaching style. It is Erik's ability to utilize a variety of teaching methods and his positive approach that allows him to teach individuals in an effective manner.

Erik's capability to take complex subject matter and transform it into straightforward and feasible material sets him apart from the average educator.

As an instructor Erik was always receptive to the needs of his students. Using his own foresight and anticipating many questions that would arise as a result of difficult topics, Erik generously volunteered to arrive to class one hour earlier so he could personally

assist students with their questions. He was always willing to take extra time to explain or review material either via e-mail or by scheduling a meeting. It is Erik's readiness to assist each student on a personal level that makes him approachable and accessible to his students.

The traits and characteristics that Erik possesses as an individual and a teacher allow him to excel as an educator. It is without any reservations that I recommend that Erik be recognized and awarded for his excellence in teaching.

Sincerely,

Missy Plese, RDH, BS

Candidate for MS in Dental Hygiene

Sarah Koster, student Stat 538, Fall 2005

February 28, 2006

To The Teaching Enhancement Committee:

I am writing in support of Erik Erhardt's teaching excellence in Biostatistics 538 during the fall semester of 2005. Erik taught the lab section of this introductory, graduate level biostatistics class and was responsible for ensuring that his students not only understood the concepts explained during the lecture, but that we were able to apply those concepts using a statistical analysis computer program. Erik certainly accomplished this and made sure that all his students earned A's and B's despite the complexity of the course material.

One attribute of Erik's that leads me to support his nomination for this award is the fact that he was very accessible outside of class. In addition to holding regular office hours he was available to meet during odd hours throughout the week in order to accommodate students with scheduling constraints like full time jobs and family responsibilities.

Erik's teaching plans emphasized conceptual understanding of bio statistics and, because many of his students were employed in public health research, he always encouraged that we discuss "real-world" examples during class. This ensured that his students really understood, for example, the reasons that certain statistical methods are used over others and the parameters in which certain tests work. This teaching style is much preferred to didactic lecture and rote memorization in a class meant to prepare you with the skills to utilize and fully understand complex biostatistics concepts and methodology.

As mentioned before, Erik always encouraged class discussion but, perhaps more importantly, he was always very well prepared to explain concepts in different ways suitable to the special needs of his audience. He obviously has an extensive and comprehensive knowledge of biostatistics which allowed him to answer student's questions quickly and easily.

I am certain that, had Erik Erhardt not been my teacher last semester, I would not have completed the course with the knowledge base and confidence I now have in biostatistics. This, along with the many letters of support that I am sure he has received from other students, should prove that he certainly has earned this teaching award.

Sincerely,
Sarah Koster

Tamara L. Donald, student Stat 538, Fall 2005

February 13, 2005

Teaching Enhancement Committee,

As a past student of Mr. Erhardt, I am delighted to send this letter of support for the 2005–2006 Teaching Awards for which he has been nominated. Mr. Erhardt's quality of teaching was instrumental to my Statistics 538 education and successful course grade. I greatly benefited from his ability to explain difficult concepts, creative use of computer screen visuals, and effective illustrations of statistical formulas. The well organized, easy to follow, and informative lab notes aided in homework completion, especially the screen prints and examples used to demonstrate computer applications. Mr. Erhardt was available for questions before and after class as well as being very accessible through email and arranged meetings. Furthermore, Mr. Erhardt held extra lab sessions each week for those students in need of additional help, which obviously shows his dedication to student learning. I am confident that without Mr. Erhardt as an instructor, I would have had a negative experience in statistics class.

Sincerely,
Tamara L. Donald, RDH, BS
Masters Candidate
Division of Dental Hygiene
University of New Mexico

13 Information from Colleagues

This section includes letters from colleagues within the university.

13.1 Letters of Recommendation

13.2 For UNM's 2011–2012 New Faculty of the Year Award

These letters were written in support of my nomination for UNM's 2011–2012 New Faculty of the Year Award.

13.3 For UNM's 2005–2006 Outstanding Teaching Assistant Award

These letters were written in support of my nomination for UNM's 2005–2006 Outstanding Teaching Assistant Award, which I was awarded on May 3, 2006.

Alejandro Aceves, Chair Department of Mathematics and Statistics

March 7, 2006

To the Award Selection Committee,

This letter is in support and to endorse the nomination of Erik Erhardt for a 2005–06 outstanding TA award. It is encouraging to see CASTL recognizing outstanding TAs and as Department Chair I take pride in submitting deserving nominees from our Department.

Each year, within the Department we do some screening to identify those students who at the time best represent what an outstanding TA should be; namely one who is progressing well in their studies while at the same time shows both effective teaching and willingness to do the job in the classroom that our undergraduates expect. This selection is based on input from the Department Director of Graduate Studies, the Department Director of pre-Calculus and faculty who wishes to submit a nomination. We also consider self-nominations. While we are lucky that most of our TA's do a great job in the classroom, that based in ICES scores, classroom observations and their progress in their studies, we believe Eric stands out and truly deserves of this recognition. You should know that in our regular monitoring and training of TAs, we try to identify those students who are either solid in the classroom and/or show steady improvement and care from what mentors or course coordinators suggest to them after being observed. These TAs are typically used in the more demanding courses in the ever so difficult task of teaching mathematics to a broad audience.

There are more things I could add, but I'll let others reflect on their own experiences. The packet Erik will submit to you with his statement, letters of support and teaching evaluations will leave no doubt that he is a deserving nominee. I am sure the selection committee will see the strengths of this file and that you will give this nomination serious consideration.

Respectfully yours,

Alejandro Aceves

Chair

Department of Mathematics and Statistics

The University of New Mexico

Adriana Aceves, Director of Pre Calculus Mathematics

March 4, 2006

To the Award Selection Committee,

I am very pleased to support Erik Erhardt's nomination for the Teaching Assistant of the Year award.

I have known Erik since he joined our department as a teaching assistant in the fall of 2004. His field being statistics, he was assigned to teach the introductory statistics class, stat 145.

Right from the first semester, we realized that Erik was one of those people with a natural talent to teach. In his visit to Erik's class, the statistics coordinator was pleased to see that Erik was handling his class as if he had been teaching for many years. His explanations were always clear and he had an excellent rapport with the class. He looked for different way to approach the material so that it would be clear to every student in the classroom. His ICES, especially for a new teacher, were wonderful and they continue to be some of the highest ones in the department. All of this did not go unnoticed to faculty, very soon some of the professors teaching the more advanced statistics classes requested that Erik would be assigned to assist them in those classes.

Since I am in charge of overseeing all of the TAs in the department, I have had the opportunity to work closely with Erik. One of the aspects that impress me the most about him is the dedication and enthusiasm that he has for his teaching. Just looking at his web site shows how much he cares about his students' success, and how much effort he is willing to put into helping them. Although he is in charge of the lab- not the course itself- he has developed notes and other materials to help the students with the class. He is always willing to help outside the classroom far beyond the assigned office hours.

Even though Erik is already a great instructor, he takes advantage of every opportunity he has to better himself as a teacher. He participates in any professional development program that the department puts forth, and is very enthusiastic about discussing with any of us in the department ways on how to be a more effective teacher.

His students give him only the highest praise and comment on his dedication, clarity of explanations and enthusiasm for teaching. Many of them mention that he is the best math teacher they have ever had.

For all the above reasons, I believe that Erik Erhardt is a very deserving candidate for your award, and I very enthusiastically support his nomination.

Sincerely,

Adriana Aceves

Director of Pre Calculus Mathematics

Department of Mathematics and Statistics

Ronald Schrader, professor Stat 538 and 539, Fall 2005 and Spring 2006

March 3, 2006

Teaching Enhancement Committee

Erik Erhardt has been my teaching assistant for two semesters, in Statistics 538 and 539 (Biostatistical Methods for Public Health and Med. Sci. I and II). I have taught these courses for a few years now and have a solid frame of reference for how good somebody is in this role. Erik has been doing an absolutely stellar job, far beyond that of his predecessors

and far beyond reasonable expectations I could have of him. His students and I are very lucky to have him here.

These Biostat courses mostly are populated by students in the Masters in Public Health program. Several of them are MDs interested in research and pursuing another degree to enhance their research credentials. Many of them are "math phobes" who can be put off very easily by overly technical material. The goal of the courses is to take smart, motivated students who have little mathematical background and make them proficient in using advanced statistical methods with some particularly difficult software (Stata). The course stresses concepts and interpretation over calculations, and that can be challenging to teach. We have not found a suitable textbook for the course, so both the teaching assistant and I have to prepare a lot of material.

Erik serves as more of a co-instructor than a mere assistant in this course. I introduce most of the ideas during my two hour session on Tuesday mornings, and Erik gets them up to speed implementing the ideas in software in his two hour lab session on Thursday mornings. The notes he prepares for labs and the web site he maintains are absolutely first rate. He carefully lays out approaches to using this software that integrate well with material covered earlier, and he provides an excellent guide for approaching these complicated problems in the future. His concern for pedagogy is clear. I have had lab assistants very well liked by the students, but previous assistants never came close to being this effective.

I think you can imagine the amount of effort Erik puts into this job just by examining his teaching dossier. There are few faculty members who have put as much thought into what it means to teach well as Erik has done. He prepares material very carefully, he schedules extra time with the students (last semester he went ahead and scheduled his lab for an extra hour), he keeps long office ours that are well visited by students, and it all works very well. His students learn a lot and they adore him.

Erik Erhardt works very hard and very effectively at teaching. He is a model of how this should be done. I doubt you can find a more deserving candidate for a teaching award at this or most other universities.

Ronald Schrader

Department of Mathematics and Statistics

Justin Kubatko, Coordinator, Stat 145

February 27, 2006

Dear Teaching Enhancement Committee:

Erik Erhardt has asked me to write a letter of support for his 2005–2006 Teaching Assistant of the Year application, and I am very happy to do so.

Erik was a Graduate Teaching Assistant (GTA) for Statistics 145 during Fall Semester 2004 and Spring Semester 2005. Statistics 145 is an introductory course in statistics that stresses concepts rather than calculations, and thus can be very difficult for a GTA to teach. As the coordinator of the course, one of my responsibilities is to oversee the sections that are being run by GTAs. Erik was one of the top two GTAs I have observed in my five years at UNM. His class notes were very detailed, which aided his lectures greatly. In fact, several of Erik's students mentioned to me how much they appreciated the time and effort he put into his lectures. It was clear from the several times I observed him that Erik had an excellent grasp of the material he was teaching, which from my experience with this course is unusual

for a GTA. Erik was also very helpful in providing feedback during the exam-writing process. He would completely work out each problem on the exam, and he would also report the time it took him to complete each problem. This was invaluable information for me to have, and he is the only GTA I have ever worked with who went through the exams with that level of detail.

In closing, I believe that Erik would be a worthy recipient of one of the Teaching Assistant of the Year Awards, and I give him my strongest support. Please feel free to contact me should you have further questions.

Sincerely,

Justin Kubatko

Lecturer II

Department of Mathematics and Statistics

The University of New Mexico

Albuquerque, NM 87131-1141

14 Information from Other Sources

This section will include letters from colleagues within the profession and elsewhere.

none