Purpose of this segment:

In this segment we will discuss the idea of synchronous chat as well as the alternative asynchronous threaded discussion approach. We will consider the effectiveness and resource intensiveness of these two approaches in technology intense subjects as well as "softer" subjects.

We will then look at ways to inspire the students to participate in the chats and how an instructor can be a part of the chat without turning it into a "mini lecture."

And then we will look at the logistics of how to be organize for an effective chat by having the topics handy, having common responses to students' questions and how to archive the session.

Space For Your Notes

Space For Your Notes

Resources

Synchronous Chat

At least 1 hour per week but up to 2 hours for both the faculty and the students

CI03

Space For Your Notes

Effectiveness

Synchronous Chat

"The chat really brought the ideas in the course together"

CI04

Space For Your Notes

Resources

Threaded Discussion

About 30 minutes per week for the students (some will spend longer). Many hours for the faculty.

CI05

Space For Your Notes

Effectiveness

"..the threaded discussion was a complete waste of time as far as I was concerned.."

"I spend as little time on the discission as possible. Just enough to show I was there and get my grade." CI06

Space For Your Notes

Should we be Attempting to Emulate the Classroom?

LDTATNC* CI07

Space For Your Notes

Chat Approaches

- Free for all (do nothing)
- Assigned topics in list
- Assigned topics in Video (with list)

CI08

Space For Your Notes

*Let's Discuss This At The Next Chat

Which of the above do you think works best?

LDTATNC

CI09

Insight | Infrastructure | Tool

Space For Your Notes

My Experience

- Assigned topics in Video (with list)

Let's look at an example chat

Chat Archive 801 Tuesday 7PM 9/12/2000

CI10

Insight | Infrastructure | Tool

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CI11

Insight | Infrastructure | Tool

Space For Your Notes

Tom Barker has joined the chat.
Joan Gregorski: That's because we're not in mexico :-)
Terrance Antinora: Hola Mike
Laurel Harrington has joined the chat.
Mikel Hill: That's about all the Spanish I know.
Tom Barker: Greetings to all. I'm glad to see so many of you here already.
Tom Barker: Well it's 7:00:15 let's begin
Laurel Harrington: Hi. Spanish?
Donna Perkins has joined the chat.
Donna Perkins has left the chat.
Allal Ahmamad has joined the chat.
Tom Barker: Donna is trying to use the WEB FC
Mikel Hill: Looks like it's not working
Allal Ahmamad: hi everyone
Tom Barker: nope

I'll put the important remarks made by the leader in *italics*. I usually change the color to red in the archives. I'll bold the chat topics.

Mikel Hill: Prof. Barker: what are we supposed to do with these chat sessions?
Tom Barker*: OK The idea is to watch the tape and you will notice that the natural questions that would happen in a live class just can't happen.*
Tom Barker*: I have suggested some topics that would have come up for discussion and mentioned them in the tape …and listed them at the end of the homework assignment as "chat topics."*
Tom Barker*: I'll lead the discussion with these topics and of course keep the chat session open to any ideas, thoughts, problems you may have at any time.*
Tom Barker*: It's wonderful to watch the threads of thought that emerge from these few topics*
Tom Barker*: Got the idea of how this works?*
Mikel Hill: Yes
Vinny Tuccillo: yep
Tom Barker: O, And I'll archive the whole thing - so you can read it later
Robert Parody has joined the chat.
Robert Parody: hello everyone
Andrew Lenzen: Somebody type something.
Mikel Hill: Small talk: what's the weather like in Roch.
Tom Barker: I usually give a few minutes for the late ones to arrive
Lisa Hepburn has joined the chat.
Donna Perkins has joined the chat.
Donna Perkins has left the chat.
Mikel Hill: Well you gotta give Donna credit for trying

Andrew Lenzen: I'm pleased with the chat so far. I'm concerned about my connection (voice line) but it is okay speed, thus far.
Laurel Harrington: Where did the "secret code" come from?
Andrew Lenzen: What is the "secret code"?
Tom Barker: you don't need much speed for a chat
Patrick Owens has joined the chat.
Mikel Hill: Did I miss something.
Joan Gregorski: Tom — while we're waiting, what's your take on the firestone-ford tire problem?
Laurel Harrington: I see machine language or something.
Tom Barker: ISO / QS does not mean quality!
Laurel Harrington: Amen to that!
Andrew Lenzen: Good point. What is this "secret code"?
Tom Barker: That Decater Plant has a big sign outside of it proclaiming 14000 & 9002!
Joan Gregorski: So they're going to be a case study in some future CQAS quality class?
Tom Barker: This course is where you will learn how to infuse quality
Bryan Winkelman has joined the chat.
Tom Barker: Did you get to look through my little presentation on the WEB on how DL works?
Terrance Antinora: quickly
Laurel Harrington: I was able to view it but the bottom lines were truncated.
Joan Gregorski: Yes, I didn't quite understand how the team stuff would work — are you going to divide us into teams??
Tom Barker: Later in the Quarter we will have a team project
Mikel Hill: Did as much as humanly possible the past few days. Had a lot of good make up time shile sitting on the runway and watching a airplane engine catch on fire.
Tom Barker: Mikel, what engine fire?
Terrance Antinora: do we choose teams or you
Tom Barker: You pick you teammates
Lisa Hepburn: Excellent, I would like to work with my fellow Corning employees.
Johnny Terry has joined the chat.
Johnny Terry has left the chat.
Joan Gregorski: works for me lisa, anybody else in the class from corning?
Laurel Harrington: Is Donna still trying to join us?
Tom Barker: Don't worry about the teams right now
Lisa Hepburn: A question about F tests, we were taught that to perform an F-test you must verify that the data is normally distributed. How can you compare the variance if the data is not from a normal distribution?

Mikel Hill: Terry and Bryan, do you want to be a team? Tom: just the plane in front of us at O'hare yesterday. No big deal if you don't mind evacuating your flight.
Terrance Antinora: no
Terrance Antinora: just kidding
Mikel Hill: Thanks
Johnny Terry has joined the chat.
Terrance Antinora: sure
Tom Barker: I know you are probably swamped with reading, and viewing, but you should read the messages I post in the course conference. Thingds like the WEB FC won't work in chats might keep disasters from happening
Joan Gregorski: Oh, I just saw Johnny... I guess I can work with him :-)
Bryan Winkelman: I guess so, even though you are from Kodak
Johnny Terry: Hi All
Vinny Tuccillo: Lisa - the Montgomery book indicates you should use the normal probability plot to check for constant variance.
Lisa Hepburn: Gee, the Kodak team sounds like fun.
Mikel Hill: I do my best with my handicaps
Bryan Winkelman: We know
Tom Barker: Teams work with people all over the world. I had a team in Turkey, Chicago, and Buffalo and they did very well! We are a global community!
Timothy Jenkins has joined the chat.
Terrance Antinora: i heard
Mikel Hill: Come join us, however two of us work for the competition
Timothy Jenkins: Hello
Andrew Lenzen: I saw that a couple of you are from California. If you want to form a team, I"m game , I live in Mountain time so the difference will only be one hour if we need to chat or call on the phone.
Vinny Tuccillo: Lisa - I just re-read your question. You wanted to know about normality and I was referring to constant variance - sorry.
Joan Gregorski: I've had statisticians tell me that the test for normality is so strict that often times you can assume normality even if the test indicates it's not exactly appropriate — Ive seen folks eyeball the plot and say it's good enough
Lisa Hepburn: Yes, we're having too much fun to talk statistics, it's great.
***Tom Barker**: Let's begin the chat. Have you all seen the first tape?*
Mikel Hill: How many of you actually perform DOE's already?
Bryan Winkelman: Yes
Andrew Lenzen: Yes, I've seen it
Vinny Tuccillo: Yes
Joan Gregorski: yes
Laurel Harrington: I haven't seen the tape. Received it in the mail today.

Robert Parody: Yes
Patrick Owens: Yes, I've seen the tape.
Brian Tinch: Yes
Terrance Antinora: tonight
Timothy Jenkins: Yes
Jeffrey Nickerson: Still waiting on materials
Johnny Terry: No, it's on back order for me
Allal Ahmamad: yes
Joan Gregorski: johnny — you can borrow mine if you'd like
Lisa Hepburn: I've seen the tape and yes I design experiments although somewhat badly.
Mikel Hill: I haven't, but I went to the lecture, couldn't find a VCR with cables connected to the TV here.
Tom Barker: There was a problem with too few copies at the bookstore. This class is the biggest I have ever taught on line!
Johnny Terry: Thanks Joan, will do.
Lisa Hepburn: I learned very early in distance learning to get materials as early as possible.
Tom Barker: Let's give it a shot!
Tom Barker: ***The first topic was about the measurement of heating degree days(HDD). What is a HDD? How is it defined?***
Vinny Tuccillo: The difference between 65 degrees and the average temperature that day.
Tom Barker: right Vinny
Mikel Hill: The number of days
Tom Barker: nope, Mikel
Mikel Hill: I didn't finish when I saw your answer
Vinny Tuccillo: The calculation of the average temp for the given day apparently is a source of debate.
Tom Barker: OK
Tom Barker: ***right - how is the average computed?***
Joan Gregorski: It seemed that the avg of the min and max could give you a non-representative measure depending on what the distribution of temps was throughout the day..
Tom Barker: Right on Joan
Vinny Tuccillo: Which is why many people suggest taking the average of , say 24 hourly measurements.
Mikel Hill: That's a lot of data though
Tom Barker: *Yes, did you read over the Keith Eichner article on page 13.5 in the Viewing Guide?*

Vinny Tuccillo: Yes - but more data means more power to make decisions.
Mikel Hill: agree
Joan Gregorski: Why did the author make the last statement he did — "it probably wouldn't make a big difference of estimating heating needs over an entire season"?
Terrance Antinora: and its easy to collect
Lisa Hepburn: If you used the average instead of a single value would you be able to utilize the variability of the temperature throughout the day.
Robert Parody has left the chat.
Tom Barker: I suspect, Joan, Thet he didn't want to upset all those years of history with a new better way of doing it!
Tom Barker: Right Lisa
***Tom Barker**: Have you encountered situations where there is a better way to measure a characteristic, but change does not take place?*
Bryan Winkelman: Yes, everyday at work.
Vinny Tuccillo: Does a bear.....
Robert Parody has joined the chat.
Joan Gregorski: Would those averages of min and max follow a normal distribution over a long enough time period just like any other average??
Tom Barker: Right! "We can't afford to upset the data base."
Lisa Hepburn: It is extremely difficult to introduce the idea of change to processes that are already implemented.
Tom Barker: The min - max are only extreme samples and probably would not be normal
Johnny Terry: With enough data, it can appear to be normal
Mikel Hill: We measure temperature with spent air sensors, but a new method using IR pyrometers is being proposed, however the crossover may not correlate
Tom Barker: Johnny, not necessarily - a deck of playing cards is always uniform
Tom Barker: The distribution depends on the characteristics of the function in question.
Johnny Terry: oops, you're right
Vinny Tuccillo: Now if you take the monthly average of those daily averages and plot them, the CLT states this distribution will be more normal than the original distribution.
Tom Barker: Now, you might be thinking of taking samples and averaging the observations in those samples - then the distribution of the sdample averages will tend to normality (CLT consequrnce #1)

Bringing the chat back on track

***Tom Barker**: But back to the HDD*
Joan Gregorski: that's just an x-double bar term
***Tom Barker**: I wanted to make this point that goes beyond the use of the HDD in the teaching example to get you thinking about response variables.*

Tom Barker: …and representative sampling.
Alan Janes has joined the chat.
Tom Barker: If the response is messed up, the experiment might also be messed up!
Mikel Hill: I've seen that!
Tom Barker: Do you have any more insights? ON HDD?
Tom Barker: If not, then to the next topic!
Tom Barker**: **If I have two normal distributions, and take the difference, what will the shape of the resulting distribution be?
Johnny Terry: Tom, if your reponse variable is messed up, what should you do
Terrance Antinora: normal
Joan Gregorski: normal
Lisa Hepburn: A normal distribution
Vinny Tuccillo: normal
Tom Barker: Fix the response first!
Mikel Hill: normal
Bryan Winkelman: Normal
Tom Barker: Right on all counts
Terrance Antinora: check for interaxtions
Terrance Antinora: c
Tom Barker: well, Terrance, interactions are an influence on the response - so if the response is bad, the interactions are probably not helpful
Vinny Tuccillo: Wouldn't the difference between any 2 distributions - normal or not - be normally distributed?
Robert Parody has left the chat.
Tom Barker: Yes, Vinny it is normal - we've been having a little of a hangover from the last topic on response variables.
Vinny Tuccillo: Oh - now that I'm back in college, I should have known there would be hangovers...
Robert Parody has joined the chat.
Tom Barker: I expected that response from sombody!
***Tom Barker**: *OK back to the difference between two normals*
Lisa Hepburn: The difference between, say a, a lognormal distribution and a normal distribution would be a normal distribution.
Lisa Hepburn: That last one was meant to be a question.
Tom Barker: I'm not sure about LogN and N
Tom Barker: Lisa where do you encounter log normals?
Johnny Terry: How about a chi square and normal (difference)
Lisa Hepburn: It is a good fit for splice loss measurements where a value of less than 0 is not possible.
Johnny Terry has left the chat.

Tom Barker: are you into pasrticle size, Lisa?
Tom Barker: particle
Lisa Hepburn: Yes, I'm familiar with particle size.
Tom Barker: OK, Let's not get esoteric on didderences between different distributions
Tom Barker: differences
Joan Gregorski: when you do a t-test, you're basically using a zero difference distribution between 2 normals as your null distribution
Tom Barker: right, Joan - tghat's why I posed the chat toipc
Tom Barker: I want to take that formula apart, so you really understand what it's doing.
Joan Gregorski: if your test statistic falls within the distibution based on the cutoffs determined by alpha, you assume there is no difference between the means, otherwise you assume there is and take on that risk?
Tom Barker: right
Vinny Tuccillo: the risk associated with the p-value?
Tom Barker: careful of p values
Vinny Tuccillo: That's why I ask.
Vinny Tuccillo: Or are you referring more to the alpha and beta risk?
Tom Barker: I wrote to Robert Parody in the Q&A conference on the problems with p values.
Joan Gregorski: p value is the probability you'll get your test statistic value if the null hypothesis is true
Vinny Tuccillo: My interpretation of p-values has always been similar to what Joan just typed.
Robert Parody has left the chat.
Tom Barker: Have you read my thing on the problems with p values?
Robert Parody has joined the chat.
Johnny Terry has joined the chat.
Vinny Tuccillo: Poor Johnny.
Tom Barker: Have you read my thing on the problems with p values?
Vinny Tuccillo: not yet
Andrew Lenzen: Where is it?
Tom Barker: They are statistics - subject ot variation. They are not values you can depend on.
Tom Barker: I wrote to Robert Parody in the Q&A conference on the problems with p values.
Vinny Tuccillo: Just pulling it up now.
Joan Gregorski: You don't obtain a p-value until you complete the t-test; it's not a criteria involved in performing the test but a result..

Tom Barker: It was his question on hw #1 The Q&A is a good source for answers to questions you might want to ask and might not think to ask
Laurel Harrington: tom-you mentioned taking a formula apart a minute ago. Which formula are you referring to?
Tom Barker: The t test for the difference between two means
Lisa Hepburn: Yes, I read your discussion of p values. It was enlightening since they were drilled pretty hard in the Fundamentals course.
Tom Barker: Right Joan
Robert Parody: Are you saying that the p-value given by the computer may change for the same t-stat?
Johnny Terry: the same applies to t-test
Tom Barker: For the same data, the p value will be calculated correctly by the computer - but if you did the expewriment over again and had different data, the p would be different
Joan Gregorski: right, because your test statistic would differ every time based on your data..
Tom Barker: I suggest that you read my viedws on p values in the Q&A conference.
Tom Barker: Right Joan
Tom Barker: Let's get back to the t test formula for the difference between two means
Robert Parody has left the chat.
Robert Parody has joined the chat.
Tom Barker: In the t test formula, we pool the variances. Are Standard deviations additive?
Terrance Antinora: no
Vinny Tuccillo: No - variances are additive
Timothy Jenkins: No
Brian Tinch: No
Johnny Terry: no
Bryan Winkelman: no
Lisa Hepburn: I have to agree
Robert Parody: Tom, I missed you response to my question about the p-values. I am having a problem saying connected.
Andrew Lenzen: variances are
Tom Barker: Robert, I told the class to read my reply to you on this matter
Tom Barker: right std. dev.'s are not additive
Tom Barker**: **OK, how about variances - are they additive?
Vinny Tuccillo: yes
Jeffrey Nickerson: yes
Mikel Hill: Yes

Brian Tinch: Yes
Jodie Watson: yes
Lisa Hepburn: YUP
Laurel Harrington: yes
Allal Ahmamad: yes
Tom Barker: You should distinguish between population variances and sample variances.
Bryan Winkelman: Yes
Joan Gregorski: yes
Terrance Antinora: yes
Tom Barker: You should distinguish between population variances and sample variances.
Tom Barker: Right - almost. Population variances are additive. But sample variances can come from different sample sizes. Would you give as much weight to a variance from 5 observations as a variance from 30 observations?
Lisa Hepburn: No
Laurel Harrington: no
Andrew Lenzen: Good point. No, I would not
Jeffrey Nickerson: no
Vinny Tuccillo: Good point
Patrick Owens: No
Bryan Winkelman: No
Terrance Antinora: true
Joan Gregorski: no
Robert Parody has joined the chat.
Allal Ahmamad: no
Tom Barker: So how do we handle it?
Johnny Terry: would you pooled them
Terrance Antinora: pool
Mikel Hill: 30 is a minimum number typically
Bryan Winkelman: Pool them
Robert Parody has left the chat.
Joan Gregorski: correct for it via CLT
Robert Parody has left the chat.
Tom Barker: No, Joan, the CLT does not come into play here
Tom Barker: “pooling” is an expression for doing a weighted average of the sample variances.
Tom Barker: We would weight the 30 observation set more than the 5 observation set. This is the essense of the pooling formula found on page 29 (SA33) of the viewing guide.

Tom Barker: You should have your viewing guides out for the chats - I often refer to them
Tom Barker: I'll give you a minute to get them and look this up
Robert Parody has joined the chat.
Alan Janes has left the chat.
Joan Gregorski: you subtract 2 in the denominator because you've calculated the sample? variance for both samples?
Alan Janes has joined the chat.
Jeffrey Nickerson: Is this it? Sp^2=((n1-1)s2^2+(n2-1)s2^2)/ (n1+n2-2)

Lisa Hepburn: I have it, I though subtracting 2 was due to the df?
Mikel Hill: I think you are right
Johnny Terry: corrrect Lisa
Vinny Tuccillo: Tom - your original question was around adding variances. However, isn't pooling the variance more like "averaging" the variances.
Johnny Terry: one df for each sample n
Joan Gregorski: you have to subtract 1 df for each piece of information you've calculated using the data (i.e. the two sample variance terms in the numerator)??
Tom Barker: Yes, it is, but it's doing a weighted average
Tom Barker: recall the formula for the variance. p16 ise24
Vinny Tuccillo: So you would pool if you were trying to get the average variance of a number (for example 4) distributions as opposed to adding the 4 variances and dividing by 4....
Vinny Tuccillo: Unless the 4 distributions have the same sample size.
Tom Barker: right Vinny
Vinny Tuccillo: In which case the average of the variances would be okay.
Tom Barker: exactly
Tom Barker: recall the formula for the variance. p16 ise24
Laurel Harrington: I'm not sure I understand the difference between what Joan offered about the source of the "2" and the
Laurel Harrington: answer Lisa gave.
Joan Gregorski: i think they're one in the same...
Tom Barker: we divide by n-1 (to get an unbiased estimate of the sigma squared), so we multiply by n-1 when we turn the sample variance back into the ....? what is is called?
Robert Parody has left the chat.
Vinny Tuccillo: sum of squares
Tom Barker: joan is right they are one in the same
Tom Barker: Right Vinny
Tom Barker: the sum of squares is always additive!

Robert Parody has joined the chat.
Tom Barker: Keep this in mind for next week when we get into ANOVA
Tom Barker: Robert, have you reied setting your buffer in FC to 64000? That might keep the disconnects from happening
Tom Barker: tried
Tom Barker: Give the DL techie crew a call tomorror and see if they can help you out with your connection problem
Tom Barker: Back to statistics
Tom Barker: So in pooling, the thing we are adding is the sum of squares, and sum of squares are ALWAYS additive!
Tom Barker: You can think of it either way. Sum of squares are always additive, or we are adding the variances in a weighted manner. What ever works for you.
Tom Barker: *If we go further with the t test formula, we see that the pooled std. dev. is then multiplied by the square root of the sums of one over the sample sizes. Did you ever wonder where that came from?*

A 'mini-lecture'

SA34 is a slide in the viewing guide

Tom Barker: This is in SA34
Timothy Jenkins: That is the same thing we do to calculate std error of the mean.
Tom Barker: yes
Vinny Tuccillo: CLT?
Daniel Blodgett has joined the chat.
Tom Barker: This is the CLT in action
Tom Barker: See SA34 P 29
Robert Parody has left the chat.
Tom Barker: Want to know more?
Laurel Harrington: yes
Tom Barker: Good, I want to tell!
Vinny Tuccillo: If you're offering, what will our stock price be at close tomorrow?
Jodie Watson: CTL=Central Limit Theorm

I have this ready to copy and paste

Robert Parody has joined the chat.
Tom Barker: Yes, Jodie
Tom Barker: Stock will be up 7/16ths
Vinny Tuccillo: thanks for the tip - want to put a CI around that?
Mikel Hill: .001
Tom Barker: Let's start with a diversionary example that will lead to the answer and also check on another idea that is important. By the way, I have an animated presentation in the session #1 conference that goes through this.
Tom Barker: If I have two buckets of parts that will be joined to each other in an assembly, and I'll take one part from bucke A and one part from bucket B, what will the average assembly length be if…
Tom Barker: Bucket A Bucket B

Tom Barker: x bar 2" 3"
Tom Barker: s 0.2 0.1
Timothy Jenkins: 5"
Joan Gregorski: avg will be 5
Jeffrey Nickerson: 5"
Mikel Hill: 5"
Terrance Antinora: i saw this 5"
Lisa Hepburn: 5"
Bryan Winkelman: 5"
Tom Barker: Right
Tom Barker: Ok, now the harder part. What will the standard deviation of the assemblies be?
Jeffrey Nickerson: .2236
Mikel Hill: .15"
Tom Barker: Jeffrey Right - how did you do that?
Robert Parody has left the chat.
Tom Barker: Mikel - not right
Jeffrey Nickerson: square root of the some of squares
Bryan Winkelman: Your off our team Mikel
Bryan Winkelman: Just kidding.
Tom Barker: What is that approach called Jeffrey?
Jeffrey Nickerson: ?????
Jodie Watson: SQRT the pooled variance
Tom Barker: Additive tolerance stack up
Tom Barker: The formula says to add the variances (we assume equal sample sizes) and take the square root of this sum. SO: s overall = sqrt(s^2 sub A + s^2 bub B)
Tom Barker: "^" means raise to a power
Tom Barker: Many engineers would simply add the two std.'s
Tom Barker: So what does this have to do with t tests?
Tom Barker: Back to SA34
Mikel Hill: As I did, and I worked in this area for a while. That's why I changed to research
Tom Barker: In the t test for the difference between two means, we are finding the "linear combination" of two populations. When you do so, we need to add the variations - like in the additive tolerance example.
Tom Barker: Variances must always be added (never subtracted) even if we are finding the difference between the two means. Why do we add variances? (clue can variances be negative?)
Mikel Hill: that would create an imaginary number
Tom Barker: Why do we add variances?

Daniel Blodgett: Variance goes in both directions from the mean
Terrance Antinora: sqared number can't be neg.
Vinny Tuccillo: variances cannot be negative
Patrick Owens: No negative variances.
Laurel Harrington: yes they can be negative but squares make positive numbers.
Tom Barker: Right squared numbers are not allowed to be negative!
Tom Barker: It's nice to have mathematics help us at times!
Tom Barker: So, we have the two variances (now represented by the pooled common estimate) and they are added — but we are looking at the difference between two averages.
Tom Barker: The central Limit theorem comes in with its second consequence and we have the standard error of the mean
Joan Gregorski: so we're using the concept of additive tolerance and correcting for samples sizes?
Tom Barker: No, not correcting
Tom Barker: Utilizing thr CLT
Tom Barker: So the formula has the sum of the variances each divided by the number of observations in each average and then we take the square root to get the std. dev. The common pooled variance is taken out of the radica
Tom Barker: radical
Tom Barker: I suggest that you download the presentation on this concept - so you know what the formula for the teo sample t test is all about.
Tom Barker: two
Johnny Terry: Bye all, I have to catch my flight out (Atlanta)
Tom Barker: The difference between this course and maybe a short course you have taken on DOE is, we get into the concepts behind the formulas, not just in the proper use of the formulas.
Tom Barker: Have a good flight - we onlt have one more topic left
Tom Barker: only
Johnny Terry: I have a bout 5 minutes
Tom Barker: I want you to understand the ideas as well as being able to use the material properly.

Tom Barker**: **One last chat topic
Look at the t Table on page 35 in the viewing guide.

Andrew Lenzen: ok
Tom Barker: For a 5% two tail risk (middle of the Table) what is the t value for 1 df?
Bryan Winkelman: 12.706
Joan Gregorski: 12.706
Terrance Antinora: 12.706
Brian Tinch: 12.706

Timothy Jenkins: 12.706
Lisa Hepburn: 12.705
Patrick Owens: 12.706
Laurel Harrington: 12.706
Andrew Lenzen: ditto
Tom Barker: good!
Tom Barker: Now go to 2 df
Daniel Blodgett: 12.706
Laurel Harrington: 4.3027
Terrance Antinora: 4.3027
Timothy Jenkins: 4.3027
Andrew Lenzen: 4.3027
Vinny Tuccillo: 4.3
Brian Tinch: 4.3027
Bryan Winkelman: 4.3027
Jeffrey Nickerson: 4.303
Lisa Hepburn: 4.3027
Tom Barker: Quite a change for one more observation!
Lisa Hepburn: Yes
Tom Barker: Good return on investment\
Patrick Owens: 4.3027
Tom Barker: How about for 4 df?
Lisa Hepburn: 2.7764
Bryan Winkelman: 2.7764
Laurel Harrington: 2.7764
Terrance Antinora: 2.7764
Timothy Jenkins: 2.7764
Brian Tinch: 2.7764
Jeffrey Nickerson: 2.776
Vinny Tuccillo: 2.78
Andrew Lenzen: 2.7764
Patrick Owens: 2.7764
Tom Barker: YEP!
Tom Barker: and for 5df?
Lisa Hepburn: 2.5706
Jeffrey Nickerson: 2.571
Bryan Winkelman: 2.5706
Andrew Lenzen: 2.5706
Laurel Harrington: 2.5706
Daniel Blodgett: 4.3027

Timothy Jenkins: 2.5706
Vinny Tuccillo: 2.57
Mikel Hill: 2.571
Brian Tinch: 2.5706
Tom Barker: We're getting into diminishing returns
Joan Gregorski: as your df increase, the ability to show a significant difference gets easier.....
Tom Barker: Right!
Tom Barker: So, if you had to come up with a preliminary number of observations to calculate a std. dev. to determine the final sample size, where could you start? How many observations minimum?
Laurel Harrington: 3
Patrick Owens: 2.5706
Terrance Antinora: probably about 2 or 3
Bryan Winkelman: 3
Tom Barker: Right Laurel!
Tom Barker: 2 is not enough - only 1df
Tom Barker: where diminishing returns were taking place.
around 5 observations.
Lisa Hepburn: Gee, I just did an experiment and did 20 samples to get a feel for the standard deviation.
Tom Barker: probably too many
Lisa Hepburn: I see, what a waste of my time!
Daniel Blodgett: 2.5706
Terrance Antinora: time is of the essence
Tom Barker: Remember EFFICIENCY is what design of experiments is all about
Laurel Harrington: Why is 30 used as a sample size with such frequency?
Daniel Blodgett: 3-5
Vinny Tuccillo: Laurel - CLT
Johnny Terry: Bye all
Joan Gregorski: because you can assume a normal distribution if you have a sample size above 30??
Johnny Terry has left the chat.
Tom Barker: Laurel, that's because if you want to be able to see a pattern in a distribution, you need 30 or so observations to get enough "bulk" in the sample
Vinny Tuccillo: when n=30, your subgroup averages arealmost sure to be normally distributed
Tom Barker: No Joan
Terrance Antinora: easier to see a distribution
Tom Barker: I think this may be where you get that idea, Joan

Tom Barker: look at the bottom of the t Table
Jeffrey Nickerson: Most T-tables end at df 29
Tom Barker: for 30 df t = (same 5% two tail risk)
Daniel Blodgett: 2.0423
Tom Barker: What's the t?
Vinny Tuccillo: 2.0423
Tom Barker: right
Patrick Owens: 2.0423
Tom Barker: What about at infinity df?
Daniel Blodgett: 1.96
Terrance Antinora: 1.96
Brian Tinch: 1.96
Vinny Tuccillo: As n goes to infinity, t approaches Z
Lisa Hepburn: Isn't that the same as a normal distribution.
Patrick Owens: 1.960
Allal Ahmamad: 1.96
Timothy Jenkins: 1.96-same as a z test
Tom Barker: By the way that's from the "Normal" distribution - remember Gossett?
Tom Barker: The difference between 30 df and infinite df is about only 4%
Tom Barker: So we can see that the t has converged to the normal at about 30df.
Tom Barker: This does NOT mean that you get a normal distribution at 30 observations. It only means that the critical values of the t and normal are about the same for 30 df. See ISE04 (on the video where it moves). - Joan this is where you
Tom Barker: were duped!
Joan Gregorski: Yep, and I've proved it to myself at work where I have large data sets and the normal assumption is DEFINITELY NOT a good one.
Lisa Hepburn: So your sample distribution should still be verified for normallity before you run a t-test if you have 30 or more samples.
Tom Barker: For the t test, you are comparing means and means ARE distributed normally (CLT #!) so you don't need to worry!
Tom Barker: I think I've got you all thinking - good that"s my job!
Tom Barker: BUT I don't know about you, but I'm tired that's it for tonight - unless you have questions.
Vinny Tuccillo: Thanks
Lisa Hepburn: I'm OK, thanks and have a good night.
Tom Barker: Except ONE LAST THING
Joan Gregorski: I have a question: I have datasets where each sample has a very large number of measurements associated with it. The df's then are so large that I always come up with a significant difference between samples but I think it's jus
Laurel Harrington: I need to digest some of this first...

Joan Gregorski: a result of the number of observations..
Brian Tinch: Thank You
Tom Barker: we have some students on the west coast who can't getr to the chat at 7
Tom Barker: could we put the chat off until 7:30 each week to accomodate them?
Laurel Harrington: ok for me
Timothy Jenkins: Yes, that would help
Mikel Hill: I'm ok with that.
Lisa Hepburn: OK for me.
Brian Tinch: 7:30 works better for me
Bryan Winkelman: No problem for me
Jodie Watson: oK!
Vinny Tuccillo: Works for me - I'm on West coast
Allal Ahmamad: ok
Terrance Antinora: sure
Joan Gregorski: OK with me, but I get pretty cranky about 9pm :-)
Andrew Lenzen: Works for me.
Tom Barker: we'll stop at 9pm
Patrick Owens: Yes.
Lisa Hepburn: Your pregnant Joan, you're bound to be a little cranky.
Tom Barker: or Joan can exit
Tom Barker: .
Tom Barker: .
Mikel Hill: .
Bryan Winkelman: .
Terrance Antinora: .
Lisa Hepburn has left the chat.
Tom Barker: Then I will reschedule the chat on Tuesday
Lisa Hepburn has joined the chat.
Jodie Watson has left the chat.
Lisa Hepburn has left the chat.
Mikel Hill has left the chat.
Allal Ahmamad has left the chat.
Jeffrey Nickerson has left the chat.
Bryan Winkelman has left the chat.
Vinny Tuccillo: Are we done?
Terrance Antinora has left the chat.
Brian Tinch has left the chat.
Laurel Harrington has left the chat.

What did you see happening in this chat?

LDTATNC

IC01

Space For Your Notes

Could you see the Learning?

LDTATNC

IC02

Space For Your Notes

What you have learned:

You have seen some of the alternative ways to involve Distance Learning students in discussions and create a more active learning environment. A sampling of comments by the customer (students) shows there is a disdain for threaded discussions, while other comments on synchronous chats indicate a value added effect. Resources requirements for the synchronous chat also seem to be less intensive for the faculty and while a bit more for students who are prone to "do the least for the grade" (those students who are in school merely for grades, not learning), the learning to resource ratio is most likely much higher.

Logistics of Leading a Chat

LC01

Insight | Infrastructure | Tool

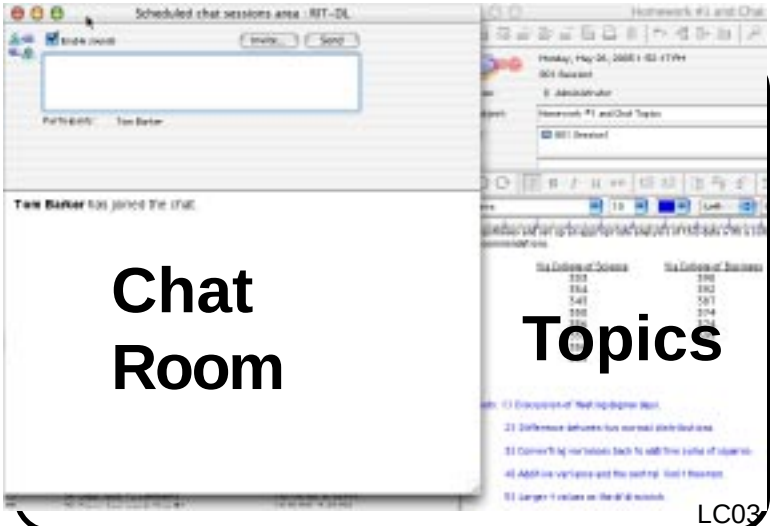
Space For Your Notes

Have the topics and the archived chat from before open

LC02

Insight | Infrastructure | Tool

Space For Your Notes

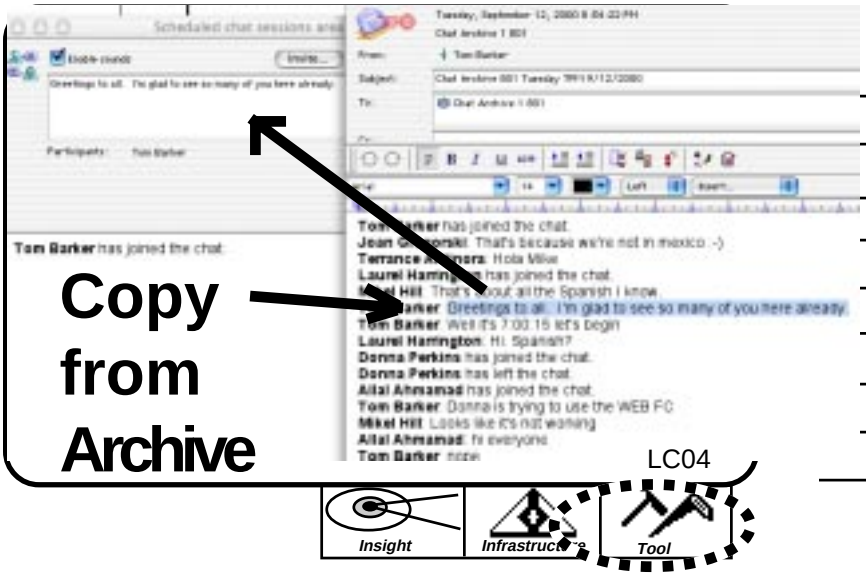


LC03

Insight | Infrastructure | Tool

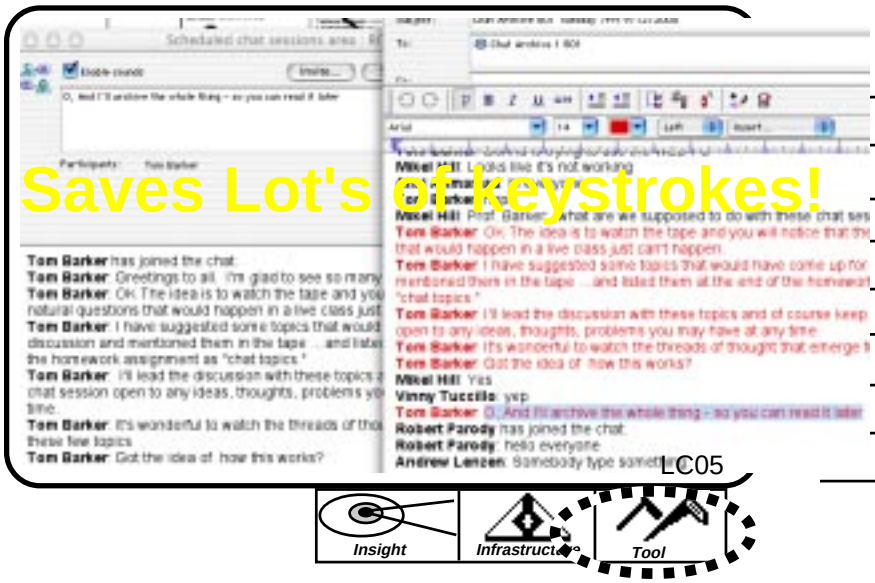
Space For Your Notes

Leading On-Line Chat Sessions



LC04

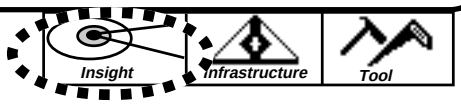
Space For Your Notes



LC05

Space For Your Notes

By preserving your "Brilliant" interjections from the past, you are able to keep the chat on track and inject learning easily.

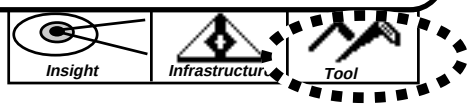


LC06

Space For Your Notes

Of course let the chat digress and create new responses in the process

LC07



Space For Your Notes

What do You Think?

- Too rigid?
- I think I'll try it!
- Need more spontaneity

LC08

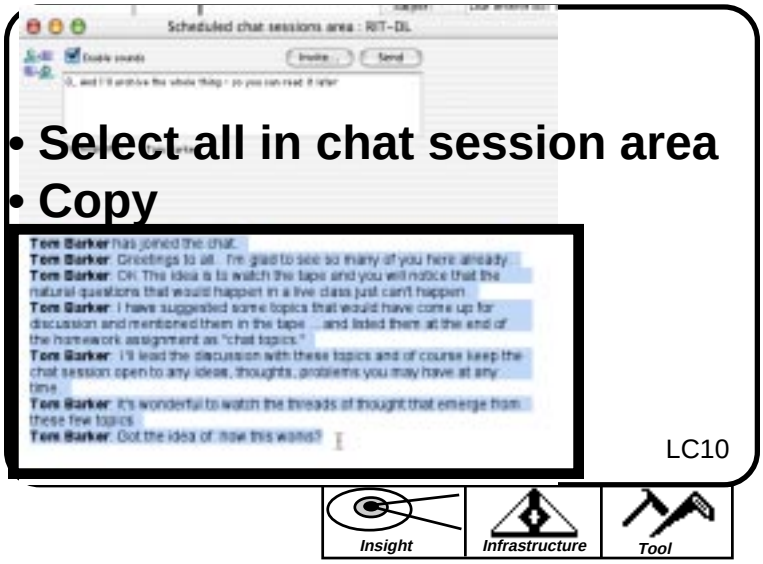
Space For Your Notes

Archiving A Chat

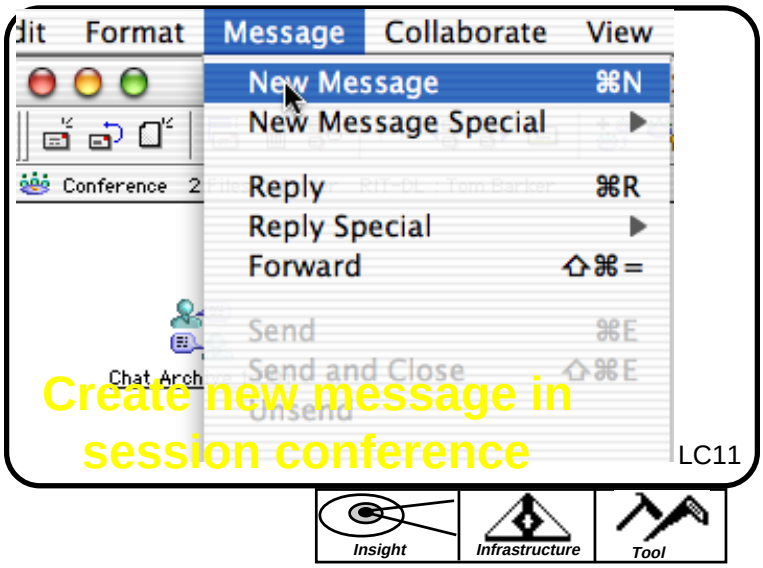
- Do not close chat room
- Wait until all have left
- 'Select All' in chat session area
- Copy
- Create new message in session conference
- Paste into new message

LC09

Space For Your Notes



Space For Your Notes



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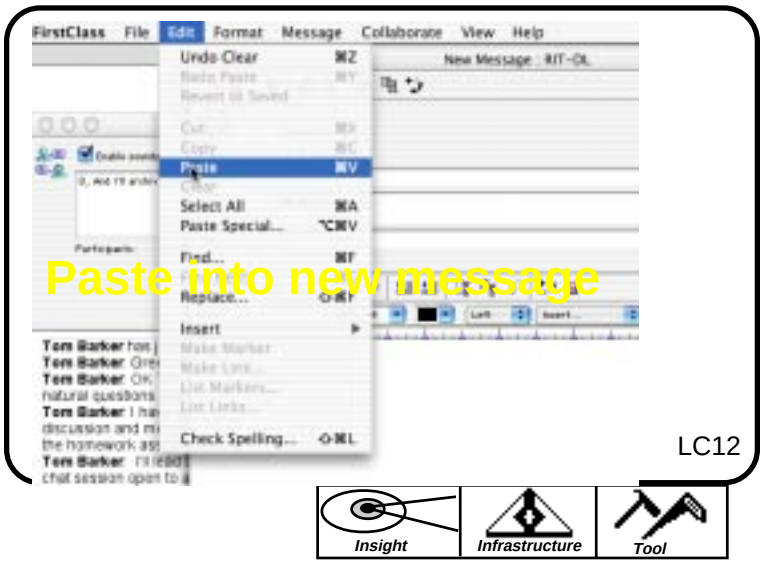

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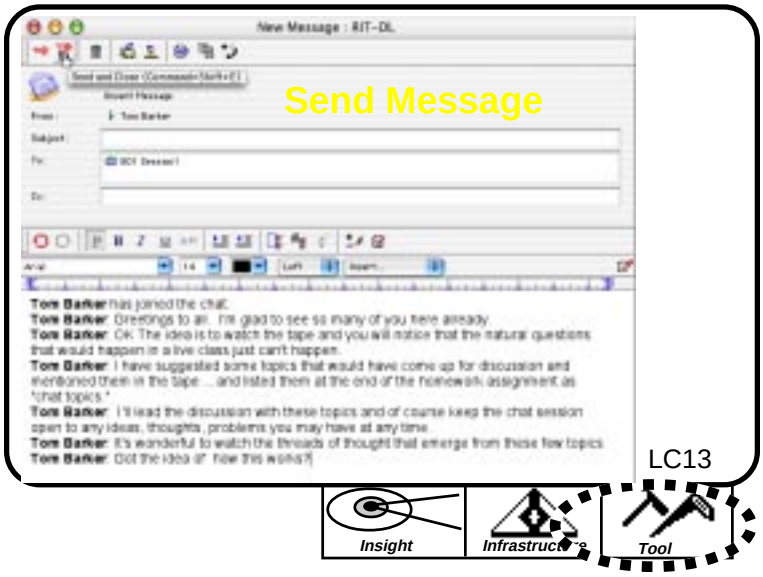
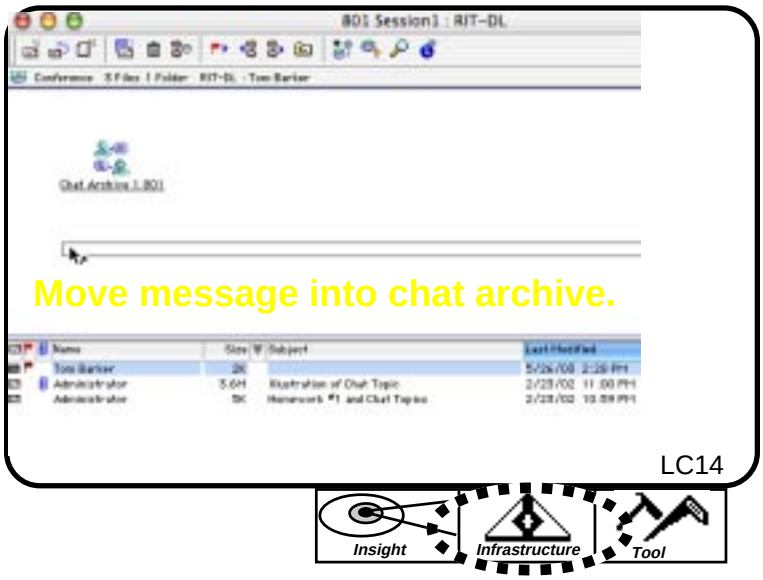


Space For Your Notes



Space For Your Notes

What you have learned:

You have learned about the logistics of a chat in FirstClass. You can expedite the entry of your instructor inputs by having them available in previously recorded messages or from chat archives from other years. Besides making fewer keystrokes for your entry, this assures that consistency in learning takes place between offerings of the course. You may certainly improvise as the need arises and in doing so create even more "Brilliant" inputs for this class and for future classes.

You have seen how an archive is created by copying the contents of the chat window and pasting them into a message that is then posted to the chat archive for that session. In this way, the students who were at the chat can review the learning (using the search option of FirstClass). AND students who could not attend are given the opportunity to review what they missed. (..and you can check if they did, by looking at the message 'History').