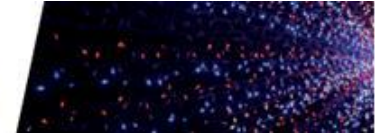


Teaching, learning and personal tutoring: A virtual mini-conference

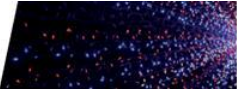
11 September 2020



Using Technology to Engage with Statistical Aspects for Student Projects

Yamuna Dass

Outline



This presentation will detail how I have engaged with students in an online environment to help their understanding with statistics for their final year projects.

Since working remotely, I have taught and supported students with statistics in a group and individual setting.

I will highlight how I have incorporated various activities to effectively teach students and encouraged independent learning, sharing the challenges and positives, as well as how technology has supported this.

DMU Library & Learning Services

De Montfort University's Library and Learning Services team members are positioned as partners and co-creators in learning, teaching and support for every student, able to help build their capabilities for lifelong and lifewide learning through personalised, supportive delivery of library space, services and content provision.

Learning Services



Your Librarian

Librarians have subject specialist knowledge and can help you with:

- Identifying sources to help you find good quality information;
- Referencing and reference management;
- Searching effectively.



Centre for Learning & Study Support

We are a team of lecturers based in the Library who can help you enhance your writing, study skills and academic practice. We offer workshops, assignment drop-ins, individual tutorials and online resources.



Maths & Statistics Support

The Maths Learning Centre provides basic and advanced maths and statistics support. We also offer support with Excel, SPSS, Mechanics, Minitab, Maths GCSE and numerical reasoning tests. Find out more how we can support you through our weekly drop-ins, tutorials and resources online.

We're here




Just Ask LibChat



Assistive Technology & Disability Services

We offer student support including access to equipment, specialist software, and Ask and Collect book service. The library has a range of Assistive Technology software available. Training, tutorials, and workshops are provided throughout the year.



Learning Technologies & IT Support

Get help with the learning technologies used to support your course including Blackboard, Turnitin and DMUReplay. Get to know your IT basics e.g. how to print, your computer storage etc. Also develop your digital skills - come to a workshop or book a tutorial.

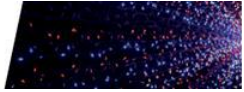


Special Collections & Archives

DMU Special Collections holds varied material including archives, rare books, artwork and artefacts relating to areas such as the history of fashion, textiles, photography, sports, performing arts and Leicester itself as well as the Stephen Lawrence Collection.

DMU Library provides a range of learning and study support.

<https://library.dmu.ac.uk>




Maths Learning Centre (MLC): Home

Search this Guide Search

Home 1:1 Tutorials Maths Resources Statistics Resources Workshops Postgraduate Students GCSE Maths Disability Support Additional Information


Calculators and Useful Websites Contact Us

Maths Resources




Included here are additional Maths resources to aid your independent learning

Statistics Resources




Included here are additional Statistics resources to aid your independent learning

Online Tutorials




Book a 45 minute session with one of our lecturers to discuss question in more depth


Contact Us



Postgraduate Students



GCSE Maths

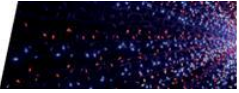


Just Ask LibChat

The Maths Learning Centre is a Learning Service part of DMU Library.

<https://library.dmu.ac.uk/mlcguide>

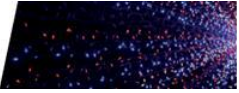
Adapting Our Approach



Pre-Lockdown:

- Drop-ins – Mon, Wed, Fri 12-2pm & Tues, Thurs 5-6pm (Face-to-face)
- One-to-one support – 1 hour appointments (Face-to-face)
- Statistics workshops – 2 hours (Face-to-face)
- Faculty support workshops in partnership (Face-to-face)

Adapting Our Approach



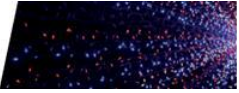
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During/Post Lockdown:

- One-to-one support – 45 minutes (Remotely via Springshare and Zoom)
- Statistics workshops - 1hr 30 minutes (Remotely via BB Collaborate/Microsoft Teams)

Adapting Our Approach



Pre-Lockdown:

- Drop-ins – Mon, Wed, Fri 12-2pm & Tues, Thurs 5-6pm (Face-to-face)
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- Statistics workshops – 2 hours (Face-to-face)
- Faculty support workshops in partnership (Face-to-face)

During/Post Lockdown:

- One-to-one support – 45 minutes (Remotely via Springshare and Zoom)
- Statistics workshops - 1hr 30 minutes (Remotely via BB Collaborate/Microsoft Teams)
- *Drop-ins – 15 mins per student over 2 hour period (Starting next week via Microsoft Teams)*
- *Faculty support workshops in partnership (Synchronous/asynchronous starting from Oct)*

One-to-One Support

- Through one-to-ones I have given students individual maths & statistics support
- I have provided 71 one-to-one appointments since March, mainly project students
- I have worked with home and international students
- This has been delivered via Springshare (library system) and Zoom
- Clear joining instructions were sent to the students prior to session
- Students were asked to let us know in advance what they wanted support with

Student view

LibCal: Appointments x +

com/admin/appointments/settings

al: Appointments ? LibAnswers: Dashb... Home – Blackboard... De Montfort Univer...

me Event Calendars Appointments Spaces Equipment Stats Admin

Hi John Doe,

This confirms your Maths Learning Centre (MLC) **online** tutorial:

When: 14:26 Thursday, 10th September 2020
With: Yamuna Dass

If you haven't already done so you will need to email us in advance to let us know what you need support with.

The more information we have the better the support we can offer.

What to do next:

1. Email below to: yamuna.dass@dmu.ac.uk.
2. Attach a copy of the question, together with your attempt(s) at answering it. This may involve scanning documents or uploading pictures from your phone.
3. Be as specific and detailed as you can with your queries – letting us know which parts you do and don't understand.
4. If your query is about Statistics, you will need to upload/attach a data file.
5. **Submit via email no later than four hours before** your online tutorial slot.

What happens then?

An MLC tutor will look at your work and use it as a basis to plan your online tutorial. Go to this link at 2 minutes before your allocated time to log-in: [MLC Online Tutorial Login Page](#)

Please ensure that you are in a quiet space and can use the computer microphone or a headset with a mic.

You can share your screen with your tutor in an online tutorial. See this [LibChat Screenshare Help Guide](#) to see **how you can share your screen**.

[admin note here]

To cancel this appointment visit: <https://dmu-ac-uk.libcal.com/appointment/cancel/123?c=abcdef>

Please note: To allow as many students as possible to access our service, **a maximum of two tutorials per week can be booked with the MLC**. If you book more than this, only your first two appointments will be kept. The remaining MLC appointments for that week will be

Student receives confirmation email

Tutor view

ments x +

ppointments

ts ? LibAnswers: Dashb... Home – Blackboard... De Montfort Univer... Login | Waitwhile

Year of Study: * Postgraduate / Masters (Level 7) v

Faculty: * Health and Life Sciences v

Student status: * Home Student v

Disability / Medical Condition: *

- ☐ Dyslexia / Specific Learning Difference
- ☐ Wheelchair User / Mobility
- ☐ Mental Health
- ☐ Blind / Partially Sighted
- ☐ Deaf / Have hearing impairment
- ☐ Epilepsy
- ☐ Autistic Spectrum Disorder / Aspergers
- ☐ Chronic Fatigue Syndrome
- ☐ Medical Condition
- ☐ Other
- ☒ No Disability
- ☐ Prefer Not to Say

What subject are you studying? * Pharmacy and Pharmaceutical and Cosmetic Science v

I want help with? *

- ☒ Statistics
- ☐ Maths

By clicking this box you are confirming this tutorial is not taking place while you are in exam conditions. *

Provide more detail on what spss

When a student books we receive this information

Student view

The screenshot shows the 'Login - MLC Online Tutorials' page in a web browser. The page has a dark header with the De Montfort University Leicester logo and 'LIBRARY LEARNING SERVICES' text. Below the header is a navigation bar with links like 'Home', 'Search & Find', 'Using the Library', etc. The main content area is titled 'MLC Online Tutorials: Login' and contains a 'Welcome to the Maths Learning Centre Online Tutorial page' section. A red arrow points from the 'Student Email' field in the login form to a red box labeled 'Student fills in their detail'.

DE MONTFORT UNIVERSITY LEICESTER LIBRARY LEARNING SERVICES Supporting Your Learning

Home Search & Find Using the Library Learning & Study Support Research Guides Visitor Info FAQs LibChat

MLC Online Tutorials: Login

Intro

Welcome to the Maths Learning Centre Online Tutorial page

This service is available via booking only. Please return to the Library tutorial booking page if you have not booked an e-tutorial.

- If you have booked an e-tutorial, please wait and an MLC lecturer will become available at the time shown in your confirmation email.
- Make sure you are in a quiet space and you have access to a microphone.
- When the MLC Lecturer is online, you will see a Chatbox appear. Complete the form in the Chatbox and click on START CHAT.

If you experience any difficulties, contact mlc@dmu.ac.uk

Last Updated: Mar 31, 2020 1:01 PM URL: https://library.dmu.ac.uk/e_mlc/ Print Page Librarian Login

MLC Online Tutorials

Welcome to MLC Online!

Name

Student Email:

P-Number:

Your Question

Start Chat

Just Ask LibChat

Student fills in their detail

Tutor view

The screenshot shows the 'LibAnswers: LibChat Dashboard' in a web browser. The dashboard has a top navigation bar with 'Operator: Yamuna Dass' and 'Status: Offline'. Below this is a 'Patron Chats' section with a list of active chats. A red arrow points from the 'Claim Student' button in the 'Patron Chats' section to a red box labeled 'Claim Student'. Another red arrow points from the 'Request Screenshare' button in the 'Chat' section to a red box labeled 'Request Screenshare'.

LibAnswers: LibChat Dashboard Launch Meeting - Zoom

dmu-ac-uklibanswers.com/admin/dashboard

Operator: Yamuna Dass Status: Offline Internal Online Set Away

Chats Tickets Settings

Patron Chats All (1) / New (0) / Mine (1)

Chetna Patel is chatting with Yamuna Dass 1:41 pm

Department: MLC Online Tutorials

Site: De Montfort University - LibAnswers

Referring URL: https://library.dmu.ac.uk/e_mlc/login

Widget: MLC Online Tutorials

Internal Chat

Filter by name

Department

Just Ask LibChat Members

MLC Dropin Members

MLC Online Tutorials Members

Open Day Team Members

Operators

All De Montfort University Staff

Yamuna Dass (you)

Adele Creak

12:59 pm

Chat Patron Information FAQs

Hi Chetna

Are you happy for us to screenshare?

Chetna Patel 1:42:38 PM

yes

Yamuna Dass 1:42:43 PM

The chat operator invited you to screenshare. Join the screensharing session.

First time screensharing in LibChat? Check out this FAQ for help with common screensharing questions.

System Message

Screensharing request sent to Patron. Click "Launch" button to start hosting a screensharing session (will open in a new browser window/tab).

Launch

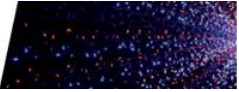
Visit our FAQ for help with common operator questions on LibChat screensharing.

Message Patron Internal Note

Powered by Springshare. All rights reserved.

Claim Student

Request Screenshare



Zoom Meeting



Talking:



Meeting Topic: LibChat chat-673adddb463983539c64d6d44eb35a66
Host: Yamuna Dass
Invite Link: <https://zoom.us/j/98524295464>
[Copy Link](#)
Participant ID: 434426



Join Audio

Computer Audio Connected



Share Screen

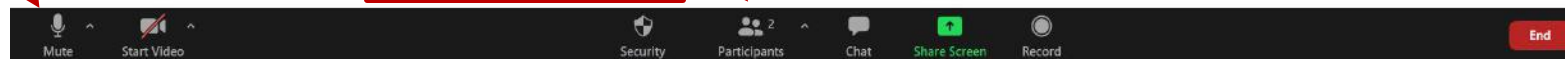


Invite Others

I ask the student
to Share Screen

Mic is turned on

2 Participants



Examples of Screen Sharing



Zoom Meeting

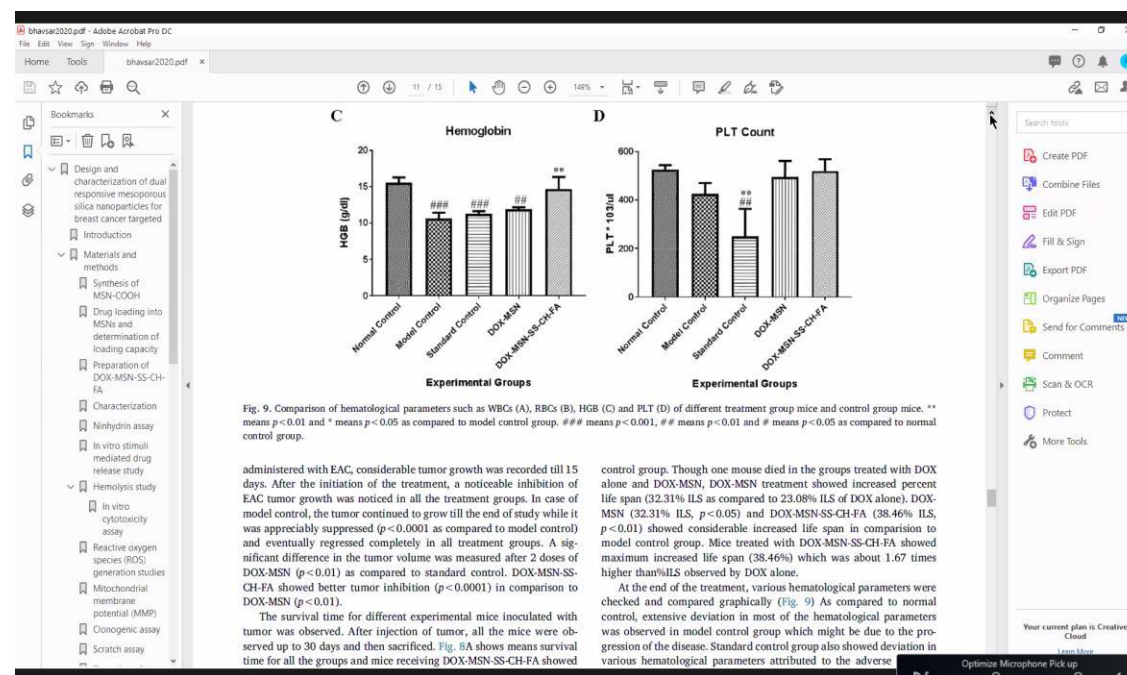
Crime2012final.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

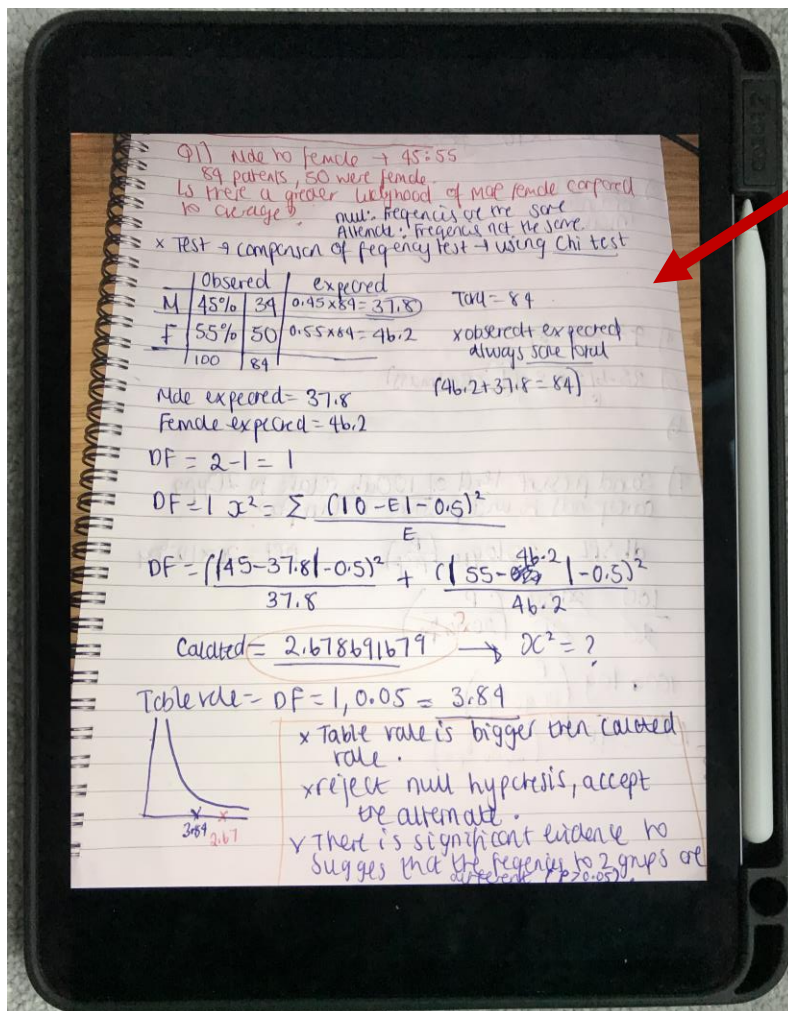
Visible: 7 of 7 Variables

Financial Year	Financial Quarter	Force Name	Offence Group	Number of Offences	Offence Subgroup	Offence Description	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
1	2012/13	1 Metropolitan Police	Criminal damage and arson	6821	Criminal damage	Criminal damage to a vehicle												
2	2012/13	2 Metropolitan Police	Criminal damage and arson	6417	Criminal damage	Criminal damage to a vehicle												
3	2012/13	3 Metropolitan Police	Criminal damage and arson	5910	Criminal damage	Criminal damage to a vehicle												
4	2012/13	4 Metropolitan Police	Criminal damage and arson	5732	Criminal damage	Criminal damage to a vehicle												
5	2012/13	1 Metropolitan Police	Criminal damage and arson	3974	Criminal damage	Criminal damage to a dwelling												
6	2012/13	2 Metropolitan Police	Criminal damage and arson	3724	Criminal damage	Criminal damage to a dwelling												
7	2012/13	3 Metropolitan Police	Criminal damage and arson	3421	Criminal damage	Criminal damage to a dwelling												
8	2012/13	4 Metropolitan Police	Criminal damage and arson	3299	Criminal damage	Criminal damage to a dwelling												
9	2012/13	1 Metropolitan Police	Criminal damage and arson	2985	Criminal damage	Other criminal damage												
10	2012/13	3 Greater Manchester	Criminal damage and arson	2885	Criminal damage	Criminal damage to a vehicle												
11	2012/13	2 Greater Manchester	Criminal damage and arson	2869	Criminal damage	Criminal damage to a vehicle												
12	2012/13	2 Metropolitan Police	Criminal damage and arson	2810	Criminal damage	Other criminal damage												
13	2012/13	3 West Midlands	Criminal damage and arson	2805	Criminal damage	Criminal damage to a vehicle												
14	2012/13	2 West Midlands	Criminal damage and arson	2766	Criminal damage	Criminal damage to a vehicle												
15	2012/13	1 Greater Manchester	Criminal damage and arson	2749	Criminal damage	Criminal damage to a vehicle												
16	2012/13	3 West Yorkshire	Criminal damage and arson	2702	Criminal damage	Criminal damage to a vehicle												
17	2012/13	2 West Yorkshire	Criminal damage and arson	2634	Criminal damage	Criminal damage to a vehicle												
18	2012/13	1 West Midlands	Criminal damage and arson	2577	Criminal damage	Criminal damage to a vehicle												
19	2012/13	4 Greater Manchester	Criminal damage and arson	2544	Criminal damage	Criminal damage to a vehicle												
20	2012/13	4 West Yorkshire	Criminal damage and arson	2524	Criminal damage	Criminal damage to a vehicle												
21	2012/13	1 West Yorkshire	Criminal damage and arson	2521	Criminal damage	Criminal damage to a vehicle												
22	2012/13	3 Metropolitan Police	Criminal damage and arson	2487	Criminal damage	Other criminal damage												
23	2012/13	4 Metropolitan Police	Criminal damage and arson	2445	Criminal damage	Other criminal damage												
24	2012/13	1 Greater Manchester	Criminal damage and arson	2440	Criminal damage	Criminal damage to a dwelling												
25	2012/13	4 West Midlands	Criminal damage and arson	2431	Criminal damage	Criminal damage to a vehicle												
26	2012/13	3 Kent	Criminal damage and arson	2226	Criminal damage	Criminal damage to a vehicle												
27	2012/13	2 Greater Manchester	Criminal damage and arson	2229	Criminal damage	Criminal damage to a dwelling												
28	2012/13	3 Greater Manchester	Criminal damage and arson	2148	Criminal damage	Criminal damage to a dwelling												
29	2012/13	2 Thames Valley	Criminal damage and arson	2143	Criminal damage	Criminal damage to a vehicle												
30	2012/13	4 Greater Manchester	Criminal damage and arson	2129	Criminal damage	Criminal damage to a dwelling												
31	2012/13	1 West Yorkshire	Criminal damage and arson	2117	Criminal damage	Criminal damage to a dwelling												
32	2012/13	4 Hampshire	Criminal damage and arson	2107	Criminal damage	Criminal damage to a vehicle												
33	2012/13	1 Thames Valley	Criminal damage and arson	2102	Criminal damage	Criminal damage to a vehicle												
34	2012/13	1 Hampshire	Criminal damage and arson	2030	Criminal damage	Criminal damage to a vehicle												
35	2012/13	2 West Yorkshire	Criminal damage and arson	2002	Criminal damage	Criminal damage to a dwelling												
36	2012/13	3 Thames Valley	Criminal damage and arson	1976	Criminal damage	Criminal damage to a vehicle												
37	2012/13	3 Thames Valley	Criminal damage and arson	1865	Criminal damage	Criminal damage to a vehicle												

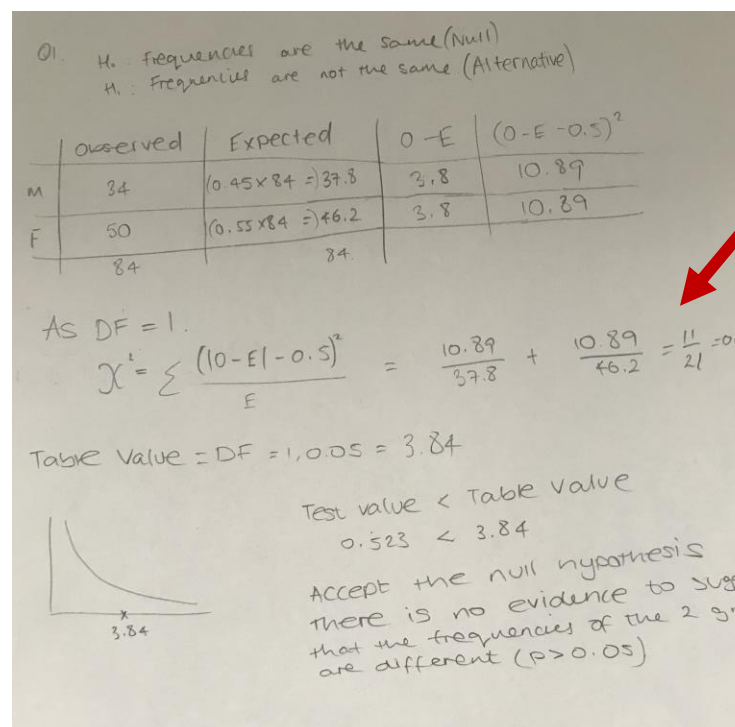
Data View Variable View



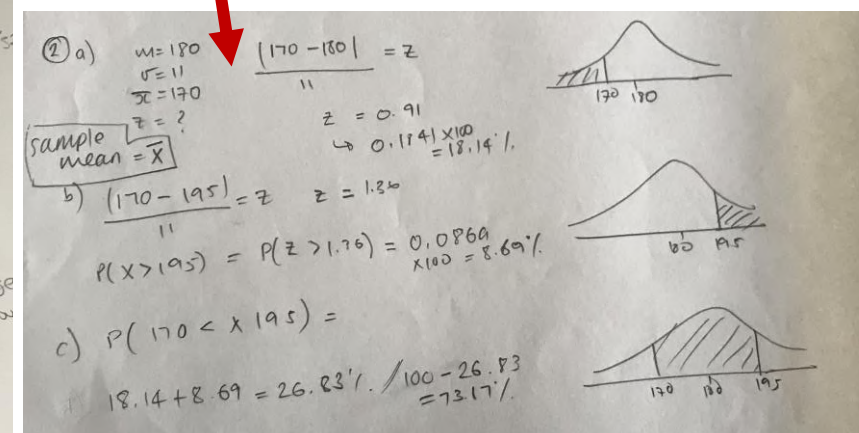
Visualiser in Action



Student's work
which was
sent via email



Me writing
live during
the session



Statistics Workshops



Taught remotely

← → ↻ 🏠 library.dmu.ac.uk/mlcguide/workshops ☆ 👤 ⋮

Apps Home - Maths Lear... LibCal: Appointments LibAnswers: Dashb... Home - Blackboard... De Montfort Univer... Login | Waitwhile

Statistics Workshops

- Using your Casio calculator to do simple statistics ▼
- Questionnaire Design ▼
- Statistical analysis: Descriptive statistics ▼
- Statistical analysis: Choosing the right statistical tests ▼
- Getting started on SPSS (1) - Introduction to SPSS & Descriptive statistics ▼
- Statistical data analysis using SPSS (2) - Independent and Paired T-tests ▼
- Statistical data analysis using SPSS (3) - Correlation test and Chi-squared test for association ▼
- Statistical data analysis using SPSS (4) - ANOVA: Within and between subjects ▼
- Reporting your statistical analysis ▼
- Interpreting statistical data from the literature ▼

MLC Workshops

Please note that bookings open **two weeks** prior to the workshop week. [Click here to view the dates to our upcoming statistics workshops.](#)

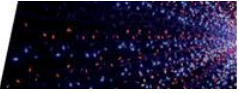
The calendars below show upcoming maths and statistics workshops. The first calendar shows sessions run as part of the library Open Programme, whereas the second calendar shows MLC workshops. You can book onto these workshops by clicking on the upcoming event and registering.

September 2020						
M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Upcoming Events:
No events are scheduled.

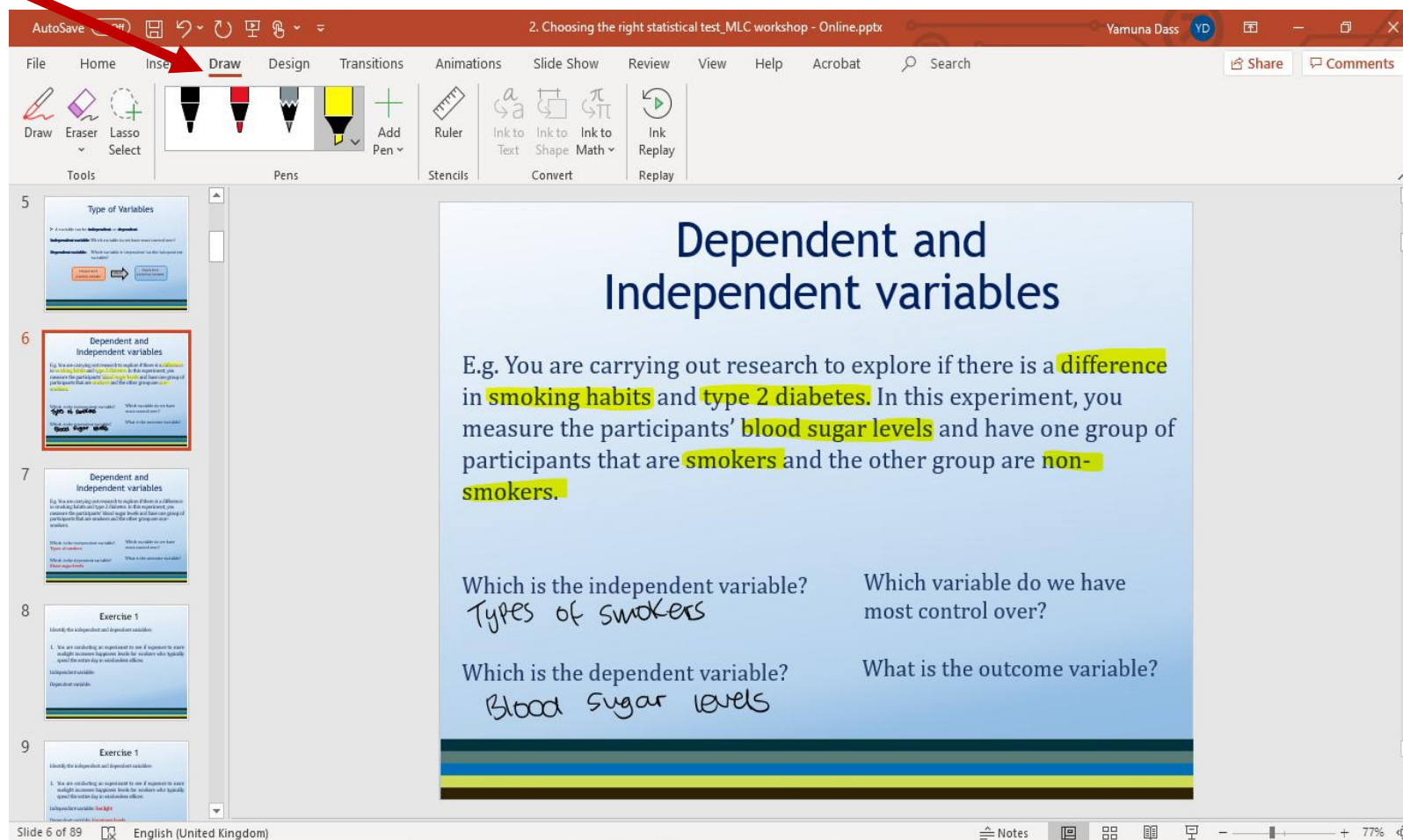
Just Ask LibChat

Statistics Workshops



- Delivered self selecting workshops
- Small group of students attended (6-10 students)
- The students were from a range of disciplines and were mainly PG students
- This was delivered via Blackboard Collaborate Ultra and Microsoft Teams
- I asked my colleague to join in to support the delivery of these sessions
- PowerPoint and clear joining instructions was sent to the students prior to session
- Explained statistical concepts and then gave students an opportunity to attempt exercise questions, encouraged the use of chat and speech function
- Used the Wacom to interact and engage with students

Wacom in Action



AutoSave 2. Choosing the right statistical test_MLC workshop - Online.pptx Yamuna Dass

File Home Insert Draw Design Transitions Animations Slide Show Review View Help Acrobat Search

Tools Pens Stencils Convert Ink Replay

5 Type of Variables

6 Dependent and Independent variables

7 Dependent and Independent variables

8 Exercise 1

9 Exercise 1

Slide 6 of 89 English (United Kingdom)

Notes 77%

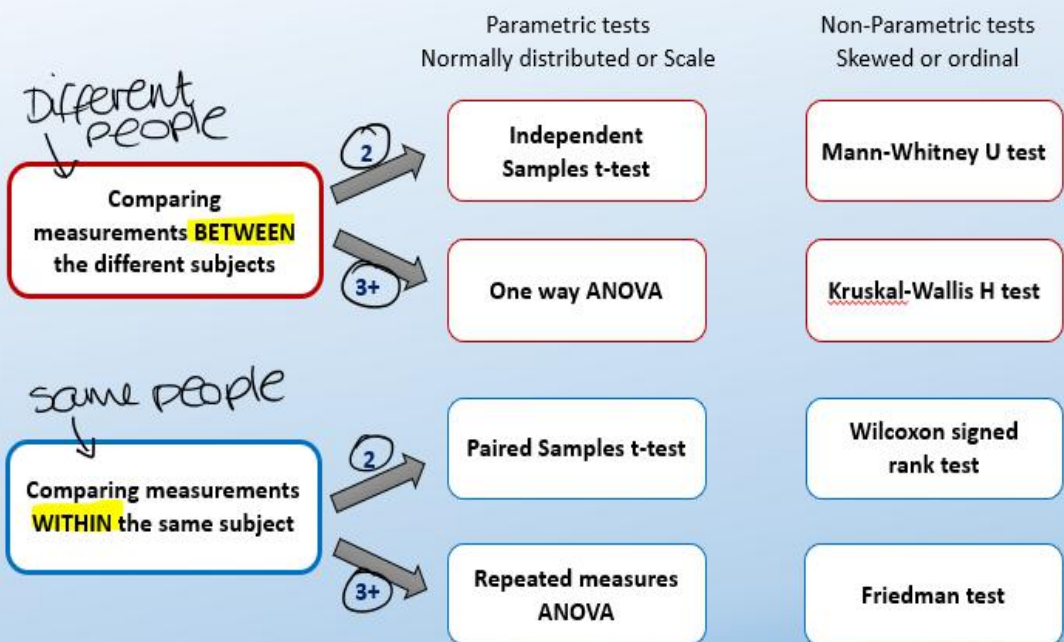
Used the 'Draw' function to write on the PowerPoint



Further Examples



Test of Differences Flowchart



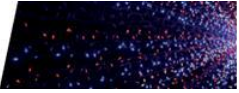
Note: Non-parametric tests can be used for ordinal data however, some disciplines use parametric tests for ordinal data. This is only if you have a lot of categories and the data are approximately normal.

Exercise 3a

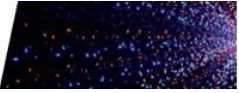
Research question: Do ^{IV} women do more ^{DV} hours of housework than men?

- Is this a two-tailed or a one-tailed hypothesis? *One-tailed*
- What is your independent variable and data type? *Gender*
- What is your dependent variable and data type? *Hours of housework*
- What should be checked for normality?
- Are the groups related or unrelated?
- How many means are being compared?
- Which parametric test should be used if the assumption of normality is met?
- Which non-parametric test should be used if the assumption of normality is not met?

Summary



- Delivered remotely via various platforms – still need lots of practice!
- I'm still learning how I can engage and interact with students effectively to teach maths & statistics
- Having the right equipment to teach maths & statistics
- Extra screen maybe..?
- If possible, have another colleague join your session
- Overall students are quite understanding and patient
- Have clear communication with students



Thank you for listening!

yamuna.dass@dmu.ac.uk