

# Mathematics Learning Support across a multi-campus institution: Virtual Drop-in

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## Setting the Scene

- › Three Institutes intending to form the Technological University for Dublin:
  - The Dublin Institute of Technology (DIT) ~ 20,000 students
  - The Institute of Technology Blanchardstown (ITB) ~ 4000 students
  - The Institute of Technology Tallaght (ITTD) ~ 4000 students
  
- › It is important that Mathematics Learning Support (MLS) provision evolves in a manner that best suits the needs of the students across the three Institutes

## Outline of study

- › Audit of existing and historical MLS provision
- › Survey of staff and students across the three Institutes
  - Staff who teach Mathematical/Statistical modules
  - Students who have engaged with MLS
- › Prototype of virtual drop-in service

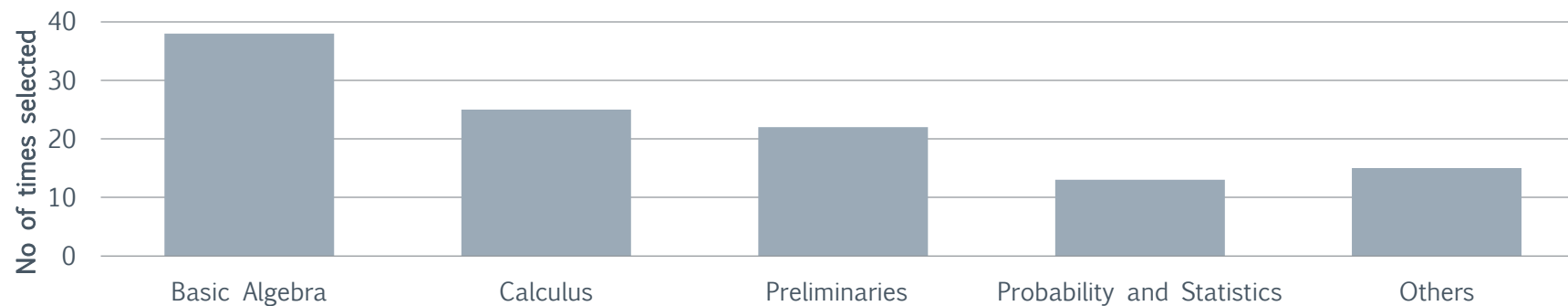
# Survey

## Survey Questions

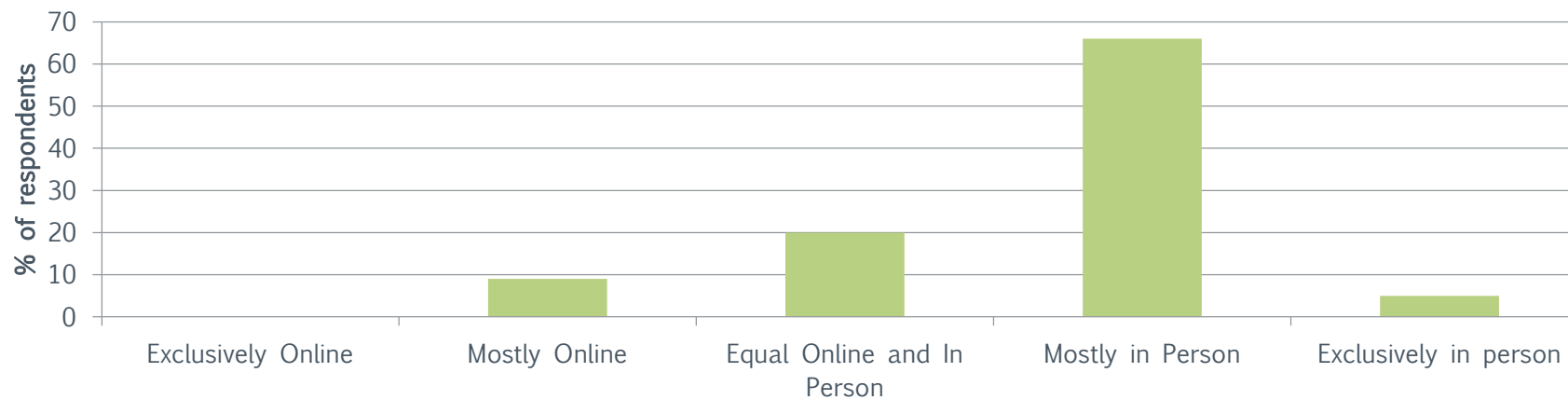
- › In your opinion, what are the three main topics that students would require MLS for?
- › Please indicate your preference for how this MLS would be delivered?
  - 5 point scale from exclusively online to exclusively in person
- › Topic responses were organised into 5 categories
  - Basic Algebra (e.g. logarithms, indices), Calculus, Preliminaries (e.g. fractions, basic numeracy, percentages), Probability and Statistics and an Other category

# Overall Staff Results (45 responses)

## Overall Topics

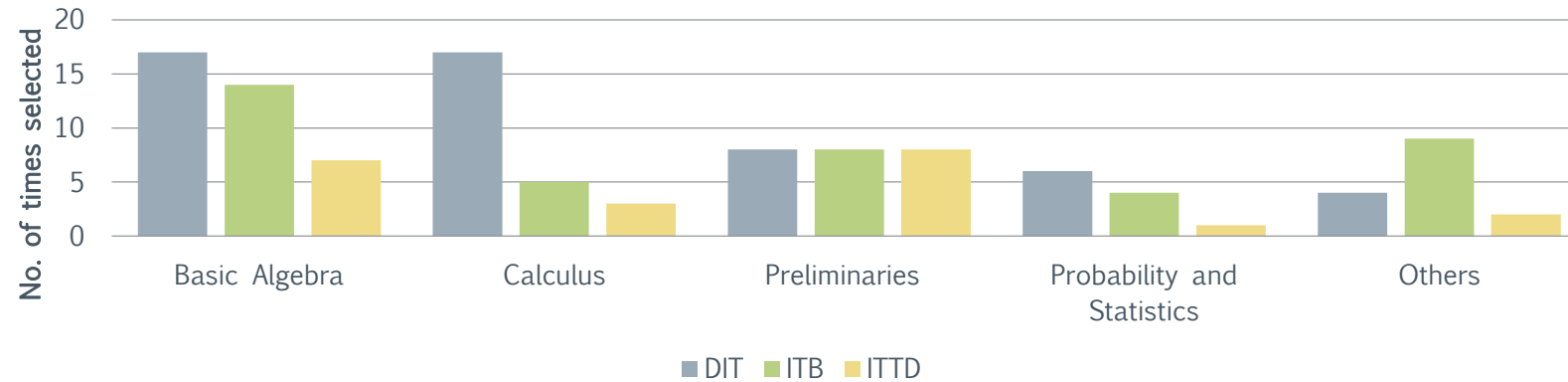


## Overall Staff Preferences

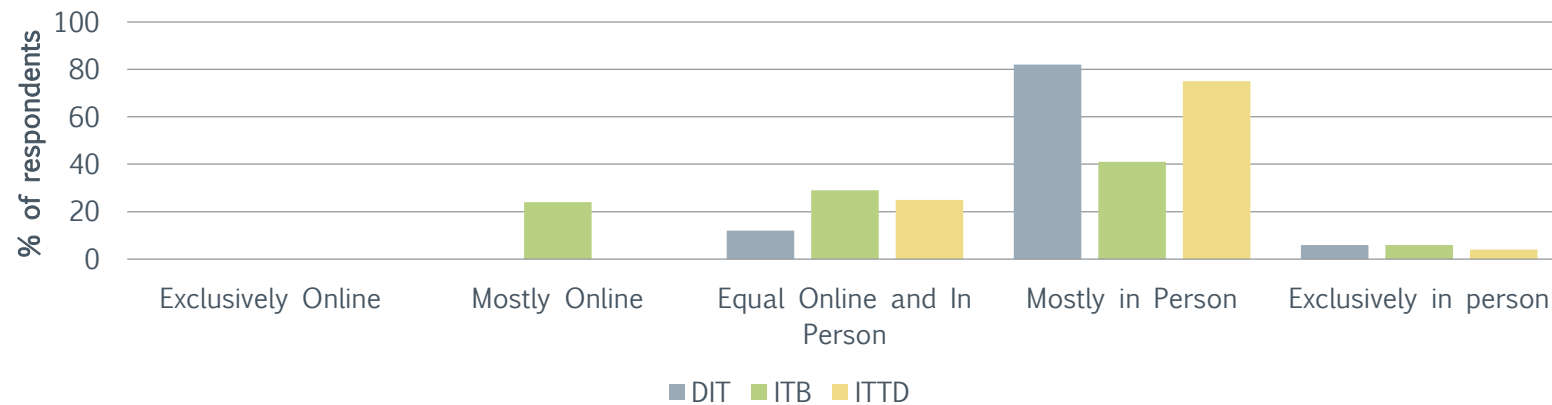


# Staff Responses Per Institutes

## Topics by Institution

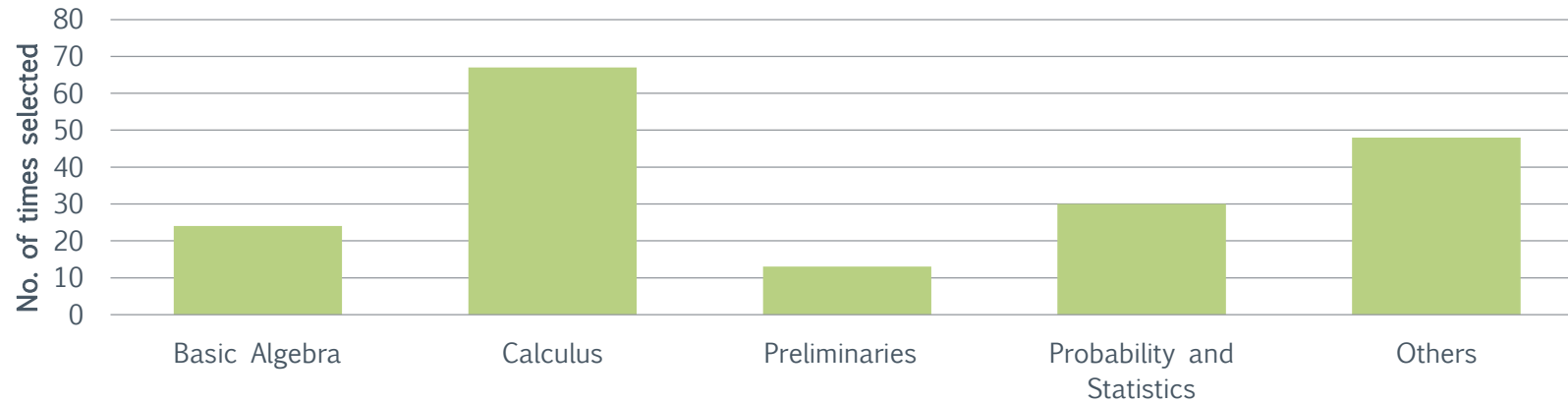


## Preference by Institution

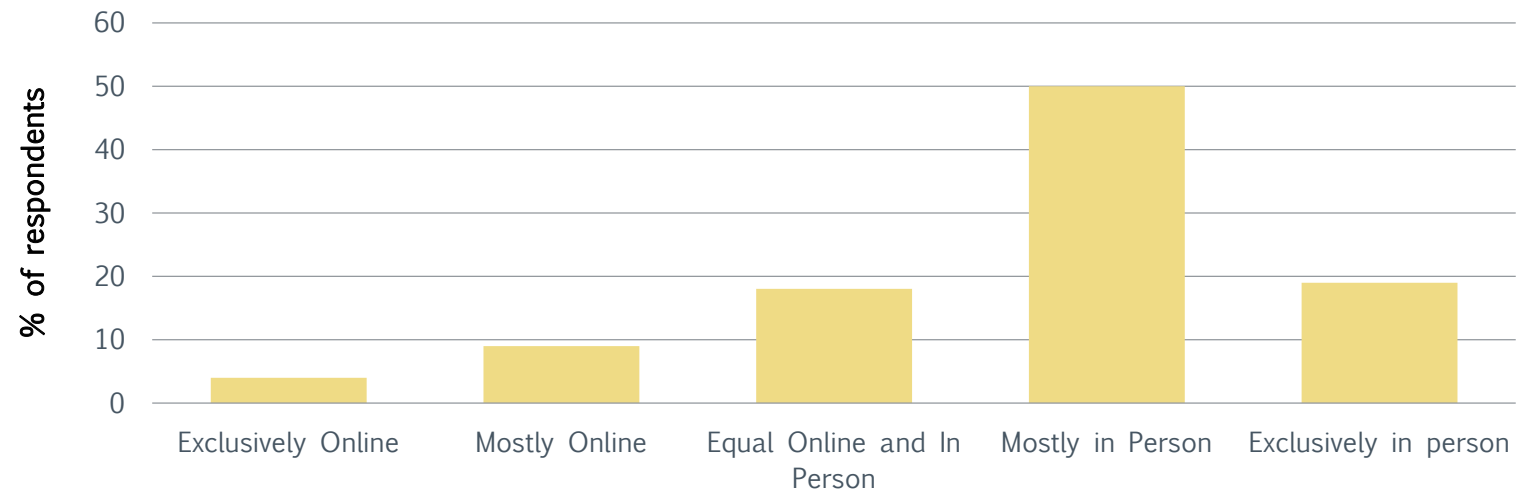


# Student Overall Responses (115 responses)

## Overall Student Topics



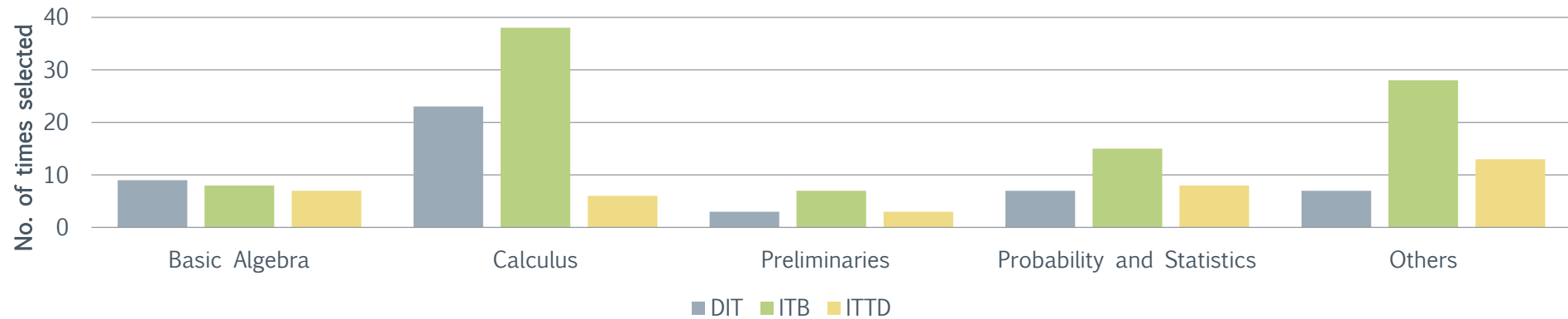
## Overall Student Preferences



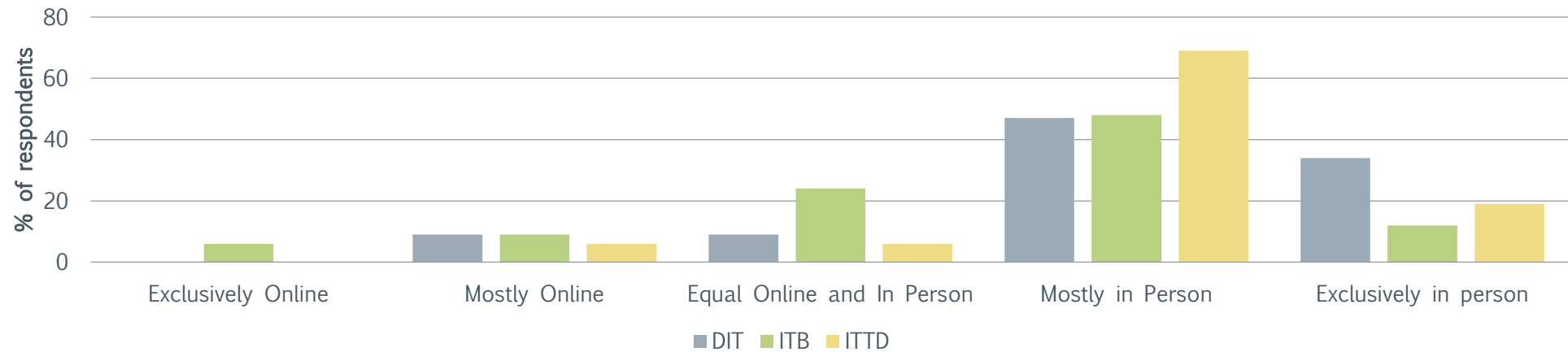


# Student Responses per Institute

## Student Topics by Institution



## Student Preferences by Institution



# Comparison of staff and student responses

	Algebra	Calculus	Preliminaries	Probability and Statistics	Other
Staff	34%	22%	19%	12%	13%
Students	13%	37%	7%	16%	26%

	Exclusively Online	Mostly Online	Equal Mix	Mostly in Person	Exclusively in Person
Staff	0%	9%	20%	66%	5%
Students	4%	9%	18%	50%	19%

## Conclusions of Survey

- › Majority of staff and students would like to see MLS provided primarily in person
- › Strong preference that some portion of the MLS provision is offered online

## Conclusions of Survey

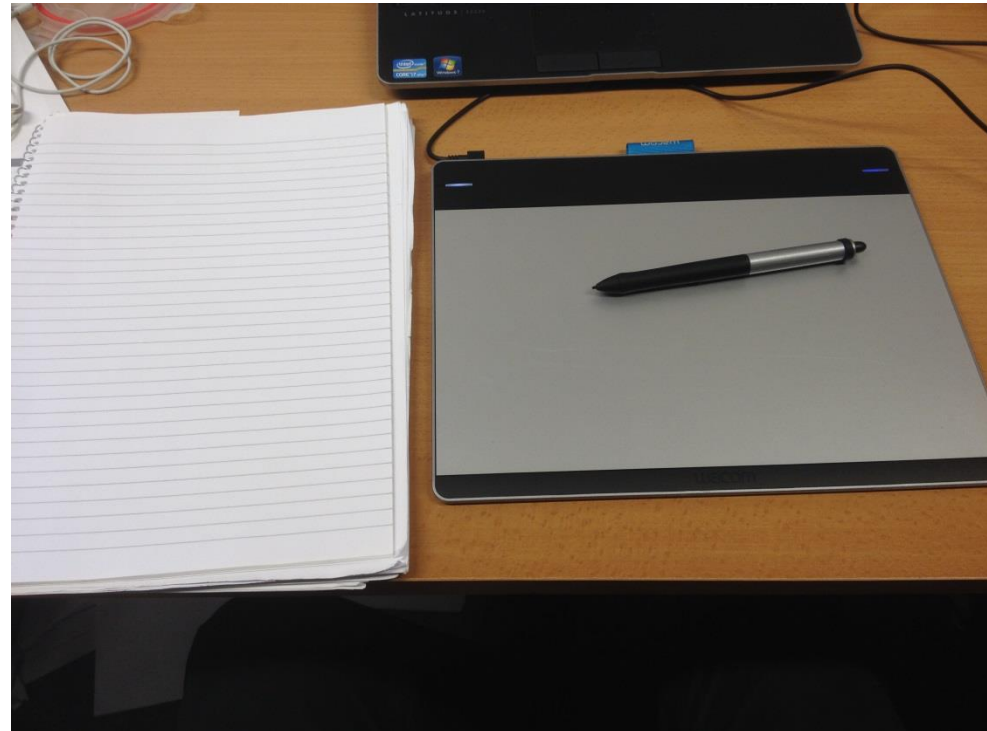
- › Among both staff and students in ITB, there appears to be a greater preference for the online provision of MLS than in the other two Institutes
- › There is also some variation in the topic choices between the three Institutes; this should be reflected in the provision of MLS

# Prototype

# Technology

› Received seed funding from the DIT Learning Teaching and Technology Centre to purchase 3 tablets

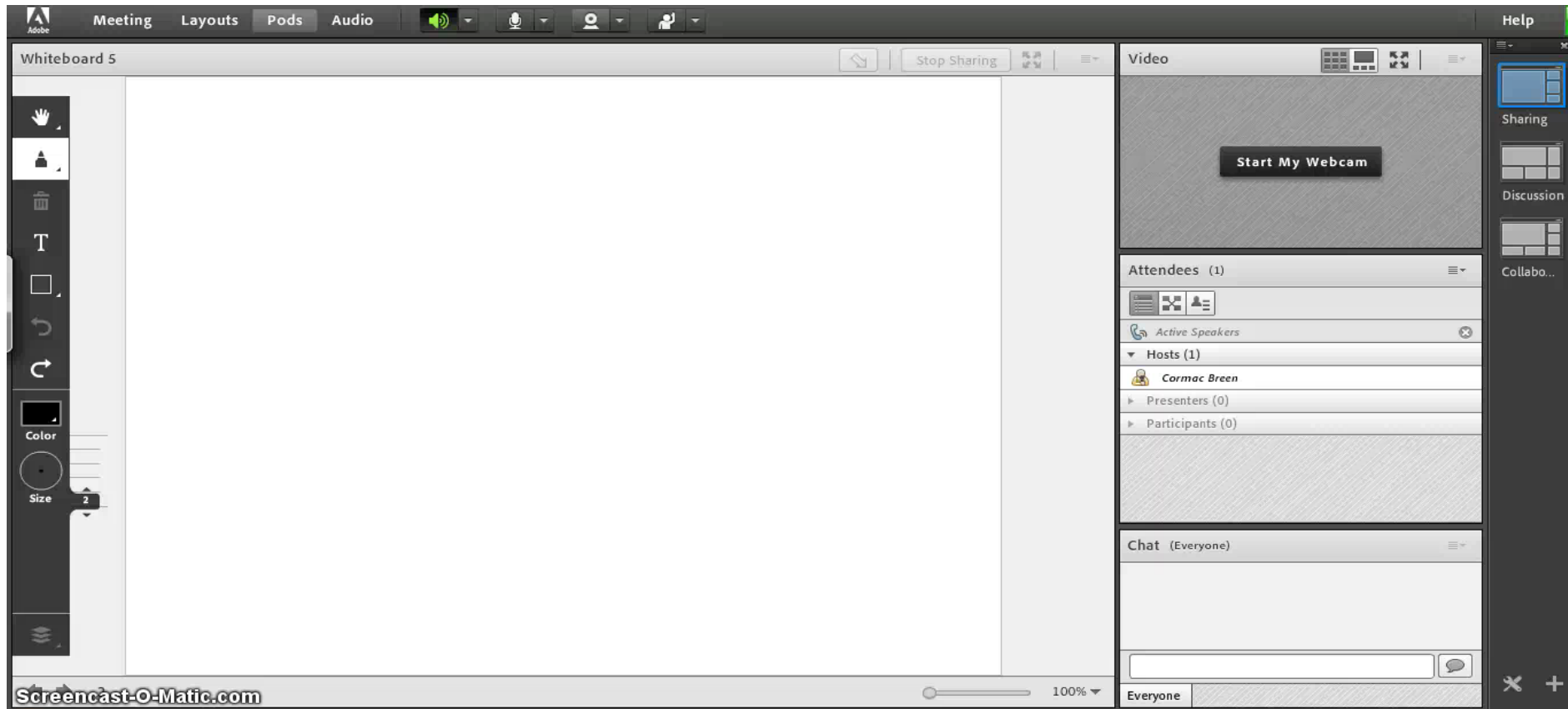
› Wacom Intuos Tablets





# Technology

## › Adobe Connect Video Conferencing Technology



# Prototyping Details

- › Initial trial involving staff members
- › Second trial involved 5 students from IT Tallaght and a staff member from DIT
- › Third trial involved 2 ITB students and a staff member from IT Tallaght
  - Each student posed a question on the shared whiteboard
  - Lasted approximately 45 minutes
  - Feedback from each student



# Feedback

## › Overall Impression

- › ‘I was very impressed, I think it's a great way to help students with Maths questions. Aside from the slow internet feed I think it has great potential and I'm definitely keen to see it up and running.’
- › ‘It has potential but I feel unless it becomes more streamlined I could see students becoming more frustrated than helped. The interface seems clunky and un-intuitive’
- › ‘Great idea, software was a little clunky and internet connection or lack of was a hindrance, But can easily be taught and overcome’

# Feedback

## › Advantages

- › ‘It will help people learn or ask questions easier who are shy or ashamed to do so in class’
- › ‘Whereas the virtual drop-in gives a larger scope of time and geographical location.’

## › Disadvantages

- › ‘If the lecturer on virtual drop-in uses different techniques to solve questions as opposed to classroom lecturer, it may be confusing and take longer to help solve a problem’
- › ‘may get overloaded with students who don't bother going to class as they see this system as a substitute for class attendance’

# Feedback

- › Suggestions for Improvement
- › ‘Use external microphone and speakers or headphones to eliminate the echo effect’.
- › ‘Use a speed scanner to scan the Example questions or problem sheets faster to save time writing it on the pad’.
- › ‘Web cam/Web cast with the cameras facing whiteboards on either side of the link’
- › ‘A platform for posting question and receiving answers in a timely fashion’

**Thank You**



Questions?