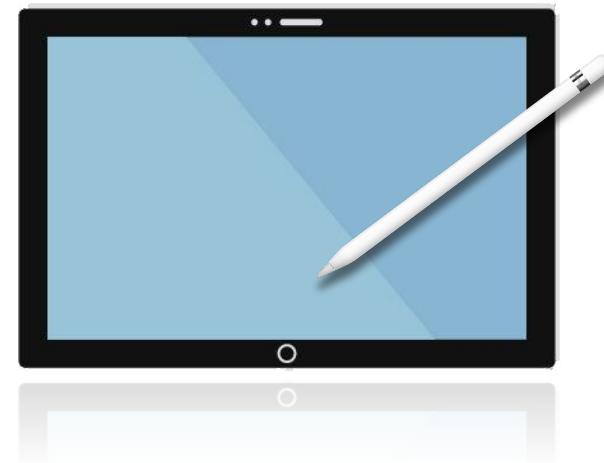# Use Case

Teaching with the iPad

Center for Digital Education (CEDE) and Teaching Support Center (CAPE)

Feedback and Support: flexible-teaching@epfl.ch

More information:
https://go.epfl.ch/flexible-teaching

Lessons learned from teaching MATH-106(e) online

EPFL

Teaching maths Online with an iPad

"Teaching maths is about explaining how to do maths, and with the ipad, I can do each step with the students."

""The ipad has been my teaching partner for the last 5 years, but the transition to online required me to adapt. Now students can only see one page at a time, so I need to ensure that each one provides sufficient perspective."

"You have to be very careful with space, because there isn't much. You definitely need to plan ahead, although the tools to add shapes, pictures or colour are easier than on a board."
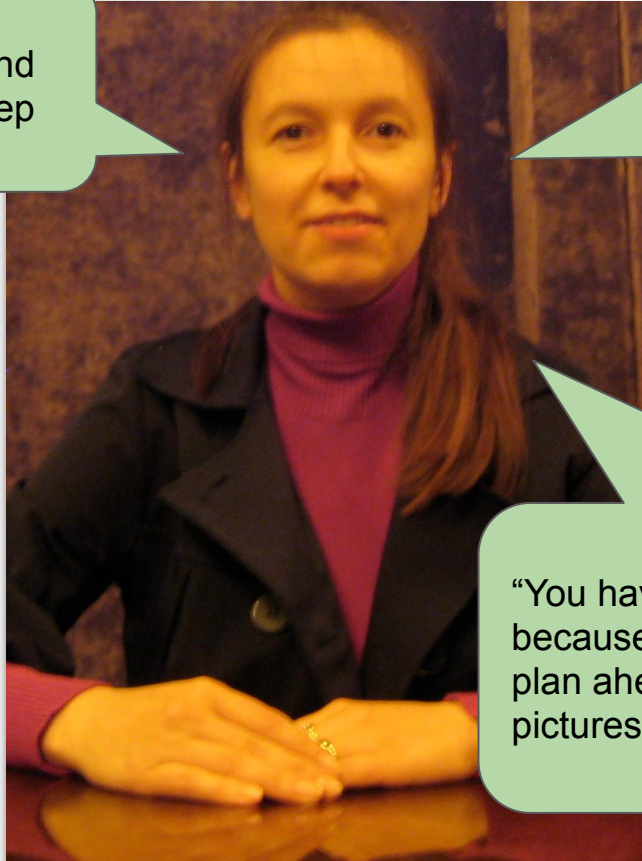
Anna Lachowska, SMA

EPFL

Anna Lachowska teaches MATH-106(e)

Anna uses colours, position, itemised lists to reinforce the structure of her message.

Anna includes multiple representations (ie schematic, free body, graph…) to help students understand the problem, using features in the app to draw straight lines or include shapes/images.

Anna plans her page layout ahead, so that students have perspective despite seeing only one page at a time.

Anna avoids having the next step appear "as if by magic" by saying, and sometimes writing, her underlying thinking process.

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Good Practices for Teaching Online with an iPAd

- Keep in mind that the objective is to make your approach and thinking about problems explicit for your students. Therefore, model your thinking along the way and do not simply present each step as though it was the only or obvious action.
- It is a good idea to be particularly structured when teaching remotely, so that the learners will be able to follow, organise and process the information. For example, start by clearly stating the overall goal, listing the individual steps and then noting progress made.
- Use the iPad to demonstrate problem solving, doing derivations, and drawing sketches, either on a blank sheet or on on top of slides.
- Write slowly and clearly, avoiding joined up letters as they are harder to read.
- When possible, demonstrate checking your answer by considering an extreme case, the order of magnitude, checking the units or applying the answer to physical reality.
- Help students focus by using a digital pointer to direct their attention, as shown here ->

For references and a demonstration, see Chapter 3.1 here:
https://www.edx.org/course/foundations-of-teaching-science-and-engineering
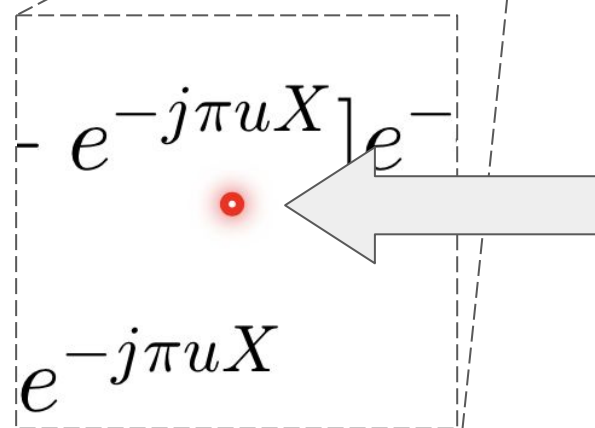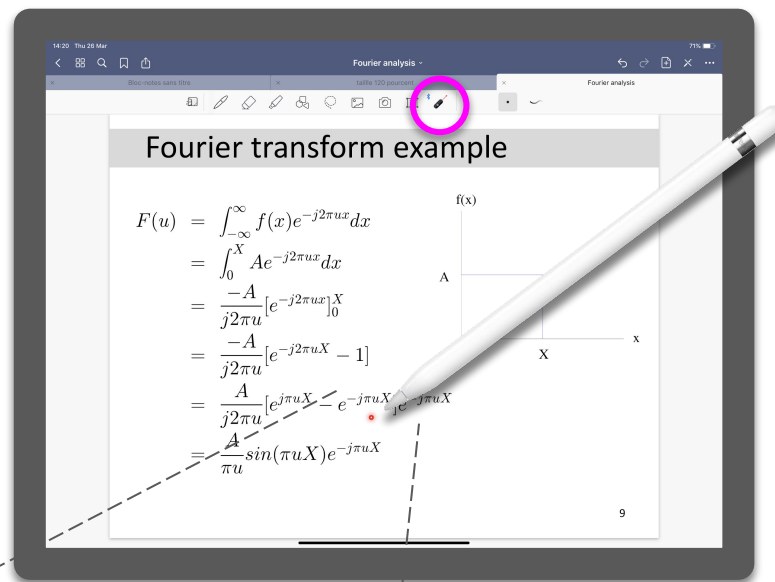
Access the **laser pointer** function in GoodNotes to project a red dot or draw arbitrary shapes that fade after 2 seconds.

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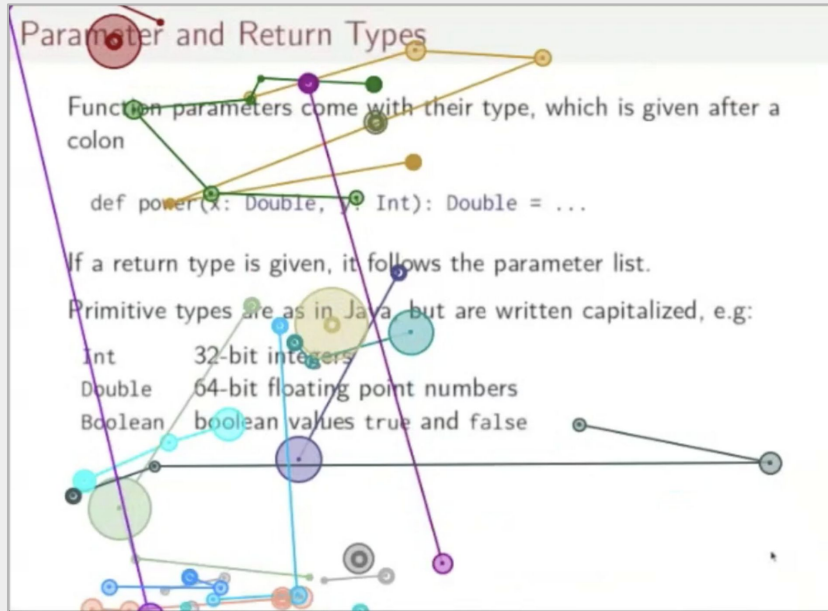# How drawing students' attention improves learning online

Figure 1. When no pointer is used, we can see that the students' gaze (measured with an eye tracker) is all over the place, regardless of where the teacher is focusing his or her own attention.
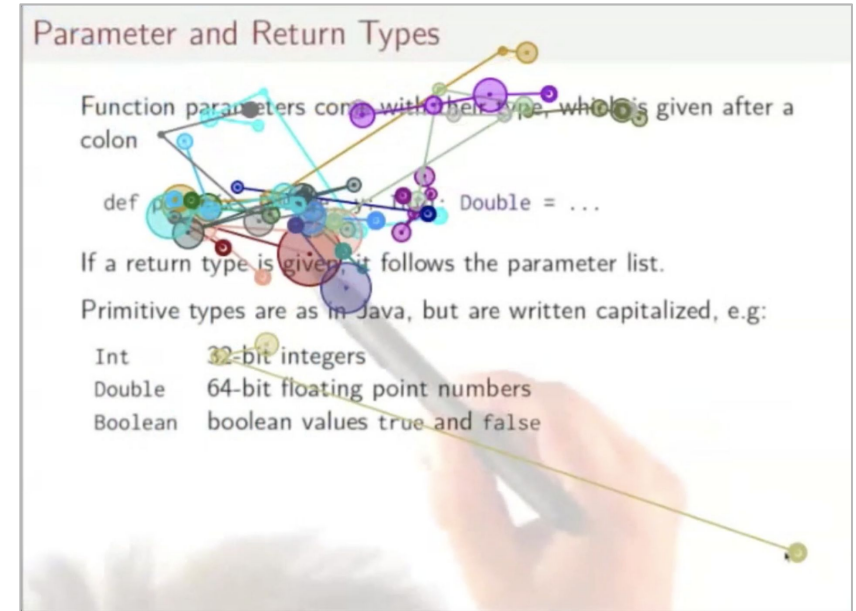

Figure 2. When a translucent pointer is used, the students' gaze is focused around the tip of the pointer, where the teacher wants students to focus their attention.

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Support

https://go.epfl.ch/flexible-teaching
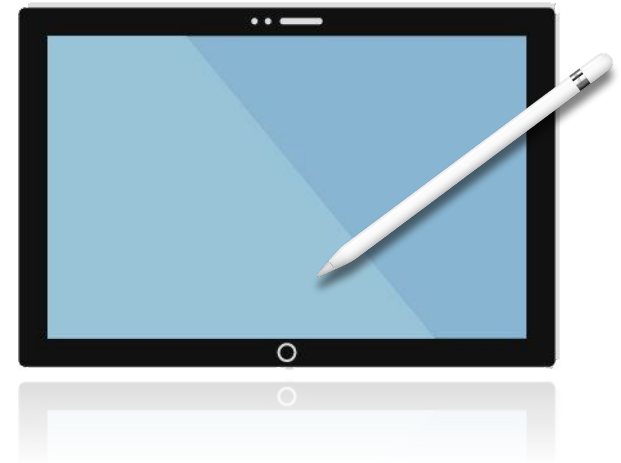
flexible-teaching@epfl.ch

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Strategies for teaching online using an iPad

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Context

- The iPad is a versatile solution for any teacher who wants to give their lectures with a combination of a whiteboard, slideshow presentation, using a laser pointer, and writing notes on the slides.
- Teaching with the iPad works best with the Apple Pencil accessory (apple.com/apple-pencil).

Getting ready

- To connect your iPad to your laptop and share its screen on Zoom, please see our quick start guide "Display iPad screen on your MacBook or PC" (go.epfl.ch/online-lecturing-ipad-connect).
- Export your Powerpoint to PDF and email it to yourself
- Open the email on your iPad
- Make sure you have the GoodNotes app working on your iPad
- Import the PDF in GoodNotes

Export to PDF

Attach to email

Open PPT presentation

Email it to yourself

EPFL
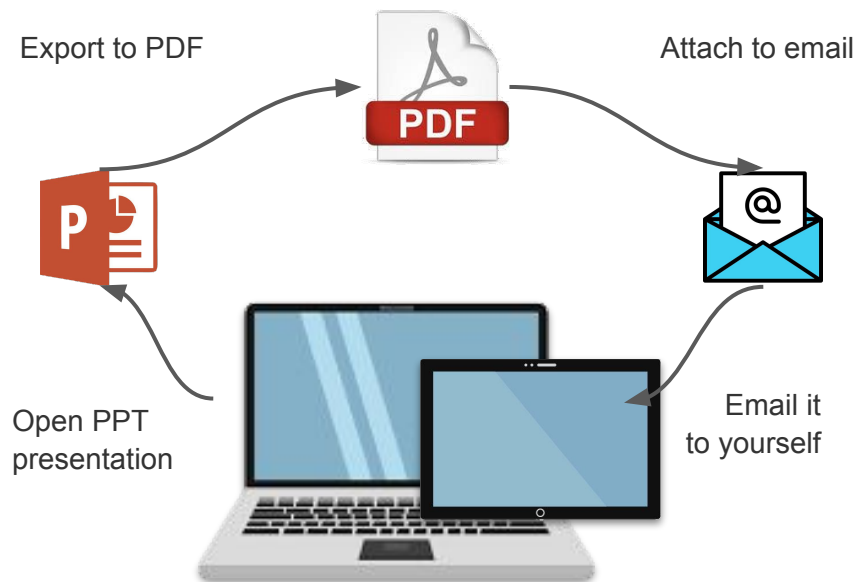
Importing a PDF version into GoodNotes

- **Open email and attached PDF** in iPad's Safari browser
- Import the PDF directly into GoodNotes

Import PDF directly into GoodNotes
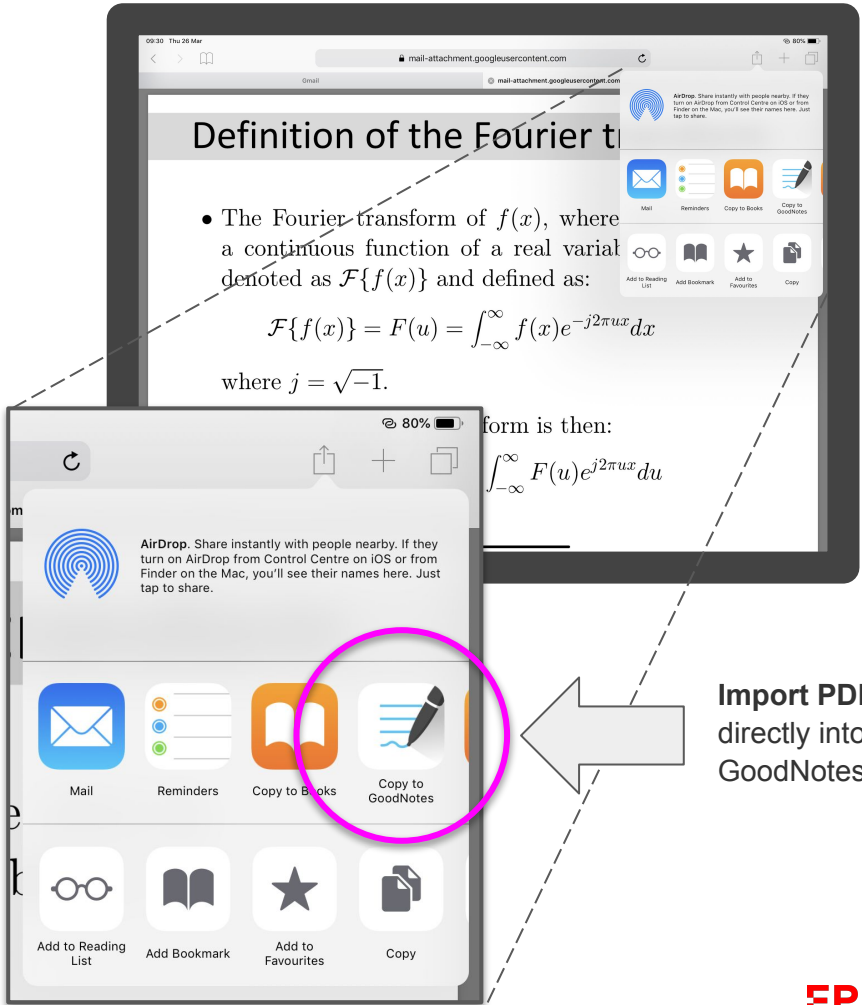
Adding text and images in GoodNotes.

pick different colors and thickness

insert empty page between slides
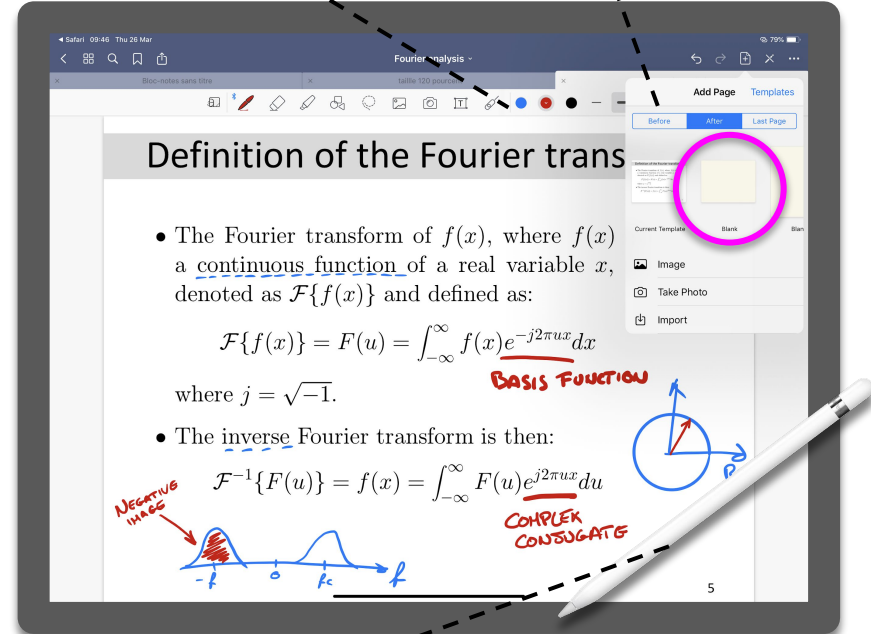
draw notes with Apple Pencil

Navigating GoodNotes presentations

Previous slide

Next slide

Swipe seamlessly