Presenting in the Classroom Guide for Schools

INTRODUCTION

In modern classrooms, technology plays a crucial role in enhancing interactivity and engagement. This guide explores how various devices such as iPads, Chromebooks, Surface Pros, and Laptops can be used effectively for classroom presentations, along with methods for casting these devices to projectors or large screens.

LEARNING CONTEXT

Over the past decade, projectors and interactive whiteboards (IWBs) have been widely used to increase classroom interactivity. However, these tools often limit teachers to the front of the classroom. Newer technologies now allow for more flexibility, enabling teachers and students to interact from anywhere in the room.

DEVICES FOR CLASSROOM PRESENTATION

Apple iPads in the Classroom

Apple iPads are popular in Irish schools due to their ease of use and versatility. AirPlay is commonly used to wirelessly mirror iPad screens to projectors or interactive boards. For classrooms without Apple TVs or AirPlay-enabled devices, HDMI adapters can be used for wired mirroring. While wired connections offer reliability, wireless options provide more flexibility for movement and collaboration.

Chromebooks in the Classroom

Chromebooks are popular in Irish schools due to their affordability and integration with Google Workspace. Google Cast is used for wireless screen mirroring to projectors or interactive flat panels. For schools without wireless infrastructure, HDMI output provides a reliable alternative. Google Classroom integration simplifies content sharing and classroom presentations.

Microsoft Surface Pros in the Classroom

Microsoft Surface Pros are popular in Irish secondary schools for their portability and power. They use Miracast technology to wirelessly connect to projectors and interactive flat panels, enhancing interactive learning. For classrooms with limited wireless capabilities, the Microsoft Wireless Display Adapter or USB-C to HDMI adapters are used to connect Surface Pros to display devices. These tools, along with Microsoft OneNote, support collaborative lesson planning and interactive teaching.

Laptops in the Classroom

Laptops, both Windows-based and MacBooks, are widely used in Irish primary and post-primary schools. Windows laptops often use Miracast for wireless screen mirroring, while MacBooks use AirPlay, typically with Apple TV or compatible interactive flat panels. For stable connections, HDMI adapters or USB-C to HDMI cables are common. Older projectors may require VGA adapters.

CASTING METHODS

DEVICE	WIRED CASTING METHOD	WIRELESS CASTING METHOD
Apple Macbook/iPad	• HDMI • USB-C to HDMI	• AirPlay • AirServer • Apple TV • AirServer Connect • Google Cast • Miracast
Chromebooks	• HDMI • USB-C to HDMI	• Google Cast • Miracast • Cast for Education • AirServer • AirServer Connect
PC's	• HDMI • USB-C to HDMI • VGA	• Miracast • Google Cast • AirServer • Screen Sharing Apps (e.g., Zoom, Teams) • Apple TV • AirServer Connect
Laptops	• HDMI • USB-C to HDMI • VGA	• Miracast • Google Cast • AirServer • Screen Sharing Apps (e.g., Zoom, Teams) • Apple TV • AirServer Connect

GLOSSARY OF CASTING METHODS

1. **HDMI**: A widely used wired connection for high-quality audio and video.

2. **USB-C to HDMI Adapter**: A cable or adapter that converts USB-C to HDMI for connecting to displays.

3. **VGA**: An old video connection used for projectors and older screens.

4. **AirPlay**: Apple's wireless streaming technology for mirroring screens and sharing content.

5. **Apple TV**: A hardware device that enables wireless streaming and mirroring via AirPlay.

6. **Google Cast**: A wireless protocol to stream or mirror screens via Chromecast or compatible devices.

7. **Cast for Education**: A Google tool that transforms a computer into a wireless receiver for Google Cast, often used in Chromebook environments.

8. **Miracast**: A wireless mirroring technology built into Windows and Android devices for screen sharing.

9. **AirServer:** Software that turns a computer or compatible device into an AirPlay receiver, allowing you to mirror your Apple device without an Apple TV. Many new devices e.g. Interactive Flat Panels, Smart TVs come with AirServer built in.

10. **AirServer Connect**: A multi-platform solution (dedicated hardware) supporting AirPlay, Google Cast, and Miracast for screen mirroring.

11. **Zoom Screen Share**: A Zoom feature that allows users to share their screen wirelessly during a video call or meeting.

COMPARISON OF DISPLAY TECHNOLOGIES

Projectors

Projectors have been a staple in classrooms for many years. They are cost-effective and can project large images, but in the past, they suffered from issues such as fading brightness over time, lamp failures, and the need for darkened rooms to see the image clearly.

Interactive projectors combine the features of traditional projectors with interactive capabilities, allowing users to interact with the projected image. Recent advancements in projector technology include the development of laser projectors. These projectors use laser light sources instead of traditional bulbs, offering several advantages such as long lifespan of the laser bulbs, resulting in less maintenance, consistent brightness and better image quality.

Modern Interactive Flat Panels

Modern interactive flat panels (IFPs) are advanced display technologies that combine high-definition visuals with touch capabilities. These panels support multiple touch points, allowing several students to interact with the screen simultaneously. This feature is particularly beneficial for collaborative learning activities. IFPs maintain consistent brightness and image quality over time

TABLE SUMMARY OF INTERACTIVE FLAT PANELS VERSUS LASER PROJECTORS

INTERACTIVE FLAT PANELS	LASER PROJECTORS
PROS	**PROS**
Can enhance engagement with touchscreen interactivity	Potential for larger image size suitable for bigger classrooms
Built in software for teaching and collaboration	Can project onto various surfaces
High resolution and bright clear image quality	High brightness and energy efficiency
Very durable and minimum maintenance	Lower upfront cost compared to IFP's
Relatively easy to install and setup	Lifespan of laser bulbs (up to 20,000 hours)
CONS	**CONS**
Initial cost can be higher than projectors	Additional equipment needed for interactivity
Screen size more limited compared with projectors	Installation can be more complex
Potential reflection/glare issues in very bright rooms	May require bulb replacements

GENERAL CONSIDERATIONS FOR PRESENTING IN THE CLASSROOM

- Ensure you have a "fit for purpose" wireless network.
- Pre-configure devices for quick setup.
- Use device management tools to streamline the casting process.
- Encourage student participation by allowing them to share their screens.
- For Laser Projectors versus IFP's consider
  - ➢ Your classroom size and it's layout.
  - ➢ Is interactivity required?
  - ➢ Installation and Setup – what is involved for each?
  - ➢ Cost versus maintenance over time
  - ➢ Light conditions in the classroom – what will work best?
  - ➢ Budget is always a factor

LINKS TO GOOD PRACTICE VIDEOS USING DEVICES AND PRESENTING IN THE CLASSROOM

PRIMARY

iPads & Chromebooks

[Digital Technologies in North Dublin Muslim National School](#)

[Creating multimedia climate change projects](#) – Talbot National School

POST PRIMARY

iPads

[Student Perspective: Formative Assessment Digital Portfolios](#)

[Formative Assessment Digital Portfolios at ETSS Wicklow](#) (teachers from the above school talking about planning)

Chromebooks

[Coordinating Digital Learning in Dungarvan CBS](#)

CONCLUSION

Classroom presentation technologies have advanced greatly, offering educators powerful tools to boost teaching and student engagement. This guide highlights the importance of choosing devices and casting methods that meet the specific needs of each classroom, considering factors like ease of use, flexibility, and cost.

Using the right technology, whether projectors, interactive flat panels, or wireless casting solutions, teachers can enhance collaboration and interactivity, moving beyond traditional setups. Schools should also be mindful of having a strong infrastructure, such as reliable wireless networks, to seamlessly integrate these tools.

Ultimately, technology choices should align with your school's educational goals, helping teachers and students to enhance and complement the learning experience. As classrooms continue to evolve, staying updated on the latest advancements and best practices will help schools make informed, future-proof decisions.

This document can be located at:

https://www.oidetechnologyineducation.ie/technology-infrastructure/presenting-in-the-classroom/

For additional queries or support schools can email us at ictadvice@oide.ie