P4ELECS
Platform for Electrification Skills & Competences

Quicksheet

Creating effective presentation slides

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About

Important

In this quicksheet, we focus on making a “presentation slide deck”, that is a file/set of presentation slides.

There are two major types of a presentation slide deck:

- Standalone slides: Self-contained learning materials that can be studied independently.
- Speaker-support slides: Slides that act as visual aids, designed to support a live, recorded presentation or as a summary of a reader..

A **presentation slide deck** is a visual and textual communication tool designed to convey information, ideas or instructions. It can be delivered live to an audience or studied independently at a learner’s own pace. A presentation slide deck is more than just a collection of slides. It is a structured way of guiding attention and enhancing comprehension through design and delivery.

In effective presentation slides, two key principles must be met:

- The content is clear, structured and purposeful, ensuring that the message is easy to follow and retains audience engagement.
- The format supports the learning process, adapting to different contexts such as a live talk, self-study material or an interactive training session.

This implies that a **presentation slide deck** is not just a document or an extensive report. Instead, it is a designed learning material that integrates visuals, narration and structure to improve understanding.

Presentation slides are particularly useful for delivering structured knowledge, such as key concepts, procedures and analytical frameworks.

While they may be less suited for fostering deep creative thinking or complex problem-solving on their own, they can still play a valuable role when thoughtfully integrated with other learning materials. Used strategically, they can provide a foundation for discussions, exercises or case studies that encourage deeper engagement and hence learning.

Developing effective presentation slides is a complex process that requires intentional planning and design choices. No single approach fits all situations: the characteristics of the audience, the learning objectives and the content domain will all influence what makes a presentation truly effective.

This quicksheet:

- focuses on principles and strategies for creating structured, engaging and accessible presentation slides.
- will help you translate your knowledge into presentation slides that effectively support learning.

Benefits

- **Enhances knowledge retention** through clear structure and visual support. When information is well-organized and presented with relevant visuals, learners are more likely to absorb and retain key messages. Breaking complex topics into digestible sections further helps reinforce understanding and recall.

- **Increases engagement by aligning content with audience needs.** A well-crafted presentation slide deck is designed with the learners in mind, ensuring that the pace, complexity and examples resonate with them. Engaging presentations slides leverage storytelling, interactivity and visual elements to keep the audience focused and interested.

- **Ensures professionalism and clarity in communication.** Presentations slides can serve as an extension of the speaker's expertise and credibility. A well-structured presentation slide deck minimizes confusion, maintains logical flow and conveys information in a polished and compelling manner.

- **Adapts to different presentation contexts (standalone slides vs. speaker-support slides).** Whether delivered in a classroom, a webinar, or as self-paced learning material, effective presentation slides remains impactful. By incorporating elements such as voiceovers, interactive components and clear layout design, presentations can be optimized for different delivery methods.

Step-by-step creation guide

Step 1: Define the purpose & audience

- **Clarify the main learning outcomes.** Ask yourself: Is the goal to inform, persuade, instruct, or inspire? For example, a training session on emerging battery technologies should focus on instruction, guiding learners through the fundamentals of energy storage, recent breakthroughs and cutting-edge materials.
- **Identify the target audience.** Consider their background, prior knowledge and expectations. If presenting to experts, avoid oversimplification; for beginners, introduce concepts step by step.
- **Determine the delivery method.** Will it be a live presentation or for individual study? A self-paced module on power grid electrification should include clear explanations, diagrams and possibly interactive simulations to ensure learners can grasp complex concepts without instructor support.

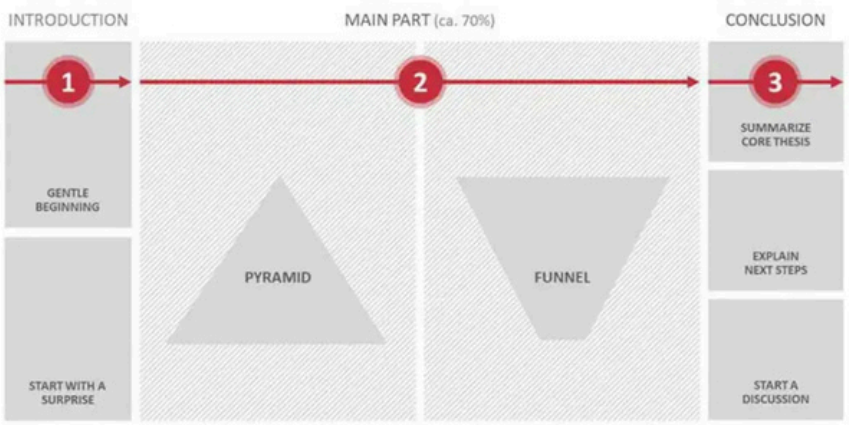
Example

When creating presentation slides on energy storage solutions for future engineers, structure the content with real-world case studies, interactive simulations of battery performance and a mix of informative slides and technical discussion prompts.

Step 2: Structure your content

- **Follow a logical flow.** Every presentation slide deck should have a clear structure: an introduction that sets the stage, main points that develop the content and a conclusion that reinforces key takeaways. For example, when explaining a scientific process, introduce the theory first, then provide real-world applications and conclude with a summary.

To learn more about the logical flow of effective presentation slidess, including additional tips and tricks, visit the URL: https://www.presentationload.com/blog/best-presentation-structure-tips-tricks/



(Source: https://www.presentationload.com/)

- **Use signposting.** Guide your audience using clear headings, transitions and signals such as “Next, we will explore…” or “To summarize…”. This helps maintain clarity and flow, making it easier for learners to follow along.
  - In **speaker-support slides**, verbal signposting by the presenter ensures smooth transitions between topics. However, **concise written signposting**, such as clear section headers or minimal visual indicators, can still help reinforce structure without overloading the slides.
  - In **standalone slides**, **more detailed written signposting**, including progress indicators, guiding questions, or explicit summaries, is essential to help learners navigate the content independently.

For a longer presentation slide decks, consider using breadcrumbs, visual indicators, that show viewers exactly where they are in the presentation. This strategy ensures that your audience never feels lost and can easily follow the structure of your content.

To learn more about applying this breadcrumb technique, watch this video: https://www.youtube.com/watch?v=4UxanlSk5_c&ab_channel=PresentationProcess .

- **Avoid information overload.** Keep **presentation slides** concise by focusing on essential points, but adapt the level of detail based on the type of slides:
  - For **speaker-support slides**, minimize on-screen text and focus on key points or visuals that support the speaker's explanation. Use bullet points instead of paragraphs and let the presenter provide the necessary context.
  - For **standalone slides,** ensure that **all critical information is included** since learners will rely solely on the slides. While text should still be structured clearly, additional context may be necessary to fully convey complex concepts.
- **Example**: Instead of listing statistics in text form:
  - In **speaker-support slides**, use a **single key figure or a simple graph**, allowing the speaker to elaborate.
  - In **standalone slides**, use **clear data visualisations** with short explanations to ensure the information is fully understandable without narration.
- **Consider multiple presentations slide decks instead of one long one:**
  - **Break down content into focused segments.** Instead of a 60-minute lecture with dense slides, create three 20-minute presentation slides deckss that each tackle specific subtopics.

- **Apply spaced learning.** Research shows that spreading content across sessions improves retention. For instance, when teaching multiple engineering techniques, it can be beneficial not only to explain each technique separately (e.g., first technique 1, then technique 2) but also to present mixed examples where learners must identify which technique applies. This approach reinforces understanding by encouraging active differentiation and application of knowledge.For instance, a leadership training program could be divided into sessions on communication, decision-making, and team management over multiple days.
- **Shorter presentation** slide decks help **maintain learner engagement** and **prevent mental exhaustion**, allowing learners to process information at a comforatable pace. For example, a module on sustainable energy systems could have seperate presentation on battery technology, smart grids and electric vehicle charging infrastructure. By designing independent but interconnected presentation slide decks, instructors can adapt to different learner needs. If an audience is already familiar with basic energy storage concepts, they can skip the introductory module and dive directly into advanced topics, such as next-generation superconductors or bidirectional charging systems.

Step 3: Design for readability and clarity

- **Keep text concise and structured, adapting it to the purpose of the slides.**
  - For **speaker-support slides**, follow the 6x6 rule: no more than 6 words per line and 6 lines per slide to avoid clutter. Summarize key points in bullet format rather than full sentences.
  - For **standalone slides**, ensure that all essential information is included, as learners will rely on the slides alone. This may require longer explanations, but readability should still be a priority.
- **To balance clarity and detail:**
  - Add detailed explanations in the notes section for extra context without overcrowding the slides.

- Use click-to-reveal elements or interactive layers to allow learners to expand content at their own pace.

Example

Complex concepts could be explained through *progressive disclosure, starting with a short summary and allowing learners to click for deeper details. This method keeps slides clean while ensuring that necessary depth is available when required.

*Progressive disclosure: Progressive disclosure is a design principle that presents information or options gradually, showing only the most essential elements first and revealing more details as needed to prevent cognitive overload.

- Use high-contrast colors and readable fonts. Ensure that text stands out from the background by using dark text on a light background or vice versa. Stick to Ssans-Sserif fonts such as Arial or Calibri for easier readability. For example, avoid using script fonts that are difficult to read from a distance.

The next video covers the importance of readable fonts and how to choose the best ones.

https://youtu.be/XzIR8ep4vw0?si=fLBY8KtaJ_Tb93-1

- **Ensure proper alignment and spacing.** Keep text left-aligned instead of center-aligned for better readability. Maintain sufficient white space between elements to avoid overcrowding and make content easier to scan. For example, do not cram multiple images and text in one slide but spread content across multiple slides if needed.
- **Ensure accessibility for all learners.** Use alt text for images so visually impaired users can understand the content. Avoid low contrast combinations (e.g., yellow text on white background) to prevent readability issues. Provide captions or transcripts for any audio or video content to support hearing-impaired audiences. For example, when adding a video demonstration, include closed captions for clarity.

Step 4: Incorporate visuals and multimedia wisely

- **Use images, charts and diagrams to support your message.** Visual elements should enhance understanding, not serve as mere decorations. Ensure that each image or chart has a clear function and adds value to the content. For example, use a diagram to simplify a complex process rather than explaining it with text alone.
- **Maintain consistency in style.** Use a uniform approach in fonts, color schemes and iconography to create a cohesive and professional look. Inconsistent design elements can make a presentation appear disjointed and unpolished. For instance, stick to a primary color palette throughout rather than frequently changing colors.

Tip

A good solution is to work with templates, as they provide a predefined structure and design consistency, ensuring a polished and professional appearance across all slides.

- **Avoid excessive animations or transitions.** While animations can add interest, too many moving elements can become distracting. Use subtle effects sparingly, such as fade-ins for emphasis rather than flashy transitions between every slide. To learn more about the disadvantages of excessive animation, check out this article: Pitfalls of Animations in Presentations, which explains how overusing animations can distract your audience and reduce the clarity of your message.
- **Ensure accessibility for all users.** Make sure visuals are clear and easy to interpret. Include alt text for images so visually impaired users can access the content. For video content, provide captions or transcripts to accommodate hearing-impaired learners. For example, if using an instructional video, add a transcript that learners can read alongside the visuals.

Step 5: Design your presentation slides according to its purpose

- For **speaker-support slides**: Use minimal text on slides and focus on key points. Allow the presenter to expand on ideas verbally rather than reading directly from slides.
- For **standalone slides**: Include explanatory text, voiceovers, or self-paced navigation options to ensure clarity without requiring a presenter.

Step 6: Foster engagement and interactivity

- **Encourage active participation through discussion prompts, polls, or interactive elements.** Actively engaging learners helps to keep their attention and deepen their understanding.
    - For **speaker-support slides**, use live polls, Q&A sessions and discussion prompts to encourage real-time interaction and reflection. Tools like Mentimeter or Slido can help facilitate engagement.

- For **standalone slides**, integrate asynchronous activities, such as embedded quizzes, drag-and-drop exercises, or branching scenarios that allow learners to explore content in an interactive way.

- **Include moments for reflection where learners can pause and process the information.** Learning is most effective when participants have time to absorb and internalize new concepts.
  - For **speaker-support slides**, schedule deliberate pauses to allow discussion, journaling, or structured group activities.
  - In **standalone slides**, provide built-in reflection prompts, self-check exercises, or guided questions that encourage learners to stop and think before proceeding.
- **Adapt delivery techniques to maintain engagement (e.g., varying tone, incorporating storytelling).** The way information is presented greatly influences learner engagement. To keep the audience interested, vary your tone and avoid a monotonous delivery by emphasizing key points and using expressive intonation. Storytelling can also be a powerful tool: weaving real-world examples or personal anecdotes into the content makes it more relatable and memorable.

Example

You're creating a self-paced course on time management. To keep learners engaged, you add a short quiz after explaining the Pomodoro Technique, include reflection prompts like "*Pause and list three tasks you struggle with*", and use an interactive scenario where they prioritize tasks in a simulated workday.

Tools

This list includes various tools that can be used to develop presentations. It features both traditional presentation software and tools for creating and editing multimedia, enhancing visual content and increasing audience interaction.

	Name	Category	Description	URL
	PowerPoint	Commonly used presentation tool	Create slide-based presentations with templates, animations and collaboration features	microsoft.com/powerpoint
	Keynote	Commonly used presentation tool	Apple's alternative to PowerPoint, offering sleek design templates and seamless integration with Apple devices	https://www.apple.com/keynote/
	Google Slides	Commonly used presentation tool	Cloud-based presentation tool with real-time collaboration and integration with Google Workspace	http://docs.google.com/presentation
	Prezi	Commonly used presentation tool	Non-linear, zoomable presentations that create a storytelling effect	https://prezi.com/
	Genially	Interactive presentation tool	Create interactive presentations, infographics and gamified content with animations and dynamic elements	https://genially.com/ (See workshop)
	Canva	Tool for enhancing visuals	Drag-and-drop design tool with customisable presentation templates	https://www.canva.com/

	Unsplash	Tool for enhancing visuals	Free high-quality images for use in presentations and other materials	https://unsplash.com/
	Loom	Screen recording and narration tool	Record, edit and share video messages for asynchroncous communication	https://www.loom.com/
	Camtasia	Screen recording and narration tool	Professional video editing and screen recording software for creating	techsmith.com/camtasia
Mentimeter	Mentimeter	Tool for audience interaction	Live polls, word clouds and interactive Q&A sessions for engaging audiences	mentimeter.com
	Wooclap	Tool for audience interaction	Q&A and polling tool for audience participation during presentations	https://www.wooclap.com/
	Kahoot!	Tool for audience interaction	Gamified quizzes to engage learners and test knowlege	kahoot.com
	Padlet	Tool for audience interaction	Collaborative visual boards for brainstorming and sharing ideas	padlet.com
	ThingLink	Tool for enhancing visuals	Create interactive images, videos and presentations with embedded media	thinglink.com (see workshop)
	Audacity	Audio editing tool	Open-source audio editor for creating and enhancing voiceovers in presentations	audacityteam.org