



P4ELECS

Platform for
Electrification Skills
& Competences

Quicksheet

How to create effective knowledge clips

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Co-funded by
the European Union

About



- A short video, typically **3 minutes**, maximum **6 minutes**.
- Designed to explain a **specific concept, principle, or skill**.
- Focusing on delivering **concise, clear content**, often in a more abstract or conceptual form, such as explaining theories, formulas, or models.
- Also effective for **demonstrating practical skills or visualizing instructional steps**, making complex ideas or procedures more understandable.

Benefits



Higher Education: Especially useful for teaching **core concepts**, providing durable insights, or offering students the **ability to pause and revisit** challenging materials.



Can take **several forms** such as screencasts, animations, or demonstrations, and complement written and other multimedia learning materials **matching the goal you want to reach**.



Streamlined learning: Reinforce essential concepts, skills or problem-solving techniques.

Step-by-step creation guide



PREPARATION PHASE

Before you start developing a knowledge clip for the P4Elecs project, you have already gathered valuable information by filling in **the Quality Guidelines document (WP2)**.

This document provides a structure for developing educational building blocks. From this, you have extracted the following essential points:

- **Learning Objectives:** The knowledge clip should clearly indicate which learning outcomes will be achieved.
- **Prior knowledge:** Identify what prior knowledge of students is required to properly understand the content.
- **Content and complexity:** The content should match the intended level (basic, intermediate, advanced) and answer the right questions.

Keeping this in mind will help you through the following steps.

1. Define the purpose and select the format

What do you want to achieve and how do you plan to present the material?

- Showing step-by step how a task is performed? (e.g., a labo experiment or clinical procedure)
- Using visuals to simplify and explain difficult material? (e.g., processes in the energy market)
- Walking through the solution of a problem or exercise, giving detailed explanations that can help address common student questions?

Consider your audience and the purpose of the clip. Is it to introduce new content, review concepts or demonstrate a skill? The format you choose (e.g. screencast, talking head or animation) should reflect this goal. On the next page, you can find different formats and their characteristics.

[1]

Format	Description	Effect	Practical tips
Talking head 	A video where the speaker directly addresses the camera, providing explanations.	- Personal connection between teacher and student. - Ideal for delivering explanations or introducing concepts.	Use visual aids like slides or images to break up the video.
Screencast 	A video recording of your computer screen with narration (e.g., PowerPoint presentations, tutorials).	- Fit for tutorials, explaining software, or presentations. - Students can follow along step-by-step.	- Use Kaltura Capture for easy recording. - Record in a quiet space using a good-quality microphone. - Use ministudios with tablets and mics for enhanced recording quality.
Animation 	A Video using moving images or graphics (e.g., drawing on a tablet, motion graphics).	- Ideal for visualising abstract or complex processes. - Engages visual learners and simplifies difficult concepts.	- Use drawing tablets. - Without a tablet, create animations using Moovly. - Plan a clear script aligning visuals with narration.
Demonstration 	Shows a specific task or procedure (e.g., clinical skills, lab experiments).	Effective for hands-on learning where the process needs to be seen. Allows students to replicate the demonstrated task.	Record using a smartphone, iPad, or camera on location. Ensure steps are clearly visible and explained.
Interview 	A conversation with an expert or practitioner to provide additional perspectives or real-world insights.	Adds depth with expert opinions or real-world examples. Variety of voices keeps students engaged.	Film using smartphone, iPad, or camera on location. Edit to remove unnecessary parts, creating focused clips. Choose a quiet environment with good lighting.

2. Define the script

A well-prepared script ensures clarity and focus. Structure your script around the following elements:

- Introduction
 - Clearly state what the video will cover and why it is important. This sets expectations.
 - For an engaging start, consider beginning with a question that captures the viewer's attention. This question can be revisited later in the video to maintain focus.
- Core Content
 - Break down your content into logical steps.
 - Keep it concise—limit videos to one topic, ensuring the clip does not exceed 6 minutes.
 - You can refer back to the question posed at the beginning, guiding the viewer through the content as they seek an answer.
 - Use dual coding (combining visuals with spoken words) to enhance understanding.

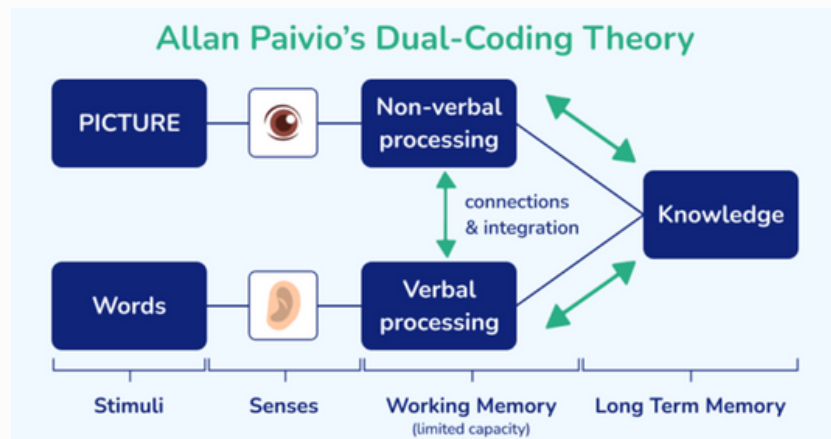


Figure 1- Dual coding theory <https://thirdspacelearning.com/blog/dual-coding/>

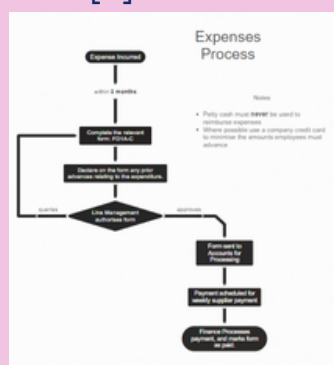
! Consider **Practical and Legal Aspects**

Ensure that you use appropriate materials (e.g., royalty-free images or music) or P4ELECS visuals, respect copyright rules and acknowledge authors. Platforms like Pixabay or Google Advanced Search can help find free-to-use media.[3]

! To structure the educational content, you might want to use an **advance organizer**

This is a tool that helps present new material in a structured and organized way by linking it to prior knowledge. Advance organizers help students structure new information, enabling them to grasp the bigger picture.

A well-crafted story or analogy can serve as an advance organizer, making new material more understandable and memorable. In a knowledge clip, teachers can also use graphic advance organizers, such as mind maps, a flow chart, time bars or diagrams, to structure content. While offering structure, it's important to balance this with opportunities for active thinking and learning, ensuring students engage meaningfully with the content.[4]



Tools to create graphic advance organizers: [Piktochart](#), [Canva](#), [coggle.it](#)

[3](Schoolmakers, n.d.-b)

[4] (Vernieuwenderwijs, n.d.)

PRODUCTION

3. Set up for recording

- Environment
 - Choose a quiet, well-lit space.
 - Use natural light, avoid shadows and backlighting.
- Equipment (Most essential)
 - Laptop with good webcam or external camera
 - External microphone
 - Recording software
 - Screencastify, Quicktime, or Kaltura for screencasts

! Test your setup before starting. Position yourself facing the light source.

4. Record your clip

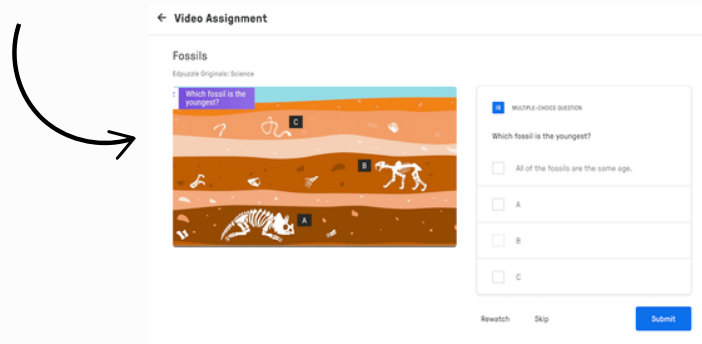
- Engagement
 - Speak clearly and confidently.
 - Use visuals effectively.
 - Directly addressing students can make the video feel more interactive and engaging, contributing to a sense of connection and deeper learning.
 - Make a short reference to P4ELECS and how this learning material is part of a broader ambition.
- Authenticity
 - Be authentic and engaging. Minor mistakes make the video more relatable.
- Annotations
 - Use highlights, arrows, or keywords to emphasize important points. This helps guide the viewer's attention and reinforce key ideas.



POST PRODUCTION

5. Edit your video

- Use a simple video editor
 - e.g., iMovie or Windows Movie Maker
- Trim unnecessary parts (like awkward pauses).
- Add subtitles if needed for accessibility.
- Include annotations or quizzes to promote engagement.
 - e.g., Edpuzzle



- Use the P4ELECS logo at the beginning of the video in 1000 pixels rez and add at the end “for more information about P4ELECS, visit ”www.p4elecs.com”.

6. Publish the video

- Upload your clip to your institution’s learning management system and add tag “#P4ELECS”.
 - E.g., Kaltura for platforms like Toledo or Canvas.
 - Be mindful of privacy settings if using public platforms (e.g., YouTube).
 - Provide a copy to info@p4elecs.com to be uploaded on the project’s YouTube channel.
- Provide clear instructions to students on what they should focus on while watching the video.
- Tip: Integrate the clip into the broader learning process
 - Guide students by clearly explaining how the clip fits into their study material and what they should do after watching it (e.g., assignments or discussion).



Tool	Description
Canva	• Offers templates for creating visually appealing presentations and graphics. • Useful for designing slides that can be integrated into a video or knowledge clip.
Coggle.it	• An online tool for creating mind maps. • Teachers can create visual summaries of their lesson material and use them as supporting visual aids in a knowledge clip.
Edpuzzle	• Allows teachers to add interactive elements (like questions and comments) to existing videos. • Ideal for engaging students and checking their understanding during a knowledge clip.
iMovie	• User-friendly video editing software for Apple users. • Teachers can quickly trim videos, add transitions, and integrate music or text for professional-looking knowledge clips.
Kaltura	• A platform for hosting and editing videos, specifically designed for educational institutions. • Teachers can easily record, edit, and securely share their knowledge clips with students.

Moovly	• A platform for creating animated videos and presentations. • Ideal for teachers who want to explain complex concepts visually in a simple and engaging way.
Piktochart	• A tool for creating infographics a.o. • Teachers can turn important data and facts into engaging visual elements that can be incorporated into their videos.
Quicktime	• For Mac users, Quicktime s a simple and efficient way to record screen activity, useful for creating tutorials or explaining concepts with visual support.
Screencastify	• A browser extension that allows teachers to record the screen and webcam. • Perfect for demonstrating software or providing visual explanations alongside their teaching.
Windows Movie Maker	• A basic video editing program for Windows users. • It offers essential features for video editing, such as trimming, adding music, and inserting transitions.
YouTube	• The most popular platform for uploading and sharing videos. • Teachers can make their knowledge clips public or private and easily embed them in learning platforms.



Inspirational knowledge clips

Demonstration video:

<https://www.youtube.com/watch?v=bCn8TajrPqc>

Animated knowledgeclip:

https://www.youtube.com/watch?v=8JyZ9F_zmPw&ab_channel=UGentOpenScience

Knowledgeclip about different video formats:

https://www.youtube.com/watch?v=M9P8Nb0-jEs&ab_channel=MaastrichtUniversityLibrary

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<https://intranet.ucll.be/nl/medewerker/onderwijs-studenten/diepenbeek/icto/kennisclips>

Schoolmakers. (n.d.-a). How to create a good knowledge clip? Tips, a checklist, and a step-by-step plan. Retrieved 16/09/2024, from

<https://www.schoolmakers.be/blog/hoe-maak-ik-een-goede-kennisclip-tips-een-checklist-en-een-stappenplan/>

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Vernieuwonderwijs. (n.d.). Advance organizer: Structuring learning content. Retrieved 17/09/2024, from

<https://vernieuwonderwijs.nl/advance-organizer-leerstof-structureren/>



Useful sources

EDUCAUSE - Teaching and learning with video

An overview of the impact and use of video, including knowledge clips, in education.

<https://library.educause.edu/topics/teaching-and-learning/teaching-and-learning-with-video>

Harvard University - Best Practices for Creating Educational Videos

Best practices for creating educational videos, including knowledge clips.

<https://tll.gse.harvard.edu/blog/title>

Woolfitt, Z. (2015). The effective use of video in higher education

A comprehensive report on the effective use of video in higher education, written by Zac Woolfitt.

<https://encr.pw/szpbl>