

**INNOVATIVE  
AND TECHNOLOGY-ENHANCED  
TEACHING AND LEARNING**

**VIDEO AS A LEARNING  
TOOL FOR TEACHERS  
AND STUDENTS**



Co-funded by the  
Erasmus+ Programme  
of the European Union





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ERASMUS+ PRINTEL PROJECT “CHANGE IN CLASSROOM: PROMOTING INNOVATIVE TEACHING  
& LEARNING TO ENHANCE STUDENT LEARNING EXPERIENCE IN EASTERN PARTNERSHIP COUNTRIES”

# INNOVATIVE AND TECHNOLOGY ENHANCED TEACHING AND LEARNING: VIDEO AS A LEARNING TOOL FOR TEACHERS AND STUDENTS

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## PRINTEL 2020

*European Commission support for the production of this publication does not constitute an endorsement of the contents, which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

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## INTRODUCTION

The PRINTeL project No585760 is funded by the ERASMUS+ Programme of the European Union. The main objective of PRINTeL project is to enhance student learning experience in Partner Countries' HEIs by promoting development and innovation in teaching & learning, supporting integration of research and dissemination of good practice and contributes to modernization of higher education in Armenia, Belarus and Georgia. The PRINTeL project also aims to modernize HE in AM, GE and BY in line with the Bologna agenda and to establish cooperation in education & training between EU and the partner countries and amongst PCs by promoting virtual mobility of teachers and students, and enhancing lifelong learning resources & means.

To achieve these goals teachers from Armenian, Georgian and Belorussian Universities participated in the intensive TOT training courses. One of these training courses "Video as a learning tool for teachers and students " took place from 12th to the 16th of November 2018 at the University of Porto, Porto (Portugal). The course included several teaching strategies that aligned pedagogical aims, learning outcomes with video, inside and outside the classroom. Examples of tools that teachers can use to motivate and engage students, as well as increase the quality of their learning process were shown throughout the course. After returning home the trainers of the TT Course who passed ToT (Training of Teachers) Course at Universidade do Porto, have designed in-house TT courses for teaching staff members and shared with their colleague teachers all the experience they have previously gained from the training at the University of Porto.

# PART 1

## DESCRIPTION OF THE METHOD



In this chapter, we will discuss the usage of video within educational contexts. We will engage on the topics of how it is being use in Higher Education, its advantages and main difficulties.

Technology, today, plays an ever-larger role when it comes to education. References to technology date back as far as 2500 years (Bates, 2015). Tech involves a variety of things such as oral and written communication, video and, more recently, online virtual educational communities. Despite its growing significance, the use of video in education is not something new. As early as the 1960's, television broadcasted a series of educational contents in order to promote adult education. With digital evolution and the help of the Internet, video gained new power in the 1990's. In the early 2000's, initiatives such as the Open Courseware from the Massachusetts Institute of Technology (MIT), led to more and more video being shared online. YouTube, launched in 2005, has worldwide recognition today. In 2008, the first true Lecture Capture systems were developed and in 2009 the online magazine Campus Technology mentioned the buzz created by Lecture Capture<sup>1</sup>.

Indeed, VBL (video-based learning) has a long history as a learning tool in educational classes. First experiments started during the Second World War. Soldiers were then trained with a combination of audio and film strips. As a result, the static film strips helped to increase their skills while saving a lot of time as well. By the late 1960s, educational television was used as an extra tool in classrooms. Also teachers were confronted with videos of their own lessons to reflect on their teaching methods and improve their performance. In the 1980s, VHS videotapes meant a quantum leap as it became much easier to use video in classrooms. However, learners were rather passive and could only watch the video. This changed with the rise of digital video CDs in the mid-1990s. Teachers could now add multimedia control and assessment

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1. <https://campustechnology.com/Articles/2009/06/10/Lecture-Capture-Is-Getting-Campuses-Talking.aspx?Page=1> 20/01/2019

tools by using the video on a computer. Thus, learners became much more active than before. By the 2000's, classrooms got connected to the internet and interactive digital video as well as video conferences became possible. Since then, new technologies such as smartphones and tablets with social media such as YouTube have contributed to increase social interaction and made it easier as ever to integrate video applications in education.

Within the context of traditional face-to-face teaching learning scenarios, video has seen an increase of its use. However, in distance learning sets, video takes a central role as one of the main conveyers of information. One of the most visible faces are the Massive Open Online Courses (MOOC). On the other hand, when it comes to mixed learning environments such is the case of blended-learning (b-learning), educational videos also have the potential to become a successful practice, especially when considering new approaches such as Flipped Classroom “where the instructor pre-records video for out of class and uses time in class for interaction and problem solving” (Scagnoli et al., 2015).

## 1.1. Advantages of Using Videos in Learning

Using videos to communicate ideas and concepts makes learning engaging and insightful. A typical video consists of moving images, sound, and text. The benefits of using video content in educational process are more than obvious. Its convenience makes it a perfect tool for both, teachers and students, as well as for educational institutions that they make part of.

When a learner is watching an interactive video, he is engaging in **multi-sensory learning**, which literally means learning through two or more senses. When learners use multiple senses to grasp the depth of a concept, it allows for more cognitive connections. This not only facilitates deep thinking and understanding of the concept from different perspectives, but it also leads the student to acquire problem-solving skills which are crucial for better work performance.



Videos can be used to demonstrate procedures that can assist in mastery learning. If a learning material is procedural in nature, such as product training, then using videos would be the ideal way to present a string of procedures in a comprehensive way that can be referenced again and again. For example, videos are a great way to demonstrate case studies, clinical procedures or mechanical processes. They can also be used to reinforce information that has been previously explained in text.

Everybody has a different learning style: there are **auditory** learners who learn better through listening; **kinesthetic** learners who prefer doing an activity in order to learn; and there are **visual** learners who better understand and retain information when ideas, words and concepts are associated with images and videos. These learners learn best through what they see, and videos are an ideal recipe for visual learning.

Video based learning is good for developing some of the higher level intellectual skills and some of the more practical skills needed in a digital age.

Videos can be made accessible on all devices with varying internet speeds if they are kept short and light. Multi-device delivery of videos enable learners to access the videos on a desktop or a laptop, at home or at the office, and with other devices are widely used and handily.

Delivering videos is easier than ever. Everybody, in today's tech-dominated world, owns a Smartphone or a Tablet. Videos can be distributed in short bursts to learners' devices without too much effort. This rapid delivery of videos allows your learners not only an "anytime anywhere" access, but also lets them learn at their own pace.

The video instructions that are provided for audio and video learning can be rewound and seen and heard again and again.

## 1.2. Disadvantages of Using Videos in Learning

The main disadvantage is that there is no instant contact between the educator and the learner. So clarification of doubts can take some time to be clarify.

Big drawback to learning through video is that it promotes individualism, which can make learning harder. If one of the main benefits of video learning is that you can learn alone in the privacy of your home, this is also one of its drawbacks.

Group learning facilitates communal problem solving and builds teamwork and collaborative skills that are critical in life, and video learning is not a good medium for this. However, this is not set in stone: more and more video learning is taking place via 2-way cameras, which allows teachers to remain in a central location and reach students all over the world. This innovation alone could change everything about education in the future.

Proponents of video based learning claim that the main advantage of this learning method is that it is self-paced. It is true but on the other hand this advantage can provoke the absence of self-discipline. Students may switch off from fully engaging in the material.

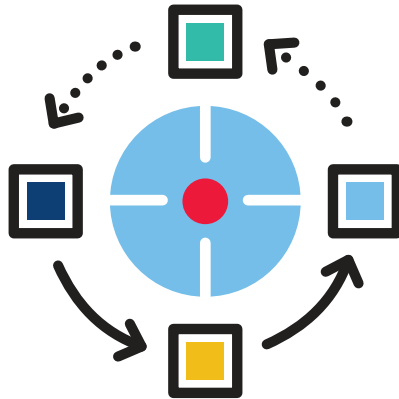
Videos are hard to edit, once shot a video is most of the times static. It is a lot of work to edit and reissue a video if corrections are need.

Using videos in learning can be expensive and time-consuming; you have to spend money and hire people to script, edit and create the video.



## PART 2

# LEARNING OBJECTIVES



When considering the use of video, educators should consider why and how use this media. In this section, we will analyse the main topics/aspects regarding video and its usage within educational contexts.

Due to the technical innovations the historical methods of teaching have enriched with video. Today's students belong to screen generation, therefore, they are more likely to be satisfied by means of having access to information through screen and taking part in that process. It is a good strategy to give students the opportunity to use their tablets, cell phones as tools for learning. Video is a powerful tool in motivating, engaging and instructing students.



## 2.1. Why Use Videos?

This should be the first question to ask when considering the use of videos in teaching. The key goal is that each video is used not because it gives the impression of being very up-to-date, edgy content, but mainly because it makes sense to use video for that given context.

Video is a multimedia medium, meaning it brings together different media such as images, sound and text. Despite the general belief that video can be a more effective way to promote learning, for the sake of bringing together these different media, that does not mean that students are more effectively trained (Scheurwater, 2017).

Despite this initial glooming description, video is a very powerful media that allows educators the possibility of conveying a lot of information in a very short amount of time. It might be the most engaging output for a learning material, considering the target audience, the subject and the amount of time you have to produce it.

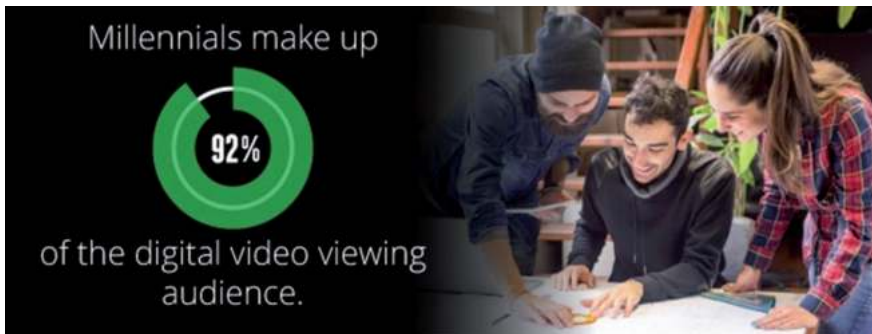
## 2.2. What do Students Gain from It?

Upon conveying information via a well-produced video, students have access to quality materials in a very “condensed” way that, allows them to further investigate the topics. In any case, the context of application dictates the gains students get when using video. If considering a scenario where video is use as a complement to a classroom setting, students might get more information in a video that was simply not possible to give face-to-face. Educators might as well record classes that allow student-workers to access information, otherwise would not be accessible to them. We can list some of the advantages for students:

- Flexibility of learning - lessons and content are more accessible, learning schedule becomes more flexible, it is especially important for postgraduate students, Master’s students, students with special needs.
- Explaining a complex concept becomes easier with the use of videos.
- Videos are a great tool for the reinforcement of the information that has been taught during face-to-face class.
- Science students need lab experience, and video can be also a good way to get some of that experience.
- Students can control their own learning process.
- Opportunity to engage (and motivate) more students (videos are the most popular and fast way to transmit contents).
- It can be used as instructive feature for laboratory or practical classes.
- For e-Learning courses the use of video lectures is essential.
- Videos create a sensory experience impossible to transmit by the use of print materials only. The fact the students are simultaneously taught

via visual and audio channels put them into their everyday interaction conditions.

- Video materials provide the students with a “to go” information source that they can use from anywhere with the internet connection using their own devices including laptops, tablets and smartphones. It mobilizes the educational process and takes it for a wider context and a traditional.
- Videos easily increase knowledge retention, since they can be stopped and replayed as many times as it is needed for better understanding and can be reviewed long after the initial lesson was taught.
- The videos can be adapted for any subject teaching and learning, but they are particularly important for some complex or highly visual topics.



### 2.3. What do Educators Gain from It?

For educators, videos are just another form of achieving their pedagogical goals and allow students to engage with contents in a different way. It is also a shift on how you deliver content and change the time you spend face-to-face with your students. You may gain time to explore your students’ interests or even your own with the help of educational videos that you either prepare or reuse. Upon mastering video usage, educators gain a very powerful mean of conveying information and of documenting behaviours and happenings. If

used in a meaningful way here are some of the advantages for teacher:

- Lectures can be reused.
- Research can be done to study the effectiveness of the methodology.
- More time for academic practice.
- It gives teachers the opportunity to create one-on-one interactions with students who are having difficulties.
- Video-learning can be implemented gradually.
- Video can be used as tutorials.
- Video can be used as introduction and course overview to motivate students (regarding elective disciplines).
- For some specific disciplines, video is a great opportunity to deliver knowledge and skills.
- Video materials is the best way to increase student's engagement, to make them interested in the subject and to boost their achievements.
- They offer the possibility to set the class discussion at any moment the teacher wants it by pausing the video or reviewing its parts.
- Video content can be easily used in traditional classroom settings but it also helps to create some new scenarios, like a flipped classroom, or "blended" learning environment.
- Video materials is the best solution for distant learning practice, as the teachers can instruct students from all over the world.
- Many web-platforms, like PlayPosit, NextThought, just to name some, even provide possibilities to track the whole group's or every single student's engagement and attendance, to add some exercises on the video content and to analyze the material understanding level, as well as the effectiveness of the video.

In other words, videos seek to change the roles of teachers from lecturers to facilitators, but it is important to note that videos are meant to enhance course materials and lectures – not to replace them.



## 2.4. What do Institutions Gain from It?

- Video content is able to improve an institution marketing and communication strategy by reaching a greater number of distant students. Video clips that contain short history of the institution, prominent personalities and important traditions can play significant role in attracting students. Videos can be posted and shared through various social, networks, apps, new tools, etc.
- Video learning can be also used for faculty and staff training, providing the training courses with more forms and new methods and giving a free access to the information that they can easily get and review at any time.
- Video can be a great tool to keep alumni updated and involved in what is going on at institution.
- By sharing live campus families, students and alumni will feel more connected to the institution, which will increase a more positive recommendation.
- By offering online courses, which are very popular, institution can reach and attract more students.
- Video lectures often lead to higher grade, which suggest that use of videos in education increases return on investment (ROI).

## 2.5. Role of the Teacher

Teachers play a key role when it comes to the use of video in education. However, it is important to clarify the distinction that exists when considering the use of video in blended-learning contexts vs e-learning contexts.

Considering the first scenario, blended-learning, using video might not introduce many differences. It all will depend on what you, as an educator, want to achieve with a given video/set of videos. A video might refer something mentioned before in class, or simply illustrate a concept. On the other hand,

different approaches such as flipped-classroom, might use video as a trigger to a discussion that will take place in class.

Considering e-learning contents, teachers will have to completely rethink their Modus Operandi and change the curricula of their courses to better suit this learning context.

The main idea behind the use of video is to, first, understand the context in which video will be used, and secondly, understand what you will need to do in order to deliver good quality videos. You, in an educational context, are not required to become an actor/actress and students will not demand professional grade videos. However, you will need to understand how to effectively communicate using this media, plan and prepare what you want to say or show so that, in the end, a good quality video will be delivered to your students.

Sometimes teachers have to cope with a new role as a producer in order to create videos for their students. They learn video technologies, software editing and the demanding process of video production. Throughout the process, teachers continues to play an essential role as content delivfers.

## 2.6. Before and During the Class

To produce a video, previous planning is required. This means that beforehand a small script or, at the very least, some topics will have to be written down in order to have a good flow for the camera. Think about the location (where you record), what you want to show (if anything), what you want to say and how to say it. Most likely, you will have to make this video all alone without the help of a production team, it can be done, but be sure to plan everything carefully.



**Before using educational videos in the classroom, we have to answer several questions:**

### **2.6.1. What is to be learned?**

#### **Specifying the learning goal**

The structure of the syllabus or curriculum for a subject may state an overall goal from which a number of tasks may be formed. If the learning goal is too broadly defined or open to interpretation it may fail to be grasped by the students. Conversely, setting a learning goal that is too narrow in scope may result in an overly simplistic video.

### **2.6.2. How is this to be achieved?**

#### **Selecting a teaching and learning strategy**

The selection of a suitable pedagogic approach to attain the stated learning goals may suggest themselves from the nature of the content, from the specification of the learning goal, from experience, from advice, or from a combination of these.

## **2.6.3. How will the video be used?**

### **2.6.3.1. Using videos in a flipped classroom**

Providing students with the material, before class, allows them to gain a basic level of knowledge and understanding so class time can be used to deepen learning and develop higher-level cognitive skills. One of the core objectives of flipped learning is to move students away from passive learning and towards active learning where students engage in collaborative activity, peer learning and problem-based learning.

Within this context, the role of the teacher shifts towards that of facilitator and coach by empowering students to take control of their own learning. The use of different types of technology can enriches the flipped learning process and usually promotes skills that are essential for 21st-century learning.

The flipped classroom can offer opportunity to experiment different and new formats as well as a variety of media to deliver lecture material in more engaging ways. Without the constraints of the classroom or class time, many teachers shorten their content to short video incorporate multimedia and take their students on virtual tours by recording content in the field.

Below are several ideas for the types of content a teacher can create for flipped classroom lectures.

### **2.6.3.2. Theoretical or fundamental knowledge**

The most common approach to the flipped classroom is simply to make the traditional lecture available ahead of class. As such, flipped class recordings provide a great medium for students to gain a baseline understanding of any given topic. Recorded PowerPoint presentations are most frequently used for this purpose.



### 2.6.3.3. Lab demonstrations

For laboratory-based classes, teachers can make videos available before lab-classes, so students can have an idea of the proceedings and techniques needed for the task they will be doing during lab-class.

In addition, video can actually improve the instructional content beyond what would be possible in a face-to-face classroom environment. For example, using several webcams, teacher could capture a simulation from multiple angles, including close-ups that help students see the details.



Finally, capturing and sharing lab demonstrations ahead of time can also help reduce student anxiety. This is especially the case when small mistakes have the potential to derail subsequent steps in the lab.

#### **2.6.3.4. Facilitating thinking and problem solving**

For all subjects that fall under science, technology, engineering and mathematics disciplines where problem-solving is a fundamental part of the course, recorded video lectures are a great way to present a given problem and suggest approaches to solving it.

For subjects listed above where problem-solving is a fundamental part of the course, recorded pre-lectures are a great way to present a given problem and suggest approaches to solving it.

#### **2.6.3.5. Applications and examples from the field**

Field trips have always been a great way to engage students and make classroom concepts more tangible. Video can be very helpful to illustrate abstract concepts and improve internal communications.

Video can offer a virtual experience when a class trip it is not possible. Moreover, as smartphone video cameras have become increasingly powerful, teachers can now capture broadcast-quality video of the 3- dimensional nature of underground excavations, enabling students to see the detail as though they are standing only inches away.



### **2.6.3.6. Audio content published as podcasts**

Stemming from formats developed for radio, audio podcasts can be a great source of content for the flipped classroom. They often take the form of interviews or short stories, and today, there are podcasts available on nearly any subject. iTunes alone now boasts more than a quarter million podcasts. Most are available at no cost and can easily be played on any laptop or mobile device.

### **2.6.3.7. Documentaries and other online videos**

Many teachers find that third-party video can be one of the best sources of content for the flipped classroom. Free access to academic videos, as well as widely publicly available video channels on YouTube, Vimeo and others, provide overviews and in-depth coverage of a wide range of subjects.

Universities have also increasingly been recording guest lecturers, which many make available to the public through their websites.

Copyright questions are a top concern for most educators and administrators when it comes to selecting third-party materials for use in the classroom. For the most part, using third-party materials for educational purposes is generally safe under the fair uses clauses of copyright law.

### **2.6.3.8. Student assignments**

Since the in-class component of the flipped classroom lends itself well to collaboration, discussion and active learning, more and more teachers are curating content through the use of recorded student assignments. For example, students could capture video from an outdoor experience. These videos can then be shared as experiential learning for discussion with their peers in class.

## 2.6.4. What will the finished video look like?

### Definition and typology of Educational video

One of the characteristics, which distinguishes video for teaching and learning from other forms of video, is that its purpose is to assist student viewers in their attainment of one or more learning goals. It may or may not have the lecturer visible and can include an animated film, or a demonstration. Educational video comes in many different forms, for example:

1. A screencast is a digital recording of computer screen output, also known as a video screen capture, often containing audio narration. The term screencast compares with the related term screenshot; whereas screenshot generates a single picture of a computer screen, a screencast is essentially a movie of the changes over time that a user sees on a computer screen, enhanced with audio narration.
2. A Talking-Head in context of a video shoot is a shot where a person talks directly into the camera as if addressing the viewer personally. It can include graphics, animations and cut to slides or images to break up the action or visually illustrate a point. These videos take longer to produce and are best used if you want a more intimate, physical presence of the person talking.





3. Lecture recording refers to the process of recording and archiving the content of a lecture, conference, or seminar. It consists of hardware and software components that work in synergy to record audio and visual components of the lecture.
4. On location lectures can be especially helpful to give the audience a feel for a physical location that you are discussing (e.g. electronic waste recycling in Thailand). These types of videos can make topics come alive in ways that just talking about them or showing images cannot. Depending on the location it is important to pay attention to where you are recording. The background needs to be illustrative and relevant to your points and you want to make sure that there are not too many distractions or loud noises that would interfere with the recording.
5. A knowledge clip is a short video providing knowledge. For instance, a short clip where the teacher explains some small part of the theory. Students can watch the video when it is convenient.
6. A podcast is a topic-specific digital stream of audio files that can be downloaded to a computer or a wide variety of media devices.
7. A vodcast is a similar device to a podcast in which students can access information through a series of audio clips, which includes video or pictures.
8. An instructional simulation, also called an educational simulation, is a simulation of some type of reality (system or environment) but which also includes instructional elements that help a learner explore, navigate or obtain more information about that system or environment that cannot generally be acquired from mere experimentation. Instructional simulations are typically goal oriented and focus learners on specific facts, concepts, or applications of the system or environment.
  - a. Simulations are perfect for teaching complex tasks or abstract processes that are difficult to communicate with just words on a screen.
  - b. Using real environments, such as a factory floor, prepares learners to recognize their surroundings quickly.

9. Video-based instruction refers to the creation of videos that a teacher makes outside of class contact hours that specifically teach a concept or content. It differs from flipped or blended learning in that the video is viewed in the classroom during the lesson time, rather than at home. This means that the teacher is in control of the exact content to be presented in the videos, and different videos can be made at various levels, catering precisely to student needs. It also changes the teacher's role to that of facilitator or coach, able to roam around the classroom overseeing the various videos being used as students complete their work.
10. Interviews involve one or more people answering questions on camera. This could be used with the "person on the street" format. These can be useful for bringing in outside perspectives or expert voices into the learning environment. They involve planning, preparation and good questions to make sure that the interviewee addresses the topic sufficiently.
11. Documentary video can mix various video styles mentioned above as well as voiceover and still images to tell a story about a particular topic or idea. This method allows for significant creativity and can treat the subject in an engaging, in-depth way. These videos can take a significant amount of time to plan, develop, edit, and produce.
12. Drawing a Concept or Diagram - these types of videos involve visually sketching out a concept using images, symbols, shapes, and text. They are useful for breaking down complex ideas, explaining them piece by piece, and visually illustrating a point. These videos are fairly quick to create but involve planning and practice ahead of time.

How can we use all these variety of educational videos in active learning?  
See some tips below for some suggestions:

*Guided Lesson* – short, topical videos (5-20 min) attached required documents (datasets, worksheets, etc.) – consists of one video with pauses or broken into sequenced activities. Begins with instruction/demonstration, pause video. Students work on problem or scenario, resume video and review the correct response.

*Predict, Observe, Evaluate (POE):* Students view the first part of video setting up scenario, predict what should happen next, observe the actual result, evaluate the original prediction.

*Empathy:* Students complete a survey or have a discussion to describe how they feel about the topic before and after viewing the video. If students' views change, they should describe what has changed their minds.

*Dissonance:* Appropriate for lesson introduction (short clip). Suggests introduction of a difficult or controversial topic, use of a powerful clip, which may disrupt assumptions and preconceived notions, as well as conduction of a discussion on theme.

*Course description:* Video can be used as Introduction and course overview to motivate students (regarding elective courses).

*Manual for practical course:* Video can be used in practical disciplines to explain how the homework or coursework should be done.

It is important to consider ahead of time what you hope your students will learn from the videos. You will also need to plan how you will help the students learn, and how you will know whether they have done so.



### 2.6.5. Assessment

Student assessment enables teachers to measure the effectiveness of their teaching. Traditional assessments are great at evaluating facts and figures, but it's challenging to assess every skill on paper, moreover, not everyone learns

the same way – some do better with written communication, while others struggle with it. Video assessment opens up a new way of evaluating students with different strengths. In case of video-based learning, questionnaires and student-created videos could be used to evaluate outcomes.

Within short bursts of video-based learning, assessments and practice tests can be built in to provide a break from learning as well as a tool to measure the effectiveness of learning. An effective video platform can measure user interaction, engagement, and course assessment as well as completion scores. Administrators can use the analytics to continue to provide content that is effective and take down videos that have proven to be ineffective. Analytics like these can provide quantitative insights to content planning.

In case of video-based learning, questionnaires and student-created videos could be used to evaluate outcomes: 1) video can contain questions on which students must give answers; 2) homework can imply a short video prepared by a student.

### **2.6.6. Practical aspects**

There is a variety of tools and programmes educators can use to create powerful education videos, you can find open source software applications as well as enterprise ones. This is an area that it is always improving so new and better programmes come out almost everyday. We can name some, but it is important to look for what it is the best option at the moment you decide to start using video. Panopto, Camtasia, Snagit, VideoScribe, TouchCast, FinalCut Pro, Explain Everything, Kaltura, Echo360, Screencast-o-Matic, YouTube, iMovie, Movie Maker, Movavi, Flickr. Classroom infrastructure: Classrooms should be equipped with computers, laptops, Wi-Fi, Portable Projector, Smartboard. They should be more flexible provided with lightweight and portable furniture in order to be able to organize an active lesson. If financial resources allow, it will be efficient to build a video recording studio at the university.



However, one should consider the practical aspects of recording. Here are some tips that can help you achieve a good quality video, controlling the environment to your advantage, making the most of the time you have available to do this step.

*Placement:* The speaker should be standing, in front of the camera, with a relaxed and informal posture. A very unnatural rigid posture should be avoided.

*Eye contact:* The resulting video should be a conversation between two people, the speaker (on camera) and the person watching the video afterwards. When recording, face the camera and look into the objective (camera lens). This will help to achieve that final goal.

*Verbal communication:* Speak in a paused and understandable fashion. Pauses are dictated by punctuation and allow you to breath normally, regain breath and place your voice. Avoid a monochord tone so that the viewer does not lose interest.

*Non-verbal communication:* Body language does matter when it comes to a video. Face and body should not be very rigid, making the speaker look artificial. This may vary from person to person, but try to be as natural as possible positioning your body and facial expressions accordingly. Top tip: do not place your hand in your pockets!

*Duration:* How long can a video be, to still have a dictated purpose? This is a question important to make, but hard to have a precise answer. However, try to aim for around 5/6 minutes. Longer videos might cause distraction to viewers.

## 2.7. Potential Challenges

Using video in education, on classroom or online, brings a set of potential challenges for teachers, beginning with filming equipment and its use. Educators need to have basic skills on video production or, at the very least, understand the limitations and advantages of using this media. Understanding the media is the first way of making the most out of it.

Other possible limitations have to do with the preparation of the script, what to say and how to say it. The key is preparation. The better prepared you are for the recording, the best it will be.

However, there are a set of challenges that may be external such as bandwidth or security issues.

Video-based learning offers an excellent user experience but tends to take up bandwidth and cannot work with slow network connections. Organizations that are serious about adopting a video-based learning strategy should make allowances to view video content offline as well to cater to learners who face a problem of slow internet connection.



Strategies at the development stage can also make videos lighter and make sure that they work with slow connections as well – for instances using lightweight images, simpler animations, and so on.

Training content within an organization is its intellectual property. If the organization wants to keep the training content private, public video hosting sites like YouTube have to be avoided. Instead, they can host the content on their Learning Management System and have a tight control on who can view, share, or download videos from the organizational LMS. Even better, if your organization has a Video Management System, use it. It will probably be the safest option and will give the most control on video use and sharing.

## 2.8. Tips for Using the Method

- Videos in e-learning should contain small chunks of information that can be easily absorbed, which makes it more memorable than text, and emphasizes all the key points. Long e-learning videos often lead to cognitive overload. So simplify your educational videos for students. The best educational videos are the ones that focus on a single point. Do not drown your viewers in a sea of information, instead, stick to one topic and provide examples to hammer your point home.
- Videos in e-learning should be compressed for greater accessibility. Even mobile learners on a slow Internet connection must be able to view the

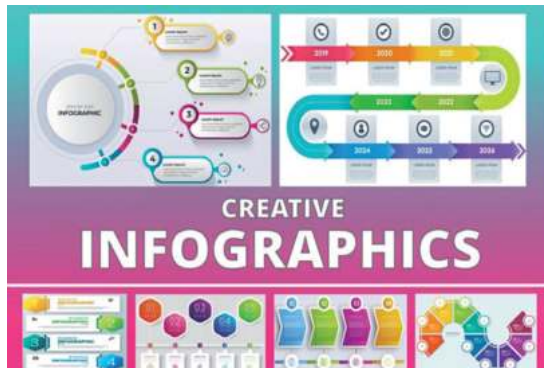
eLearning video and get the information they need. Compression also allows them to quickly download the video for later viewing.

- Prepare for video creation by writing a script. This document describes everything that happens in your video-dialogue, visuals, music, and more. You will use the script as a basis for storyboarding recording your video, so it's important to take this writing stage seriously. Use these tips to write a script for a video that is both engaging and educational. While doing this you can also think about how you are going to efficiently present the information the learner needs to achieve their learning goals.



- If you're filming your face make it more personal and engage with your audience by looking at the camera. As mentioned already video can be a passive experience so do what you can to make it more active.
- Ensure your voice is clear and audible, and you know exactly what you are going to say. Take time to write a script that contains all of the key points you need to make so you are not stumbling over your words.
- Use pictures & visual representations such as charts and diagrams together with audio narration to illustrate your points. Students learn better when they have multiple inputs from which to create different mental models to enable them to understand and build connections (Multimedia principle).





- Use visuals alongside your talking points to make concepts come to life. Even without the budget to develop visuals, stock photos or simple drawings can be incorporated to strengthen points or tell stories. Consider using a great free tool, screencast-o-matic (screen recorder and video editor), to add narration over a PowerPoint presentation for one of the simplest ways to create more visually appealing videos to illustrate concepts.
- Check out Examples Online.
- Keep it Short (KIS) – Be Concise and Succinct. People have very short attention spans nowadays, especially for internet video. They have many distractions taking them away from your video. If the How To video is a simple technique, try to make it 2 to 5 minutes. If the training video requires more skills and a longer involvement, make it a maximum of 20 minutes. With a 20 minute or longer format video, find a good place to break it into segments of 5 to 6 minutes each. Give the viewer breathing time between steps. If your video requires you to go longer than 30 minutes, break it into 2 or more separate videos.



## REFERENCES

1. Boateng et al. Smart Learning Environments (2016) 3:8 DOI 10.1186/s40561-016-0031-5.
2. Toppin, I.N. Educ Inf Technol (2011) 16: 383. <https://doi.org/10.1007/s10639-010-9140-x>.
3. Matt Bower, John G. Hedberg & Andreas Kuswara (2010) A framework for Web 2.0 learning design, Educational Media International, 47:3, 177-198, DOI: 10.1080/09523987.2010.518811.
4. Timothy Spencer, Stephen Victor (2017) Transforming Learning: Using Video for Cognitive, Emotional, and Social Engagement (Technical White Paper).
5. Christopher Atwater, Jered Borup, Robert Baker, and Richard E. West (2017) Student Perceptions of Video Communication in an Online Sport and Recreation Studies Graduate Course, Sport Management Education Journal 2017 11:1, 3-12, <https://doi.org/10.1123/smej.2016-0002>.
6. Zac Woolfitt (2015) The effective use of video in higher education, <https://www.inholland.nl/media/10230/the-effective-use-of-video-in-higher-education-woolfitt-october-2015.pdf>.
7. Isabel Vieira, Ana Paula Lopes, Filomena Soares (2014) The Potential Benefits Of Using Videos In Higher Education, Proceedings of EDULEARN14 Conference 7th-9th July 2014, Barcelona, Spain, ISBN: 978-84-617-0557-3, <https://core.ac.uk/download/pdf/47139700.pdf>.
8. Cynthia J. Brame (2015) Effective educational videos, Center For Teaching, Vanderbilt University, <http://cft.vanderbilt.edu/guides-sub-pages/effective-educational-videos/>.
9. Center for Teaching and Learning, University of Washington, Engaging students in learning: Flipping the classroom, <http://www.washington.edu/teaching/teaching-resources/engaging-students-in-learning/flipping-the-classroom/>.
10. Faculty Innovation Center, UT Austin, Instructional Strategies: Flipped Classroom, <https://facultyinnovate.utexas.edu/flipped-classroom>.
11. Kevin Makice (2012), Flipping the Classroom requires more than video. Wired Magazine, <https://www.wired.com/2012/04/flipping-the-classroom/>.

12. Julie Schell (2013) Quick Start Guide to Flipping your Classroom with Peer Instruction, <https://blog.peerinstruction.net/2013/01/15/quick-start-guide-to-flipping-your-classroom-with-peer-instruction/>.
13. Using digital media in new learning models, JISC (2017) <https://www.jisc.ac.uk/guides/using-digital-media-in-new-learning-models>.
14. Panopto for Education, <https://www.panopto.com/panopto-for-education/>.

**This Guidebook is developed within the frame of Erasmus+ PRINTeL project aimed at promoting innovative teaching and learning pedagogies in Eastern Partnership Countries.**

Innovative teaching is a proactive approach to integrate new teaching and learning (T&L) strategies and methods into a classroom. New technology plays a key role in innovative T&L to offer students a more interactive and attractive experience. Innovative T&L also involves creativity on the part of the teacher who reorganizes the educational process by transforming from “being a lecturer” to “being a designer” of learning methods and environments. Here the teacher serves as a guide or consultant while students participate. A primary motive of innovative T&L is to encourage the students’ broad engagement in the learning process. When students interact with teachers and peers, they gain more practical experience and retain more information from a class.

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