Using social media to teach

SESSION 2

YouTube in the classroom

CLASS NOTES

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

In partnership with the Department of Basic Education.

Via Afrika

Our Teachers. Our Future.

Course content

Using social media to teach

Using social media to teach

Session 2: YouTube in the classroom

Class Notes

Important information

1. You can download and print the Class Notes for personal use, but you may not share them.
2. Once you have watched all the videos and completed all the quizzes, reflections, tasks and assessments successfully, you can download your certificate and print it.
3. If you wish to earn SACE Professional Development (PD) points for this session, you must complete all the online assessments in the session successfully. Our system will notify us of your success, and we will send the points allocation request to SACE.
4. Please remember that devices and apps are updated all the time, so the device specifications, app features and icons that you see here might differ slightly depending on the device you're using and any subsequent app updates.

Abbreviations and terms

Bloom's Revised Taxonomy: A pedagogical framework for eLearning. [See pedagogy, See eLearning]

eLearning: Learning that is supported by, enhanced by, or facilitated through Information Communication Technologies (ICTs), and that is supported by reconsiderations of content, and a relevant pedagogy. [see ICT]

ICT: Information and communication technologies.

PD Points: Professional Development Points [See SACE]

Pedagogy: The how and why of what we do in the classroom. The method and practice of teaching, especially as an academic subject or theoretical concept.

PedTech: Pedagogical Technology for what happens when we want to use technology in the classroom

RAT: Replace, Amplify, Transform. A pedagogical framework for eLearning. [See pedagogy, See eLearning]

SACE: South African Council for Educators. Awards Continuous Professional Development Points (CPDP) to teachers.

SAMR: Substitution, Augmentation, Modification, Redefinition. A pedagogical framework for eLearning. [See pedagogy, See eLearning]

TPACK: Technological, Pedagogical and Content Knowledge. A pedagogical framework for eLearning. [See pedagogy, See eLearning]

Contents

Outcomes and content

Outcomes of the session

By the end of the session, you will:

- know what the history of YouTube is
- be able to talk about the various YouTube Tools that teachers can use
- create a YouTube Account in a browser and on the YouTube App
- be able to navigate around the various YouTube Pages and Buttons
- know how to create a YouTube Channel and Playlist
- have uploaded a video
- appreciate the style of video suitable for education
- understand the importance of copyright
- understand what Digital Citizenship is
- appreciate the importance of using YouTube in pedagogically sound ways
- understand four ways of evaluating a YouTube-based lesson
- analyse lesson plans where YouTube is used

Content of the session

This session will focus on:

- a history of YouTube
- various YouTube tools that teachers can use
- creating a YouTube Account in a browser and the YouTube App
- YouTube Pages, Buttons, Playlists, and Channels
- appreciating the style of video suitable for education
- copyright, Creative Commons, Public Domain
- Digital Citizenship
- TPACK and YouTube-based lessons
- SAMR and YouTube-based lessons
- Bloom's Revised Taxonomy and YouTube-based lessons
- criteria for including social media in a lesson
- analysing lesson plans

Overview

Welcome to **YouTube in the classroom**, Session 2 of **Using social media to teach**.

The aim of this session is to enable you to create a YouTube Account and use it for your teaching in a pedagogically sound way.

We will cover four key areas in this session.

1. An introduction to YouTube.
2. Getting started with YouTube, where you will learn about this social medium and how to use it.
3. Ideas for using YouTube in your classroom.
4. Lesson plans for using YouTube.

There are regular tasks and quizzes to check that you are developing the knowledge needed to move on.

Remember that devices and apps are updated all the time, so the app features and icons that you see here might differ slightly from the app you are working in.

An introduction to YouTube

YouTube is one of the most popular websites in the world, with over two billion monthly active users as of the start of 2023. It is a video-sharing platform that allows users to upload, view, and share videos with others.

YouTube has revolutionised the way we consume and share video content, and it has become an essential tool in education.

A quick overview of YouTube

The early history of YouTube

YouTube was founded in 2005 by three former PayPal employees: Chad Hurley, Steve Chen, and Jawed Karim. The idea for YouTube came about when the founders were unable to find a video of Janet Jackson's Super Bowl performance. They realised that there was no easy way to share videos online, so they created YouTube as a solution.

The first video ever uploaded to YouTube was an 18-second video titled 'Me at the zoo' which was uploaded by co-founder Jawed Karim on April 23, 2005. The video was a simple clip of Karim standing in front of elephants at the San Diego Zoo, but it marked the beginning of a new era in online video sharing.

YouTube keeps moving with changes, and launched YouTube Shorts, a short-form video feature, possibly in response to the growth of TikTok.

More than just videos

YouTube offers a range of useful tools for teachers.

A search engine

YouTube is the second largest search engine in the world after Google. This means that people use YouTube to search for information and answers to their questions, just like they use Google.

So, as a teacher, not only can you use YouTube to create educational videos, but you can also encourage your learners to use YouTube as a resource for learning. For example, you can show them how to find educational videos and channels that relate to their interests and subjects.

Editing

You can use the editing software to add captions, annotations and other visual elements that make your video more engaging.

Data analytics

Make use of YouTube's analytics to track your video's performance and see how many of your learners have watched it.

Copyright management

Finally, you can use the copyright management tools to ensure that your video does not infringe on any copyright or intellectual property rights.

Reflection
• Make notes in your PD Journal.
• Have you used YouTube in your teaching before? If so, what did you find most useful about it?
• If not, what stopped you?

Getting started with YouTube

Creating a YouTube Account in a browser

You can open a YouTube Account in a browser.

1. Open your web browser.
2. Go to the YouTube website: www.youtube.com
3. Click on the Sign In Button.
4. On the Sign In Page, click on Create An Account.
5. Choose For Myself or For Work or My Business. We recommend that you use the For Myself option.
6. Fill out the required information on the page that opens.
7. Create a username, and then a password, and click Next.
8. You will need to verify your phone number.
9. Click Next and type in the verification code that was sent to your phone.
10. Click Verify.
11. Provide the required information and click Next.
12. Read through the Privacy and Terms, and click I agree.

Task
• Create a YouTube Account in a web browser.
• Note: If you have access to a mobile device only, leave this task and complete the next one.

Creating a YouTube Account in the YouTube App

You can open a YouTube Account in the app on your mobile device.

1. Go to the Google Play Store or the Apple App Store or whichever app store you use and search for YouTube.
2. Download the app.
3. Tap on the Sign In Button.
4. On the Sign In Page, tap on Create An Account.
5. Choose For Myself.
6. Fill out the required information on the page that opens.
7. Create a username, and then a password, and tap Next.
8. You will need to verify your phone number.
9. Tap Next and insert the verification code that was sent to your phone.
10. Tap Verify.
11. Provide the required information and tap Next.
12. Read through the Privacy and Terms, and tap on I agree.

Task
• Create a YouTube Account in the app on a mobile device.
• Note: If you have already opened an account in a web browser, you do not have to complete this task. You may want to do it in any case, if you have access to a computer as well as a mobile device. It is useful to sync your social media accounts across devices.

Discovering YouTube

Here is an example of what a YouTube Home Page looks like. On this page, you will see videos that are related to your history, as well as suggestions from YouTube about other content you might want to watch.
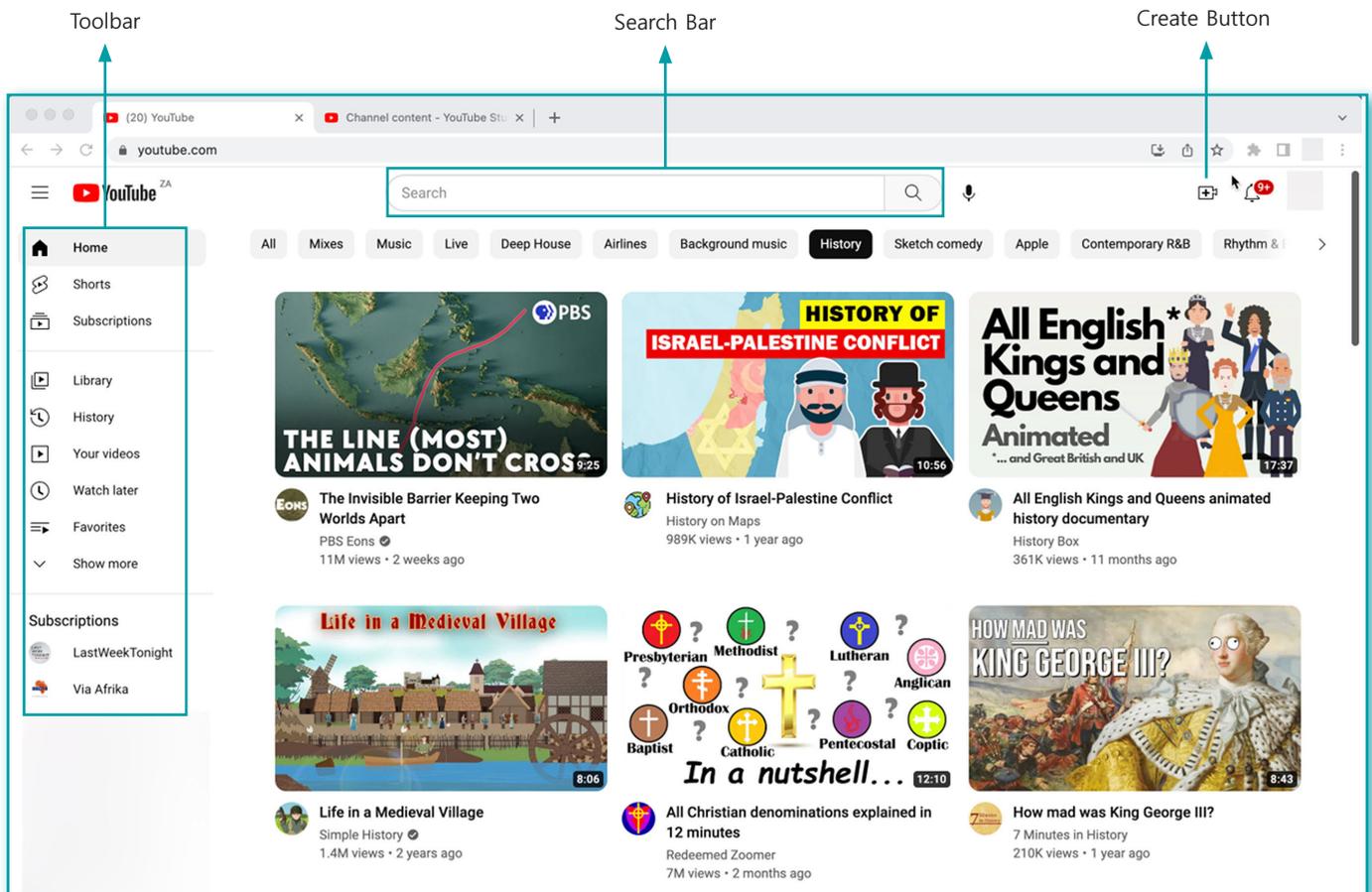
- **Search Bar:** This is where you can search for videos by entering keywords.
- **Create Button:** When you click here, you will get the option to 'Go Live' or to upload a video.
- **Toolbar:** In the Toolbar on the left, you will find several functions and options. Please explore each of these more on your own.
  - **Library:** Contains all the videos you have watched. You can also see what playlists you have.
  - **History:** Here, the videos that you have watched are listed.
  - **Your Videos:** Click here to open up channels you have created.

You will learn more about all of these features, and also how to create a channel and to upload videos during the course of this session.

<table>
<tr><td>**Task**</td></tr>
<tr><td>In your new YouTube Account, check if you can find and use the following features:

- Sign In Button
- Search Bar
- Video Player
- Autoplay Button
- Closed Captions or Subtitles
- Settings Cog
- Subscribe Button
- Share Button
- Library Button
- History Button
- Your Videos Button</td></tr>
</table>

Adding content to your account

A note on Privacy Settings

- **Public videos:** Anyone on YouTube can see public videos, and the videos can be shared by anyone. You will see them in your channel.
- **Private videos and playlists:** These can only be seen by you and anyone you share them with. The videos will not appear on your Channel Home Page and people cannot search for them.
- **Unlisted videos and playlists** can be seen and shared by you and anyone you share the link to. The videos will not be shown on your Channel Home Page.

Creating a personal channel

It could be useful to have a channel for each grade or each subject that you teach. In each channel, you can then create playlists for specific topics.

You can create a personal channel on YouTube.

1. Sign into YouTube on a web browser.
2. Click your Profile Picture.
3. Click on Create A Channel.
4. You'll be asked to create a channel. Check the details and confirm to create your channel.
5. Your channel has been created.

Creating an additional channel

You can create additional channels.

1. Sign into YouTube on a web browser.
2. Click your profile picture.
3. Click on Switch Account.
4. Click on View All Channels.
5. Click on Create A Channel.
6. Add the name of your new channel.
7. Your additional channel has been created.

Creating a playlist on a web browser

A playlist allows you to organise your videos. This is very useful if you are teaching different grades or different subjects.

You can create a playlist in a web browser.

1. Find a video you want to put on your playlist. This could be a video you created yourself, or one that was created by someone else.
2. Click the Three Dot Menu to see more options.
3. Click Save.
4. Select a playlist. Click Create New Playlist.
5. Enter a playlist name.
6. Use the Dropdown Menu to select your playlist's privacy setting.
7. Click Create.
8. Go to the Library Button on the Home Page on the left-hand Toolbar to view all of your playlists.

Creating a playlist in the app

You can create a playlist in the app.

1. Find a video you want to put on your playlist.
2. Tap the Three Dot Menu for more options.

3. A menu opens and you can Save Video To ... (1) + New playlist or (2) Watch later.
4. Tap + New playlist.
5. Enter a playlist name.
6. Use the Dropdown Menu to select your playlist's privacy setting.
7. Tap Create.
8. Go to the Library Button on the Toolbar on the bottom of the screen to view all your playlists.

Content for your playlist

There are two ways in which you can add content to your playlist.

1. Find a video that suits your needs on YouTube, and then save it to your playlist.
2. Make your own video, upload it to your YouTube Channel and then save it to the relevant playlist.

Recording a video

YouTube does not have a webcam feature to record videos. You can use software on your computer to record and save a video. You can then upload the video to YouTube. If you have a mobile device, you can record videos with your tablet or phone's camera and upload them with the YouTube App.

It is important to remember that what you are looking for here is not a sophisticated television production that you would find on a TV Channel. You do not need all the cameras and equipment that professional YouTubers use. What your aim should be is to create useful videos that are worth watching. Of course, you want the best quality you can get, but do not feel you cannot make a video because the quality of the production is not world class. If social media has taught us anything, it is that good-enough videos are acceptable.

Uploading YouTube videos in a browser

You can upload videos to YouTube in a web browser on your computer.

1. Go to YouTube Studio (either go to the Your Videos Button on the left-hand Toolbar on the YouTube Home Page, or through your Account Icon.)
2. In the top-right corner, click Create.
3. Then click Upload Videos.

4. Select the video file you would like to upload.
5. Click Open.
6. The video will upload.
7. While the video is uploading, edit the details on the Details Page as follows.
   - Use a good title that is easy to find and that describes what you are doing.
   - Add in a description.
   - The system automatically creates some thumbnails. A thumbnail is the image viewers will see before clicking your video. Select or upload a picture that shows what your video is about. A captivating thumbnail stands out and draws viewers' attention.
   - Add the video to a playlist you have created.
   - Say whether or not the content is made for kids, namely children under the age of 13. Read through the section on Made for Kids on the YouTube Website and decide.
   - Click on Show More for useful settings.
   - Ignore Paid Promotion.
   - Automatic Chapters make key moments of your video easier to find. They are useful and you can edit them later if you need.
   - Featured Places are automatically selected.
   - Ignore Tags.
   - Indicate the language of the video (YouTube may be able to provide captions automatically).
   - Add information about when you recorded the video and where.
   - Choose a licence type.
   - Decide if others can use the video in a YouTube Short.
   - Choose the Category.
   - Choose what sort of video it is. Select the Academic System if you have chosen Education as category. Then select Grade Level.
   - Decide what you want to do with comments.
   - Decide whether or not to show how many people like the video.
   - Click Next to go to the Video Elements Section.
   - Choose to add subtitles or not.
   - Decide if you want End Screen and Cards and click Next.
   - YouTube will check for any copyright issues.
   - Click Next.

- Choose who can see your video. (See the notes on Privacy settings earlier.)

8. Click Publish.
9. Decide if you want to share your video now.
10. Click Close.
11. Check to see your video on your Channel Content Page.
12. If you close the upload before you finish choosing your settings, your video will be saved as private on your Content Page.

Look at the table with more information about upload settings in the Additional Resources section of these Class Notes.

Uploading YouTube videos in the app

You can upload videos on a mobile app.

1. Open the YouTube App.
2. Tap Create (the Plus Sign Icon at the bottom of the screen).
3. Tap Upload A Video.
4. Select the file you want to upload.
5. Tap Next.
6. Complete the details. (Refer to the instructions for uploading a video on a computer to complete all the necessary settings.)
7. Tap Upload.

Look at the table with more information about upload settings in the Additional Resources section of these Class Notes.

A note about content

YouTube takes copyright infringement very seriously, and it is important that any content you upload belongs to you, or is in the Public Domain, or has a Creative Commons Licence, or that you have permission to use it. This includes the music you may wish to add.

Any video that you have found on YouTube and that has made it possible to save to your playlist is OK with respect to copyright.

Public Domain

The Public Domain consists of works that are not protected by copyright or whose copyright has expired. These works are freely available for anyone to use, share, and modify without permission.

In South Africa, the Copyright Act determines the duration of copyright protection, which generally lasts for the life of the author plus 50 years. Please be aware that copyright laws in South Africa are in the process of change, so check this information for the most up-to-date rules.

Public Domain resources offer a vast array of materials, including literature, art, music, and scientific works that can enrich classroom activities.

You can access these resources through platforms such as Project Gutenberg, Europeana, and the Internet Archive. Its important to note that even within the Public Domain, certain works may have specific usage requirements or conditions, such as acknowledging the original creator.

Creative Commons

Creative Commons is a global non-profit organisation that provides a set of licences enabling creators to retain copyright over their works while granting certain permissions to others.

Creative Commons Licences are designed to make the legal sharing and reuse of creative works easier, fostering a more flexible and accessible approach to copyright.

Creative Commons Licences offer a range of permissions, allowing creators to choose the level of freedom they wish to grant to others.

Licence	Description
Attribution (BY)	This condition requires users to credit the original creator when sharing or adapting a work.
ShareAlike (SA)	Works licenced with this condition must be shared under the same or a similar CC licence when redistributed or adapted.
NonCommercial (NC)	This condition restricts the use of a work for commercial purposes without the explicit permission of the creator.
NoDerivatives (ND)	Works with this condition cannot be modified or adapted without the explicit permission of the creator.

These four conditions can be combined in various ways. When you are searching for a video and it says that it is distributed under Creative Commons you will know what you can do with it by visiting the Creative Commons website.

You can search for CC-licenced materials through platforms like the Creative Commons website, Flickr, Wikimedia Commons, and more. By understanding the different CC licences and respecting the conditions attached to each work, you can access a wealth of resources for your classroom, ensuring compliance with copyright law while benefiting from a wider pool of content.

Digital Citizenship

Digital Citizenship is the responsible and ethical use of technology. Teachers must educate learners about proper online behaviour, including how to engage with YouTube content respectfully, how to critically evaluate information, and how to be mindful of their digital footprint. One way in which you can develop this vital digital fluency skill in your learners is by always making sure you respect the copyright of others on your YouTube Channel.

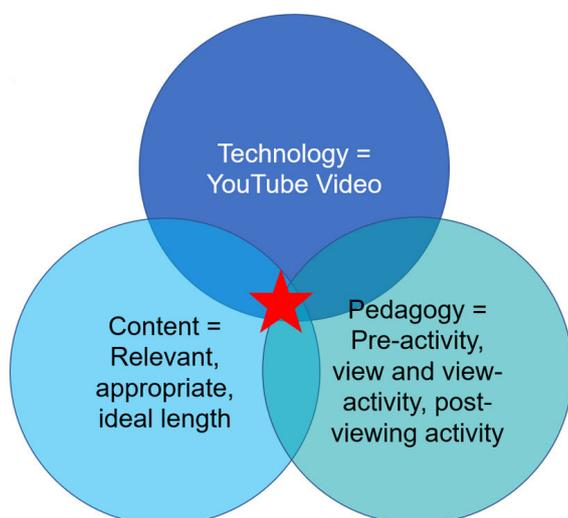| Task |
| --- |
| • In your YouTube Account, create a new channel. |
| • Then create a playlist. |
| • Find one YouTube Video and save it to your playlist. |
| • Create a checklist for yourself about the different ways in which a video can be protected. For example, by copyright, Public Domain or the various Creative Commons licences. |
| • Keep the checklist in an easy place to find, so that you can check any video you want to save. You may also wish to place some restrictions on videos you create. |

Ideas for using YouTube in your classroom

First things first: Pedagogical considerations

In recent years, YouTube has emerged as a powerful tool for enhancing teaching and learning in the classroom. It has become an essential resource for teachers looking to engage learners, supplement lessons, and create a more dynamic and interactive learning environment. But as you know, you cannot simply throw technology into a classroom and hope for great results. Technology needs to be carefully integrated into the teaching and learning process to ensure that what we are doing is educationally meaningful.

You can use the framework provided by three key pedagogical theories and models: TPACK (Technological Pedagogical Content Knowledge), SAMR (Substitution, Augmentation, Modification, Redefinition), and Bloom's Revised Taxonomy to successfully incorporate YouTube content into the classroom.

TPACK

The TPACK Model is a framework that emphasises the importance of integrating Technological, Pedagogical, and Content Knowledge in teaching and learning. As you know, the key feature of YouTube is video. So, how can you use the technology, a YouTube Video, in a pedagogically sound way?

Technology =
YouTube Video

Content =
Relevant,
appropriate,
ideal length

Pedagogy =
Pre-activity,
view and view-
activity, post-
viewing activity

Consider content

- Is the video content relevant to the curriculum outcomes you want to achieve?
- Is the video content at the right level?
- Is the video the right length? Research shows that videos longer than seven minutes are not as successful as shorter ones.

Consider pedagogy

- Pre-activity: A video needs to have a pre-activity that the learners must complete. This could be a question to check prior knowledge. It could be something they must watch before the video to find the answer. It could be a predictive activity.
- View and activity: The learners should then watch the video. You might use the editing tools to add questions during the video, or add captions to draw attention to certain aspects of it. All of this is aimed at enhancing the learning experience.
- Post-viewing activity: There needs to be a post-viewing activity, for example a discussion, questions to answer, or an assignment of some sort.

With all this in place, you will have achieved the sweet spot of TPACK where technology has enhanced the learning experience, improved learner engagement and motivation, and increased the effectiveness of the lesson.

SAMR

The SAMR Model is a framework for understanding the progression of technology integration in teaching and learning. The model is based on four levels of technology integration: Substitution, Augmentation, Modification, and Redefinition.

REDEFINE: Video offers a whole new way of doing things.

MODIFY: Video changes the method of teaching.

AUGMENT: Video adds a little extra to your teaching.

SUBSTITUTE: Video rather than you.

When you decide to use a YouTube Video in your classroom, you need to be aware of what your aim of using that technology in the lesson is.

What are you aiming for?

- To have a direct replacement for traditional methods of teaching? In other words, the person in the video substitutes you standing in front of the class.
- enhance traditional methods of teaching. In other words to add to, or **Augment** your lesson providing a little extra.
- To teach the class in a new way? In other words, the video **Modifies** the way the lesson is taught because instead of you having to teach in the front of the whole class, groups of learners can watch the video while you are working with other learners and in doing so, modifying their experience.
- To create an entirely new learning experiences that were previously impossible? So, for example, you could **Redefine** the learning by creating interactive videos that allow learners to make choices and receive immediate feedback.

Of course, in all of these options, you will keep TPACK in mind, and remember how to hit the sweet spot during the lesson.

Bloom's Revised Taxonomy

Bloom's Revised Taxonomy is a framework for understanding and categorising the different levels of cognitive skills that learners can demonstrate. The framework is based on six levels of cognitive complexity, ranging from lower-order thinking skills such as remembering and understanding, to higher-order thinking skills such as analysing and evaluating, and finally to creating new knowledge through synthesis. Please be aware that the diagram below is not the complete taxonomy; it is a simplification for our needs here.

Create videos

Analyse and evaluate videos

Videos provide information, explanations, examples
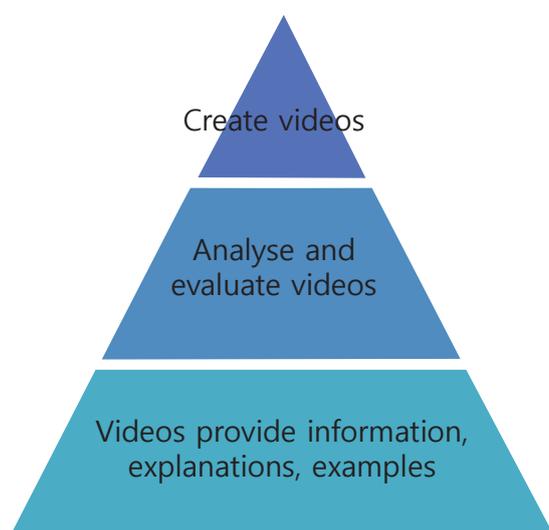
YouTube can be used to support all six levels of Bloom's Revised Taxonomy.

- At the lower-order thinking level, YouTube can be used to provide information, explanations, and examples to help learners remember and understand key concepts. For example, teachers can use videos to teach vocabulary or provide historical context.

- At the middle-order thinking level, YouTube can be used to promote analysis and evaluation skills. For example, teachers can use videos to teach critical thinking skills, such as identifying bias or evaluating sources. They can also ask learners to analyse and evaluate videos, such as by comparing different perspectives or critiquing a video's argument.

- Finally, at the highest order thinking level, YouTube can be used to promote creativity and synthesis skills. For example, teachers can ask learners to create their own videos that synthesise information from different sources, or to create videos that demonstrate their understanding of a concept through a creative project.

Criteria for effective social media implementation

The following criteria can be used to check whether the social medium used has been used effectively in a lesson. These criteria have been drawn from John Hattie's book *Visible Learning* (Routledge, 2009) in which he provides criteria for effective technology implementation.

1. Is learner diversity met through the use of the technology?
2. Are there many opportunities for learner learning?
3. Are the learners rather than the teacher in control of learning?
4. Is peer learning possible for learners?
5. Is feedback from peers as well as from teachers available to learners?

These five criteria are useful for evaluating the soundness of a lesson using social media.

Reflection
• Make notes in your PD Journal. • How comfortable are you with these three models and the set of criteria? • Do you feel confident enough to explain them to a newly qualified teacher? • What do you need to do to gain more confidence?

Some ideas to try

Using YouTube, you can enhance learners' learning experience and provide them with engaging and informative content that will enhance their learning outcomes.

Make demonstration videos

Demonstration videos are videos that show how to do something, such as a science experiment or a maths problem. These videos are an excellent tool for teachers because they allow learners to see how something is done, rather than just reading or hearing about it.

Keep the points below in mind when you create your own demonstration videos.

- You are not making a film for Netflix.
- Trust your teaching experience.
- Use the editing tools on YouTube to edit the video.
- Keep to the less than seven-minute rule.
- Enjoy the experience!

Supplement your teaching resources

YouTube is an excellent source of additional teaching resources. There are thousands of educational channels and videos on YouTube that cover a wide range of topics, from science and maths to history and literature.

Using the YouTube Videos in this way is an excellent example of Augmentation in the SAMR model. If you apply the steps we discussed in TPACK, you will be sure to use the videos in an educationally sound way.

Flipped Classroom

You can learn more about how to set up effective Flipped Classrooms in Session 1 of our **Digital learning in schools** course. The session is called **Why eLearning?** and it delves into the details of Flipped Classrooms.

The Flipped Classroom is a teaching method that most often involves learners watching video lectures or other educational videos outside of class, and then coming to class to discuss and apply what they have learned.

You can use these steps.

1. Make sure that the learners all have access to YouTube at home. If not, you could share the video in class for them to save on their devices. You can then ask them to watch it later, using OneDrive or Google Drive.

2. Either find a video on YouTube or create one of your own on a topic that is relevant to the curriculum outcomes you want to achieve. Remember to make sure that it is at the right level and of the right length. You could also do some additional editing and add in captions or questions.

3. Create a pre-viewing activity for the learners. This is important. They should not watch the video as though it was a fun movie.

4. Set the learners the task of watching the video at home.

5. In the next lesson, you will be able to move on from the video, since the core concepts will already have been covered. You can check the learners' understanding and memory of the facts and then move on to higher-order thinking activities.

Learner projects

YouTube is also an excellent platform for learners to create and share their own video projects. This is a perfect way to have learners work at the top level of Bloom's Revised Taxonomy: Creating.

You can ask learners to create videos that explain a concept, or present a project, or take the form of a video essay. This allows them to develop their creativity, critical thinking skills, and digital fluency skills.

They can also learn how to research and evaluate sources to create accurate and compelling videos. Additionally, learners can share their videos with their classmates and with a wider audience, thus giving them a sense of ownership and pride in their work.

| **Reflection** |
| --- |
| • Make notes in your PD Journal. |
| • Think about the four suggestions for using YouTube in the classroom that have been discussed. Which one are you most likely to try? Why? |
| • Which one are you least likely to try? Why? |

Lesson plans for using YouTube

Grade 11 lesson plan using YouTube

Read through this lesson plan using YouTube in a Grade 11
Geography class.

Grade 11 Geography lesson plan
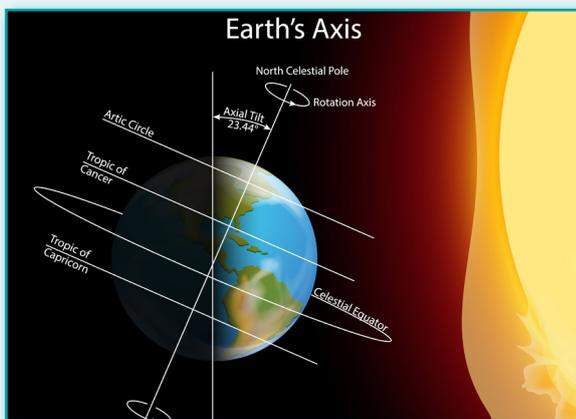
Earth's Axis

Teaching Plan
The Earth's energy balance

Lesson
Significance of the Earth's axis and
revolution around the sun

Time required
50 minutes

1 ➡️ **Learning outcomes**

➤ Learners will understand the Earth's energy balance
and its significance in the regulation of the planet's
climate.

➤ Learners will be able to explain the relationship
between the Earth's axis and revolution around the sun
in determining the amount and distribution of solar
radiation on the planet.

2 ➤ Learners will use YouTube to explore the Earth's energy
balance.

➡️ **Materials required**

- ➤ Computers or tablets with internet access.

- ➤ Projector and screen.

- ➤ YouTube Video.

- ➤ Handout: 'Significance of the Earth's axis and revolution around the sun' worksheet.

➡️ **Teacher preparation**

- ④ ➤ Find an appropriate YouTube Video and prepare the pre-viewing, during viewing and post-viewing activities.

- ⑤ ➤ Make sure that the computers or tablets are in working order and that internet access is available.

- ➤ Prepare the projector and screen.

- ➤ Print out enough copies of the handout for each learner.

⑥ ➡️ **Introduction (5 minutes)**

- ➤ Introduce the topic by asking learners what they know about the Earth's energy balance.

- ➤ Explain the significance of the Earth's energy balance in regulating the planet's climate.

- ➤ Tell learners that they will be watching a YouTube Video about the 'Significance of the Earth's axis and revolution around the sun'. Ask them to predict what they think this significance is (pre-viewing activity).

➡️ **Body (25 minutes)**

- ⑦ ➤ Have learners watch the YouTube Video you have selected. Explain that while watching the video, they should take notes on the main points and any questions they have. They should also see if their prediction was correct.

8 ➤ After the video, discuss their predictions on what they thought the significance of the earth's axis and revolution around the sun were accurate or not. Ask learners to share their notes and questions in a class discussion.

9 ➤ Distribute the handout and have learners work in pairs or small groups to complete the worksheet using their notes and the information from the video.

➤ Learners present using PowerPoint or a video.

➡ **Assessment (20 minutes)**

➤ Formative Assessment: Ask learners to share their completed worksheets with the class and have a class discussion on the main points of the Earth's energy balance and its significance. This will give you an opportunity to assess their understanding of the topic and provide feedback.

10 ➤ Summative Assessment: Assign a research project where learners will explore the effects of the Earth's axis and revolution around the sun on the planet's climate. They can present their findings in a PowerPoint presentation or a video.

➡ **Conclusion (5 minutes)**

➤ Summarise the main points of the lesson.

➤ Ask learners if they have any questions or concerns.

➤ Remind learners of the due date for the research project.

Analysis of the lesson plan

Summary of analysis

Refer to the numbers in the lesson plan to follow the summary below.

1. The learning objectives are clearly stated.
2. Notice that the use of technology, YouTube in this case, is a clearly stated objective too. This is making sure that the T in TPACK is covered in the objectives. The Content in TPACK is explicit, and there is a sense of the Pedagogy too.
3. In the materials list, we have a clear indication that technology is being used.
4. A good pedagogy for using videos is going to be used. The learners are going to have activities that they must complete before, during and after the video.
5. It is always useful to check that the digital devices are in working order, and that the internet is available. If necessary, make sure that you have enough data.
6. The introduction contains the following elements.

   - A check on prior knowledge.
   - A brief introduction to the topic by the teacher.
   - An explanation of what the learners will be doing, in this case watching a video.
   - The pre-viewing activity.
     - The learners are asked to predict something based on what they know already.
     - The learners will need to watch the video to check if they are correct.

7. The learners have been given a viewing task and are asked to check their earlier prediction.
8. The lesson continues with discussions and sharing of notes.
9. There is time for them to complete the handout. In this case it is the post-viewing activity.
10. The learners will need to present their findings using either a PowerPoint presentation or a video.

TPACK and the lesson plan

- **Technological Knowledge:** Learners will use technology, computers, tablets, and YouTube, to explore the topic.
- **Pedagogical Knowledge:** The lesson plan has sound pedagogic practices for the use of the YouTube Video. There were a pre-activity, a viewing and a post-viewing activity.
- **Content Knowledge:** The lesson plan focuses on the Earth's energy balance and the significance of the Earth's axis and revolution around the sun. The teacher would need to choose a video that meets the criteria of relevance and length.
- This lesson plan gets to the sweet spot of TPACK.

SAMR and the lesson plan

- **Substitution:** The YouTube Video replaces traditional lecture-style teaching.
- **Augmentation:** Learners take notes on the main points of the video and collaborate in small groups to complete the worksheet, which enhances their understanding of the topic. The YouTube Video has added to the lesson.
- **Modification:** By making a PowerPoint presentation or a video to present their findings the research project allows learners to apply their knowledge in a creative way. This is different to the usual paper-based application of knowledge and it is made possible by technology.
- **Redefinition:** By watching a video and accessing online resources for the research project the learners explore the Earth's energy balance in a way that would not be possible with traditional teaching methods. This enhances the learning experience and allows for a deeper understanding of the topic. The lesson is completely new and could not be achieved without all the technology that has been used.

Bloom's Revised Taxonomy and the lesson plan

When it comes to Bloom's Revised Taxonomy, the lesson plan touches on each of the levels.

- **Remembering:** Learners will take notes on the main points of the YouTube Video and complete a worksheet.
- **Understanding:** Learners will explain the relationship between the Earth's axis and revolution around the sun in determining the amount and distribution of solar radiation on the planet.

- **Applying:** Learners will apply their understanding of the topic to complete the worksheet and the research project.
- **Analysing:** Learners will analyse the effects of the Earth's axis and revolution around the sun on the planet's climate in their research project.
- **Evaluating:** Learners will evaluate the validity and reliability of the sources they use in their research project.
- **Creating:** Learners will create a PowerPoint presentation or a video to present their findings in the research.

Criteria for effective social media implementation and the lesson plan

- **Is learner diversity met through the use of the technology?** YouTube provides learners who need additional help to watch the video more than once, which would not be possible if it was a teacher talking. If subtitles were enabled this could also help learners whose home language is not English. YouTube also offers the chance to translate videos sometimes, so that might be helpful.
- **Are there many opportunities for learning?** There is talking about the concept, listening, viewing, writing, and preparing presentations. This is done as a class, in pairs and in groups.
- **Are the learners in control of learning?** The teacher is acting like the 'guide on the side' here, and the learners are in control of the learning.
- **Is peer learning possible for learners?** The video provides opportunities for learners to pause, discuss and learn from each other.
- **Is feedback from peers as well as from teachers possible for learners?** There are multiple opportunities for feedback.

Task

Read through the Grade 5 Maths lesson plan below. Using what you have learned, evaluate the lesson using the following questions to guide you.

- Do you think the use of the YouTube Video is effective? Why do you say this?
- How well do you think the lesson meets the sweet spot of TPACK?
- Consider the lesson plan with respect to the SAMR model. Do you think the video is used as substitution, augmentation, modification or redefinition? Why do you say this?
- The lesson plan makes no reference to the criteria for effective social media implementation. What can you do to ensure that all the elements of the lesson plan meet these criteria?

The video in the last part of the session will offer some thoughts on these questions so that you can evaluate your answer.

A Grade 5 lesson plan using YouTube

Grade 5 Mathematics lesson plan

Topic
History of Time – Know some ways in which time was measured and represented in the past

Time required
55 minutes

➡️ **Learning outcomes**

- ➤ Learners will understand various methods used in the past to measure and represent time.

- ➤ Learners will identify and compare different historical timekeeping devices.

- ➤ Learners will appreciate the evolution of timekeeping methods and their impact on society.

- ➤ Learners will use a YouTube Video to explore the history of time.

➡️ **Materials required**

- ➤ Computers or tablets with internet access.

- ➤ Projector and screen.

- ➤ YouTube video: 'TimeLine - A Brief Introduction To The History Of Timekeeping Devices': https://www.youtube.com/watch?v=At5atF4mKiU.

Teacher Preparation

➤ Familiarise yourself with the topic and the YouTube Video.

➤ Make sure that the computers or tablets are in working order and that internet access is available.

➤ Prepare the projector and screen.

Introduction (5 minutes)

➤ Begin the lesson by asking learners about their understanding of time and how it is measured today.

➤ Explain that they will be learning about the history of timekeeping and how people measured and represented time in the past.

➤ Share that they will be watching a YouTube Video and preparing a presentation on a topic.

Body (45 minutes)

➤ Have learners watch the YouTube Video 'TimeLine - A Brief Introduction To The History Of Timekeeping Devices'.

➤ After the video, facilitate a class discussion.

➤ Use the projector to display images of various historical timekeeping devices while discussing each one.

➤ Assign each learner a different historical timekeeping device (for example, sundial, water clock, hourglass, etc.). Instruct them to create a short presentation with a poster about their assigned device, including how it worked, its advantages, and its limitations.

➤ Each learner should present their findings to the class.

> **➡️ Conclusion (5 minutes)**
>
> Summarise the main points of the lesson, emphasising the diversity of timekeeping methods throughout history.
>
> Ask learners if they have any questions or if there is anything they would like to share about what they have learned.

Analysis of the lesson plan

We will examine the lesson plan and TPACK, SAMR and Bloom's Revised Taxonomy as well as the criteria for effective social media implementation in a lesson.

TPACK and the lesson plan

- This lesson plan does not get to the sweet spot of TPACK.
- **Technological Knowledge:** Learners will use technology like computers or tablets to watch the YouTube Video. The teacher is certainly displaying technological knowledge by including this here. But the video is 10 minutes long. It would be better to cut the video into two halves so that Grade 5 learners were not overburdened. However, the video is clear, the spoken language is slow enough to really understand what is going on, and the imagery is good.
- **Pedagogical Knowledge:** There is no pre-viewing activity, nor is there an activity during the video. The learners are simply instructed to watch the video. The post-viewing activity is within the learners' ability, but perhaps they could have been given more guidance.
- **Content Knowledge:** The lesson plan focuses on the timekeeping practices. This video is perhaps a little too long, but it covers the topic within the learners' ability.

SAMR and the lesson plan

The lesson has elements that work at the first two levels of SAMR. It does not achieve the Modification or Redefinition Levels.

- **Substitution:** The YouTube Video replaces traditional lecture-style teaching.

- **Augmentation:** The YouTube Video has added to the lesson certainly, but it is little more than Substitution of the teacher and provides another way to cover the topic.
- **Modification:** Had the learners made a PowerPoint presentation or a video to present their research the teacher might then have achieved Modification.
- **Redefinition:** Simply watching a video as a replacement for the teacher means that the lesson is not transformed by the technology.

Bloom's Revised Taxonomy and the lesson plan

The lesson plan does touch on each of the levels. However, problems with the pedagogy outlined earlier make for superficial adherence to Bloom's Revised Taxonomy.

- **Remembering:** The learners just watch the YouTube Video and do a project. There is not enough work done to ensure that the learners will remember anything about this topic in the future.
- **Understanding:** Learners do discuss the timekeeping device and their understanding would be checked.
- **Applying:** Learners will apply their understanding of the topic to complete the project.
- **Analysing:** No opportunities to analyse are available.
- **Evaluating:** There is little evaluation of the video, or the presentations that is explicit in the lesson plan.
- **Creating:** Learners will create a poster to present their research.

Criteria for effective social media implementation

- **Is learner diversity met through the use of the technology?** Learner diversity could be met through the use of the YouTube Video if the teacher explained to specific learners to do things like rewatching the video more than once if they needed to, turning on subtitles, and checking if there was a translation available. Learners with hearing difficulties could be given headphones so that they can listen a little louder than their classmates if necessary.
- **Are there many opportunities for learner learning?** More opportunities for learner learning should be created. There should be more talking about the concept. More listening, viewing, writing notes, and preparing presentations could be added. Furthermore, different ways of working like pair and group work could be added.

- **Are the learners rather than the teacher in control of learning?** The teacher is acting like the 'sage on the stage' here. Learners should be given more control during the lesson.
- **Is peer learning possible for learners?** No, not in the way the lesson is written. Instruction to the learners to pause the video and discuss and learn from each other could be given.
- **Is feedback from peers as well as from teachers possible for learners?** More opportunities for feedback from peers as well as from the teacher could be brought in.

Summary of analysis

The teacher had a good idea – use the video to replace her teacher talk. The use of technology always adds some variety to a lesson, but as you know from TPACK, Technology plus Content is interesting, but inadequate. The pedagogy of the lesson had to be strengthened.

Opportunities to transform the lesson were missed as the technology only operated at the substitution and augmentation levels. The learners needed to do something with the technology and the social medium to really transform the lesson.

There were definitely missing elements of Bloom's Revised Taxonomy. Now, while it may not always be possible to achieve every step, the lower levels, namely remembering and understanding need to be well covered. The use of YouTube and the technology derailed the lesson in many ways.

Criteria for effective social media implementation were ignored.

With some attention to the points we covered in this session, the teacher would be able to develop a better lesson plan, don't you agree?

Task
• Create a lesson plan for any topic of your choice using YouTube.
• Make sure that you have considered all the pedagogical issues.
• Try the lesson plan out in class and then write a reflection on your experience.

About the Final Assessment

At the end of this training session, you will be asked to complete the Final Assessment.

If you complete the Final Assessment successfully, you will qualify for your virtual badge and certificate. You can see a sample here.

VIA AFRIKA DIGITAL EDUCATION ACADEMY

Certificate

has successfully completed the attendance and assessment requirements of:

YOUTUBE IN THE CLASSROOM

This training is endorsed for 5 SACE Professional Development points.

_____
Date

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Chief Executive Officer

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Final Assessment

1	What should you do after clicking the Create Button on YouTube Studio?
a	Manage comments.
b	Upload a video.
c	View analytics.

2	How can you create a new playlist on YouTube?
a	Save a video to watch later.
b	Choose from existing playlists.
c	Click on New Playlist on the Playlists Page.

3	How can you access YouTube Studio?
a	Click on Your Videos on the YouTube Home Page.
b	Use the YouTube Studio Button.
c	Both (a) and (b)

4	What is the recommended video title format for better searchability on YouTube?
a	A short and catchy title.
b	A descriptive and relevant title.
c	A unique and creative title.

5	Which button on the YouTube Video Player allows you to automatically play the next suggested video?
a	Autoplay.
b	Subtitles.
c	Settings.

6	What is the purpose of the YouTube Studio Tool?
a	To watch videos in full screen.
b	To manage and upload videos to your YouTube Channel.
c	To search and clear your watch history.

Final Assessment (continued)	
Indicate the ONE correct response for each question.	
7	What is the purpose of creating playlists on YouTube?
a	To organise and group videos together based on specific themes or topics.
b	To subscribe to other channels and receive updates.
c	To like or dislike videos and provide feedback.
8	Which of the following platforms can you use to access Public Domain resources?
a	Project Gutenberg.
b	Europeana.
c	Both (a) and (b).
9	What are the four conditions that Creative Commons licences are based on?
a	Attribution, NonCommercial, Derivatives, Public Domain.
b	Attribution, ShareAlike, NonCommercial, NoDerivatives.
c	ShareAlike, NonCommercial, Derivatives, Public Domain.
10	What does Digital Citizenship refer to?
a	The responsible and ethical use of technology.
b	The enforcement of copyright laws on the internet.
c	The process of creating Creative Commons licences.
11	What is the purpose of demonstration videos on YouTube?
a	To show how to do something correctly and effectively.
b	To assign learners to create videos.
c	To provide additional teaching resources.
12	How can teachers edit their demonstration videos?
a	By using the editing tools on YouTube.
b	By creating videos on a relevant topic.
c	By assigning pre-viewing activities to learners.

Indicate the ONE correct response for each question.

13	What is the main concept behind the Flipped Classroom teaching method in relation to having learners watch videos?
a	Learners watch videos in class and then discuss them.
b	Learners create and share their own video projects with the class.
c	Learners watch videos at home and apply what they have learned in class.
14	Which of the following sequence of activities is a good pedagogical strategy when you are using a video to teach?
a	Pre-viewing activity, view video with an activity, post-viewing activity.
b	View video with an activity, answering questions about the video, sharing the answers.
c	Pre-viewing activity, watching the video, post-viewing activity.
15	The ideal length of a video for educational purposes is _____.
a	shorter than five minutes
b	longer than nine minutes
c	approximately seven minutes

Additional Resources

More information about upload settings

Setting	Description
Age restriction	Age-restrict videos that may not be appropriate for all audiences.
Audience	To comply with the Children's Online Privacy Protection Act (COPPA), a Content Creator is required to tell YouTube whether a video is made for children under 13 years of age.
Automatic chapters	It is possible to add video chapter titles and timestamps to a video to make it easier to watch. This can be done by the Content Creator or automatically generated by ticking the Allow automatic chapters checkbox. Any video chapters entered will override auto generated video chapters.
Cards	Add interactive content to your video.
Category	A category helps viewers find a video more easily. For Education, choose the following options: • Type: Select activity, concept overview, how-to, lecture, problem walkthrough, real life application, science experiment, tips, or other as your education type. • Problems: Add the timestamp and the question that is answered in the video. Note that this option is only available for the problem walkthrough education type. • Academic system: Select the country/region that a video aligns to. This allows the Content Creator to specify the level and exam, course, or academic standard. Note that this may be automatically selected based on a channel's default country/region. • Level: The level for a video, such as Grade 9 or advanced. • Exam, course, or standard: An academic standard, exam, or course that relates to a video can be included.
Comments and Ratings	The Content Creator can choose whether viewers can leave comments on the video and whether viewers can find how many likes are on a video.

Description	Information that shows below a video is indicated as follows:
	For formatted text in a description, use the format:
	• *Sample* for **bold** text.
	• _Sample_ for _italicized_ text.
	• -Sample- for ~~strikethrough~~ text.
End Screen	Add visual elements to the end of your video. Your video must be 25 seconds or longer to add an End Screen.
Featured Places	Featured Places uses destinations that have been prominently highlighted in a description, video transcript and video frames to highlight key places in a carousel in the description of a video.
	Unselect the 'Allow Automatic Featured Places' checkbox if this is not wanted. Note that Featured Places doesn't use the Content Creator's device location data or affect what ads are shown in the video if the video is generating income.
Language and Caption Certification	The original video 'Language and Caption Certification' must be chosen.
Licence and Distribution	Select if a video can be embedded on a different website. The Content Creator can indicate if they would like to send notifications to their subscribers for a new video.
Location	Enter the location where the video was filmed.
Paid promotion	Let viewers and YouTube know that a video has a paid promotion.
Playlist	Add a video to an existing playlist or create a playlist.
Recording date and location	This is the date the video was recorded and the location where the video was filmed.
Shorts sampling	Allow others to create Shorts using the audio of your video.
Subtitles and captions	Subtitles and captions enable reach of a video to a broader audience.
Tags	Descriptive keywords to help correct search mistakes.
	Tags can be useful if the content of a video is commonly misspelled. Otherwise, tags play a minimal role in a video's discovery.
Thumbnail	The picture viewers see before clicking on a video.
Title	The title of a video.
Visibility	The privacy settings of a video to control where a video can appear and who can watch it. (See earlier note.)

Acknowledgements

Author/Artist and Licence/Link	Artwork name/Topic
Brgfx/freepik.com, Premium licence (Unlimited use without attribution)	Diagram showing earth axis.
Creative Commons https://creativecommons.org/about/downloads/	Copyright image, Creative Commons Image and GIF; and Public Domain image.
D, Krathwohl http://sites.duke.edu/eelandscape/2015/03/31/blooms-taxonomy/ http://www.unco.edu/cetl/sir/stating_outcome/documents/Krathwohl.pdf	Bloom's Revised Taxonomy.
Freepik.com, Premium licence (Unlimited use without attribution)	Set of great job and good job stickers.
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Inspiring/freepik.com, Premium licence (Unlimited use without attribution)	Network activity online service or platform. Customer attention.
Joan Hughes, https://techedges.org/r-a-t-model/	RAT Model.
Matthew Koehler, http://www.tpack.org	TPACK Model.
Microbagrandioza/freepik.com, Premium licence (Unlimited use without attribution)	Vector modern simple style front end development flat cartoon abstract illustration.
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Rawpixel.com/freepik.com, Premium licence (Unlimited use without attribution)	Free vector illustration of diverse people.

Spicytruffel/freepik.com, Premium licence (Unlimited use without attribution)	Vector news online channel or blog cartoon operator with camera and blogger journalist or reporter cute speaker commenting public events web broadcast.
Via Afrika	Author-generated images based on standard models of TPACK, SAMR, Bloom's Revised Taxonomy.
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