vidubiology Approach

Motivating students to learn science is a priority of the EU as it directly impacts on the future development of our societies and provides an innovative advantage. *vidubiology* addresses this need in the area of biology learning, by specifically showing how active video can be included in the biology classroom for students aged ten to fourteen. Using techniques of photography and video allows learners to discover and explore biological phenomena from another perspective.

The project supports three learning areas:

- Learning of biology
- Learning about visual media
- European learning and cooperation

Biology learning is at the forefront of the approach. The content of the project is about biology and not media. It is important that specific content is acquired and reflected upon. It is also important that procedural knowledge is acquired while doing a scientific investigation. Specific topics, for example, seasonality of plants, will be needed in order to develop the content knowledge. It is also important that students will work independently in the accepted norms of biology investigation (experimentation, observation, and recording - using accepted biological techniques such as working with a microscope). The project will take them further by asking them to explore where the visual media can support deeper learning, visualising, documenting and creating an individual approach to a biological topic.

Visual media learning will demonstrate that video is not just a technical tool. It will be about exploring the visual language and understanding how visual messages are constructed and reflected. Applying different time based media such as slow-motion or time-lapse recordings will help the students to understand the nature of moving images. It is also helpful to connect with young people's existing media world – where, for example, certain styles of image combinations can be found in the media content they watch.

The European dimension will come across by comparing the plants / animals from different European regions, and discussions about different biology foci in the various national and regional curricula. Students will exchange their ideas and videos; they will connect and network through platforms such as Flickr to create a European discussion.

Getting into vidubiology

Although classroom time and resources are limited, vidubiology can help teachers be more efficient, since biology concepts will be more easily understood. The project will provide task sheets, video examples and video tutorials to give a clear picture of how the project can be used inside and outside the classroom.

It is helpful to start with very simple exercises, especially when there is little experience with video production and their integration into education. These exercises include simple photos or video clips connected with biology phenomena and content. Basic exercises can be completed within one lesson for a class, or they can initially be homework, especially for older students who have higher autonomous learning abilities. They can then be built on step by step increasing the difficulty.

The key idea is to use video as an aid to support biology learning – the quality of the video is not important, they don't need to produce professionally-looking videos, as it is the process that matters. Available technology which records video, smart phones or tablets, camcorders, digital cameras with a video function can be used. There is no need to buy technology just for the project.

Assessment, privacy and copyright

Our video education approach is based on the teamwork of the students. Media work is teamwork and collaborating leads to important discussions about the approach to the biology content and also to a reflection on the images created. By creating photos and video recordings that are shared between the students the level of the communication will grow. As a result, biological terms will be discussed more intensively and contextualised better.

The assessment of the project will need to look into these processes. It is not enough to just grade a final video outcome. Students need to present a plan / sketch / storyboard before they start their recording and they will need to report about the challenges they faced, and overcame, during the whole project. It is also important to understand that using video is not for testing, but for learning.

Before any video projects start teachers will have to get written permission that children are allowed to be seen and heard in a video (permission templates are provided). If this is an issue there are ways around, for example by only showing the hands and objects and not including any sound.

As copyright needs to be observed, it is best to use media with licenses that permit free use, like Creative Commons, you can find music you can use at http://freemusicarchive.org/ or https://www.youtube.com/channel/UCht8qITGkBvXKsR1Byln-wA For images you can use the vidubiology image galleries at https://www.flickr.com/photos/vidubiology/albums that are all copyright free.