(Project logo)	Co-funded by the Erasmus+ Programme of the European Union
LESSON PLAN	**AGAINST ONLINE SLAVERY (**2019-1-FI01-KA229-060725)

School:	**Pieksämäki high school**		
Teacher(-s)	**Sonja Lievonen**		
Subject / Course:	**Finnish and literature**		
Topic:	**Photo manipulation**		
Age group:	15-18	**Lesson Duration:**	**75 mins.**

Lesson Objectives:

The objective is to learn to use different tools to identify visual disinformation and photo manipulation. Photos and other visual material can be manipulated but also linked to reportage that is dated differently than the original picture.

Summary of Tasks / Actions:

Reverse image search helps you to find visually similar images. Choose a picture and click it with the right button of the computer mouse and copy the address. Go to image search, click the camera object, paste the address and click search.

The technical data or **the exif data** can even reveal the exact location of the photographer for instance when the locating is turned on on a smart phone. On the other hand, social media services tend to remove the exif data automatically.

Photo manipulation can be identified with **an error level analysis** which reveals for instance photoshopping.

Materials / Equipment:

A computer with an access to internet and an image processing program (Photoshop). A camera.

References:

Useful websites:

Reverse image search: Yandex, Bing, Baidu, TinEye, Google Images.

Exif data services: Jeffrey's Image Metadata Viewer, Exifdata.com.

Tutorial for **an error level analysis**: Photo Forensics, Image Verification Assistant, Forensically, Ghiro.

The information for this lesson plan is partially adapted from Yle.fi teaching materials.

Take Home Tasks:

- Try a reverse image search for the pictures in the unknown friend requests in social media. Are the people in the pictures who they claim they are?
- Search for recent reportage hashtags and browse the images. Are the images related to the subject of the reportage?
- Insert your own photo to the exif data service. What information can you find out?

- Make obvious changes to your own photo with an image processing program and then examine the photo with error level analysis websites.