The use of sound parameters in teaching

Context

Sound pitch is an important characteristic for attention keeping: higher pitched sounds tend to attract more attention, but can also be very tedious at long term, while low pitched sounds attract less attention, but can also transmit calm and quietness.

Knowing and taking care of both these characteristics can make a video produced for the class or even online lesson can become easier to follow for students and attract their attention when needed.
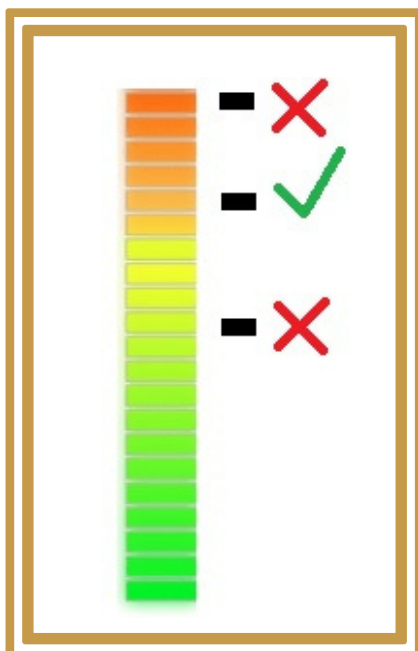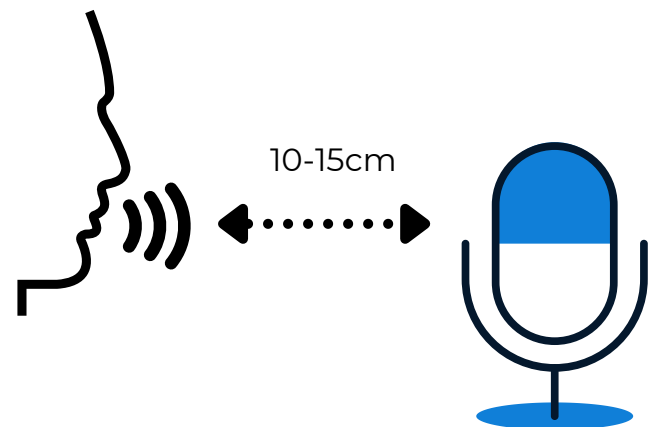
General Principles

Hardware and software can both affect audio quality: the use of an external microphone is indeed recommended, as laptops' internal microphones and computers are usually less sensible to sound and can generally record lower sound quality of the speech. Likewise, the use of headphones is recommended to perceive better audio quality.
Video edit software can however usually be used to enhance or regulate audio quality in videos.

Adaptation

The microphone should be kept more or less at one palm of distance from the mouth (**10-15cm** or **4-6"**), as it allows to capture better the speech quality and also to understand what the teacher is saying without raising the tone of voice. If possible, use a pop filter to avoid sound distortion and popping noises of some letters' sound.

10-15cm

To keep the tone of voice under control audio capture software can be used; this will indicate the input volume level, or else called: **the gain**.

Before you start recording or speaking to the class, try to speak a few lines into your microphone to get a sense of your range. Ideally, your voice will light up the green bars of the **gain level indicator** to the greatest extent possible without getting into the yellow and red areas. The red areas warn you that the sound may be too loud and produce clipping sound.

Use an external microphone

Use a pop-filter to reduce distortion and popping sounds

The optimal distance to obtain a good audio quality is 10-15cm (4-6")

If you wish to regulate the audio characteristics of video you produced you can use a video editing software

Keep an eye on your gain level indicator: green areas indicate you may be speaking too low, while red areas show you are speaking too loud

Higher pitch sounds attract more attention, but can also be tedious at long term; **lower** pitched sounds attract less attention, but can also transmit calm.

Resources

Video editing software:

- Lightworks
- Blackmagic
- Blender
- Final Cut
- HitFilm
- Shotcut

If you would like to know more about this topic you can visit the platform **Echo360**, whose objective is on video and sound production for lecture capture and educational purposes.