UNIT 3C. EASY-TO-UNDERSTAND (E2U) AND AUDIOVISUAL JOURNALISM (AVJ)

ELEMENT 3. TECHNICAL ASPECTS

BASIC PRINCIPLES

Video Lecture Transcript

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This is unit 3C, E2U and Audiovisual Journalism; Element 3. Technical Aspects, Basic Principles. I am Andrej Tomažin, from RTV Slovenija, and in this video lecture I will focus on the technical principles of Audiovisual Journalism with regards to three kinds of medium: television, radio and online content.

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In this short lecture you will become familiar with a range of tools used for audiovisual production and the technical specifications for the production and publishing of audiovisual content.

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In accordance with the ideas of universal design, technical aspects play an important role in conveying the information to the user, regardless of the

user's abilities. Thus, the technical aspects of E2U AVJ need to make the content useful and easily understandable.

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Which means that we need to pay special attention to the importance of high sound and video quality, clarity of the message and the adequacy of visual elements.

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The three kinds of Audiovisual Journalism also differ in the sense of technical specifications and the needs that each of the three different mediums bring. The basic production equipment consists of a video camera, microphone and a workstation, in most cases a computer with editing software.

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The processes employed are firstly recording, then editing, and lastly exporting the video in the adequate format.

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With the arrival of new technologies, the production of audiovisual content has become more accessible to a wider range of individuals. Nowadays, both hardware and software are more available to the producer, both in financial terms as well as in terms of the user experience.

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"The camera is only a clumsy impersonator of the human eye, but with one important advantage – it can zoom in and out of a scene," claims Andrew Boyd in the book Broadcast Journalism. Any journalist, even without having no aspirations to shoot their own stories, needs to know the kinds of shots the cameraman will have to capture. Only then will you be able to assemble your report in the editing process in a proper fashion.

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Six shots constitute the foundation of any video content. These are: long shot, which takes in the whole person from head to feet. The medium long shot cuts in closer, revealing the head to just below the knees. The medium shot reveals the head to the hips.

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The medium close-up gives the head and shoulders. The close-up shows the head only. The big close-up fills the screen with the features of the face. All these shots are later combined in the editing process in a creative and dynamic way.

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According to The Electronic Reporter by Barbara Alysen "the very tight deadlines in television news mean editors use specific techniques to assemble stories as quickly as possible."

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The editors usually lay down the main audio track, putting together narration and synchronized sound segments. These form the 'story bed' and once all of it is meshed together, the journalist knows the length and cuts or adds additional material according to the slot length in the news bulletin given by the editorial staff.

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The editor then enhances the rest of the story, adding overlay to the narration, consisting of various shots. As Alysen argues, "editing by first building a story bed is the fastest way of assembling a story, though digital, nonlinear systems allow the editor to change any part of the story at any point in its construction." These techniques are used both in video content prepared for web use or broadcast use.

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Since the arrival of more affordable hardware, such as digital cameras and microphones, editing software quickly followed suit. There are plenty of editing software possibilities, from professional standards such as Adobe Premiere Pro and others to several open-source, free or proprietary alternatives, which also provide a fair amount of editing, post-production and exporting options. The choice of the software depends on the needs of the producer.

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Archiving media is an important aspect of video production, especially with broadcast content. Most of the prepared content must exist in either uncompressed or lossless archival copy, although, as John Zubrzycki from the BBC argues, "video production formats often use compression (video encoding) to save space in the camera memory." This is the reason compression plays an important part in the final process of editing, since it needs to comply with the demands of the broadcaster.

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There are certain guidelines regarding video quality and we have to distinguish between different recommendations for TV and internet video production. The technological advances in digital telecommunications allowed the use of high-definition television (HDTV) besides the already established standard-definition television (SDTV). Recommendations regarding technical specifications for broadcast media were established on the level of the European Broadcast Union in the document EBU R 132, with the title SIGNAL QUALITY IN HDTV PRODUCTION AND BROADCAST SERVICES in April 2011. Chapter 1.5 in the document emphasises that "all modern digital studio and broadcast systems now use compression" and that "compression technology continues to evolve."

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HDTV offers significantly improved images than SDTV and does that at a higher resolution of 1,280 (one thousand two hundred eighty) pixels by 720 pixels (or even 1,920 pixels by 1,080 pixels) and an aspect ratio of 16:9, in contrast to SDTV's aspect ratio of 4:3 and resolution of 720 pixels by 576

pixels. This, for example, gives HDTV more detailed and vibrant colours than SDTV.

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One of the attributes of digital video is bitrate. In general, a higher bitrate will accommodate a higher image quality in the video output. Bitrate also depends on the aspect ratio. The EBU R 132 document states that "a sufficient bitrate must be employed for material exchange, recording/storage, and Non Linear Editing," recommending a bitrate of no less than 100 Mbit/s for production/archiving format based on I-frames only, and not be less than 50 Mbit/s, if the production/archiving format is based on long-GOP MPEG-2.

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Standards for web video production differ slightly, mostly for those used in streaming with online video-sharing platforms. YouTube as one of the biggest online video-sharing platforms recommends upload encoding settings in a special article on their site. This information was gathered in August 2020. For an aspect ratio of 1,920 pixels by 1,080 pixels, YouTube recommends 8 to 10 Mbit/s, with a video codec of H.264. As we can see, the difference between recommendations for online video-sharing media and broadcast media is almost tenfold in the case of bitrate. The files with larger bitrates are also larger in size, which reminds us of the need to save space in mostly video-mediated environments with the use of compression.
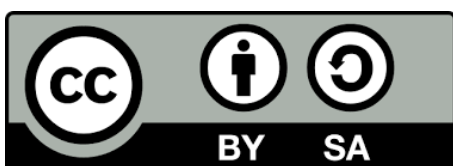
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Along with video quality recommendations, audio quality is also important in any AVJ content, but especially in E2U AVJ content, where the message needs to be as unambiguous as possible. The European Broadcast Union issued a set of recommendations in a document EBU R 128, titled LOUDNESS NORMALISATION AND PERMITTED MAXIMUM LEVEL OF AUDIO SIGNALS, which is primarily followed during the audio mixing of television and radio programmes and adopted by broadcasters to measure and control programme loudness. First issued in 2010, it was recently revised in August 2020. EBU recommendations were implemented by several software developers and audio technology companies, making it easy for editors as yourself to adapt the audio levels according to EBU R 128 recommendations while editing AVJ content.

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I hope this information was useful. There are many possibilities with respect to technical settings and editing strategies. This video lecture was prepared by Andrej Tomažin, from RTV Slovenija. You can reach me at andrej.tomazin@rtvslo.si.

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