

Knisselwoods: Our media lab

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Abstract

Besides influencing many other areas, COVID19 has changed education and research as well. The presentation of contents has transferred from synchronous digital-supported styles towards a fully digital asynchronous way. Especially video presentations e.g. screencasts as part of courses or conference contributions became the “new normal”. Well-designed and produced videos can make a tremendous contribution to the learning of individuals – not only students – as proved long before the global pandemic situation. Driven by the need for digitalization in education and supported by the possibilities and chances offered through a large European Wider Society Education project in which The Institute of Mining participated, the media lab of the Institute of Mining at Clausthal University of Technology was massively expanded and new technology was introduced. The new media lab – named after Prof. Walter Knissel - allows to plan and produce different media, especially videos in high quality and adequate environment. The positive feedback on the produced videos and other materials supports the efforts made. Furthermore, the facilities are modular based and partially mobile allowing a wide range of applications but also transfer for other educators.

A-Z: Infrastructure & Equipment

Sound



- a) CSL-USB condenser microphone mainly for screen- and podcast production (2x)
- b) Rode NTUSB condenser microphone for screen- & podcast production & voice over
- c) Rode Microphones Wireless GO II clip-on microphone for interviews and filming
- d) Tripod arms with table mounting for screen- and podcast production (2x)
- e) Canon DM E100 for simple settings without clip-ons

Picture



- f) DJI Mini 2 Fly More Combo drone for aerial picturing
- g) GoPro HERO 9 for acting and underground picturing
- h) Ricoh Theta Z1 for 360° pictures
- i) Canon EOS M6 Mark II for studio setup and mobile photos
- j) FeiyuTech G6 Plus Gimbal for stable GoPro videos
- k) Pafieo Teleprompter for speeches
- l) Multiple tripods (mobile, stationary, ...)
- m) Several webcams

Scenery

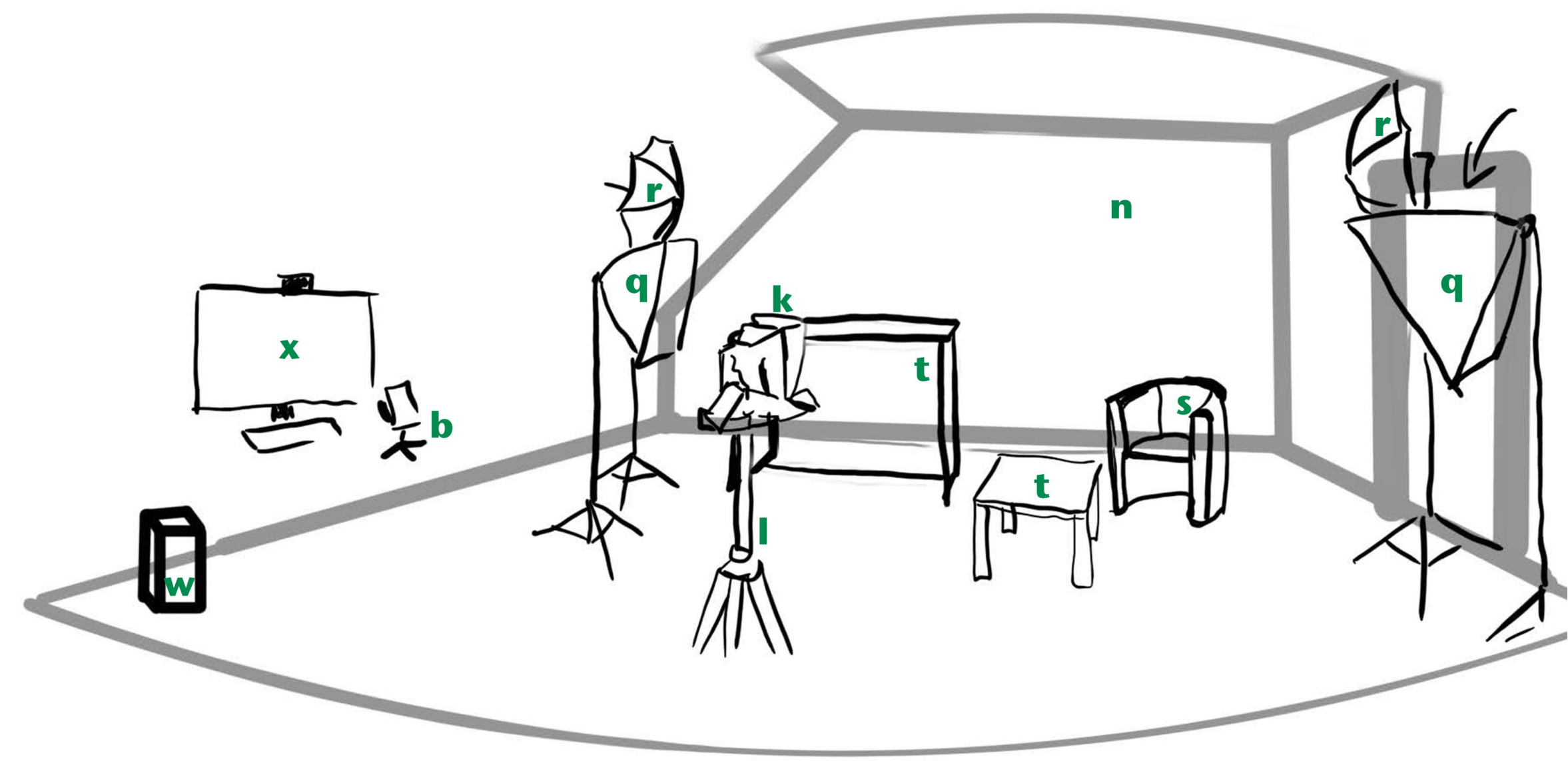


- n) Painted fixed greenscreen for studio productions
- o) Mobile greenscreen for mobile productions
- p) Additional backgrounds
- q) Softbox lights (2x)
- r) Umbrella light diffusers (2x)
- s) Chairs for interview situation
- t) Tables for different purposes
- u) Mobile light equipment

Production



- v) Camtasia and Adobe Premier Pro license for video production
- w) High performance workstation for advanced video editing & production
- x) 43" screen for advanced video editing
- y) Several mobile computers for editing and capturing
- z) Audacity for sound production

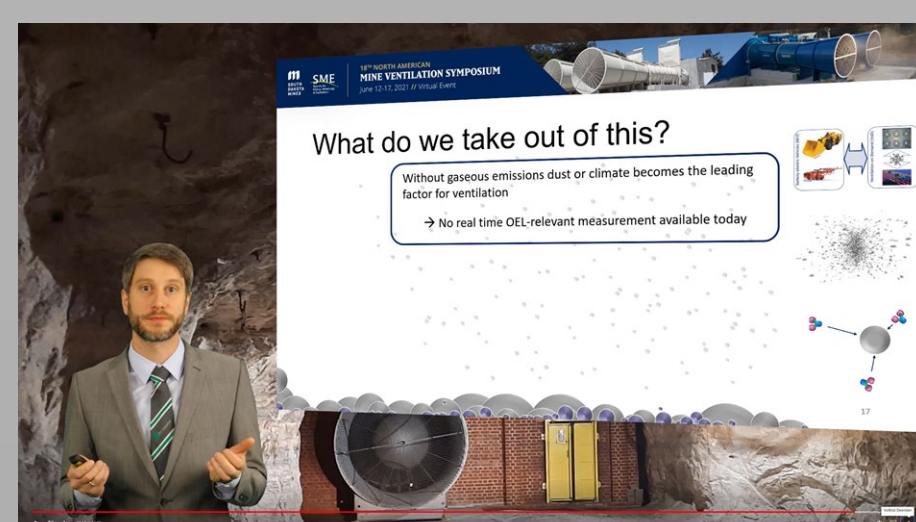


Potential Settings & Results

Conference Talk with slides



Greenscreen (n), Lighting (q,r), Camera (e), Clip-on Microphone (c), Teleprompter (k), Laptop (v)



Edutainment Video



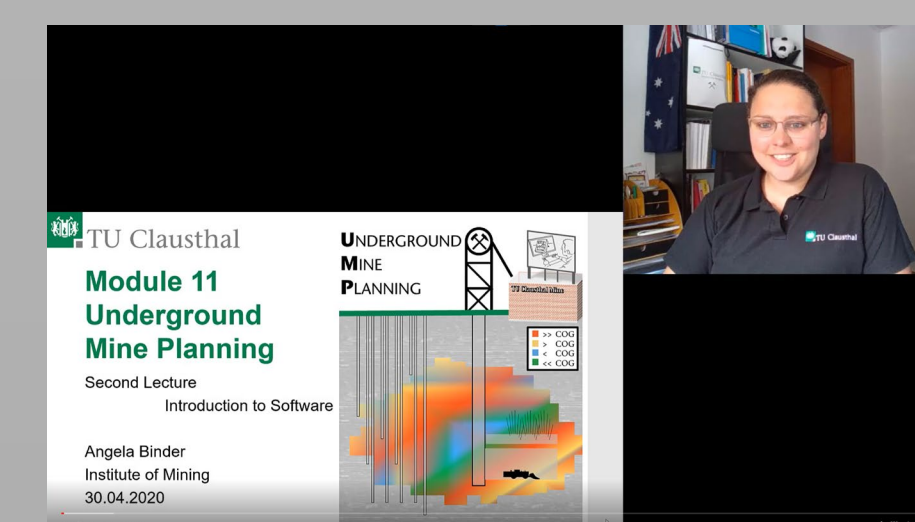
Greenscreens (n, o), Backgrounds (p), Lighting (q,r), Camera (e), Drone (f), GoPro (g), Gimbal (j), Clip-on Microphone (b), ...



Screencast / Learning video



Laptop (y) with webcam (m), Microphone (a/b), Tripod (d)



Talk with animations



Greenscreen (n), Lighting (q,r), Camera (e), Clip-on Microphone (c), Teleprompter (k)



Podcast



2 Microphones (a), 2 Computers (v), Tripod arms (d)



Underground 360° Tour



360° cam (h), Lighting equipment (u), Mobile tripod (d)



Experiences gained

Skills

- To set up a base: Learning by doing and collaboration
- Creativity and curiosity are great drivers

Technical

- Don't underestimate the potential ☺ and effort ☹ of post-production
- Sound quality is essential

Education

- Media are a medium of information transfer – Message & Framework needed
- Combinations and embedding are key components