

## Guideline universal design

### Sheet 14: Weblectures (knowledge clips) and lesson recordings

#### What? <sup>1</sup>

This guideline follows the definitions below of the terms "weblectures" and "lesson recordings":

#### Weblectures

A **weblecture** is a learning tool that is purposefully developed to transfer content via an online platform. A weblecture offers combined video, sound and digital presentation material and is intended to replace or supplement lectures. Short weblectures are also referred to as knowledge clips.

Some possible purposes of **weblectures** are:

- The replacement of a lecture.
- Offering a demonstration video for practical lectures, for example.
- Taking and checking notes.
- Repeating or deepening the offered study material.
- Preparing a lesson and / or practicing for an assignment / evaluation moment.
- Provide feedback on submitted papers.

#### Lesson recordings

A **lesson recording** is a direct recording of a presentation or lecture, in the context of contact education, which the student can view live or afterwards using a web browser.

Some possible purposes of **lesson recordings** are:

- Viewing (missed parts of) lectures.
- Taking and checking notes.
- Reviewing a lecture in function of an assignment or evaluation moment.

## Why and for whom?

Some **teachers are reluctant to make lesson recordings available** because there is a perception that this results in poorer study results due to the absence of students during lectures. However, research shows that: <sup>2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13</sup>

- students themselves are in favor of contact education;
- students mainly use lesson recordings to clarify or supplement their own notes;
- when making lesson recordings available, only a slight decrease in the presence of students in the lectures is noticeable;
- making lesson recordings available has a positive effect on the learning outcomes of students who cannot attend the lectures.

**Weblectures and lesson recordings** also have various **advantages** <sup>14, 15, 16, 17, 18, 19, 20, 21, 22, 23</sup>

### Advantages for the student

- Diversity student population** | Weblectures and lesson recordings cater to the needs of the diverse student population, some students may not always be able to be present in the lesson or have difficulty fully following a lecture. For example, students with a disability, but also working students.
- Flexibility** | Weblectures and lesson recordings provide increased flexibility. Students can learn independently of time and place and at their own pace.
- Repetition** | For students who benefit from the repetition of content, weblectures and lesson recordings are an added value.
- Student benefits** | Weblectures and lesson recordings lead to increased understanding, motivation and engagement, more efficient studying, less stress and increased awareness with regard to one's own learning process.

## Advantages for the teacher

- ❑ **More time** | By using weblectures for (in-depth) knowledge transfer, time is made available for interaction and practice during the contact moments.
- ❑ **Self-reflection** | Weblectures and lesson recordings can act as a means for self-reflection by looking at their own way of teaching and transferring knowledge.
- ❑ **Reuse** | Reuse of web lectures is possible.
- ❑ **Guest teachers** | Advantage of time and place independence of weblectures for e.g. guest teachers.

## Tips & Tricks 18, 19, 20, 21, 22, 24

### Weblectures

#### Recording of the weblecture

- ❑ **Professionalization** | Participate in professional development in the field of technological, pedagogical-didactic and substantive knowledge to be able to develop high-quality online learning materials (TPACK model).
- ❑ **Materials** | Use the required materials: a properly working laptop or computer, a webcam and a microphone and necessary software such as, for example, Camtasia Studio (Microsoft), Screenflox (Mac), Adobe Captivate (Microsoft and Mac) or Screencast-o-matic (app).
- ❑ **Clothing** | Take your own clothing into account (for example, no fine checks or stripes) and ensure good lighting.
- ❑ **Length** | Make videos no longer than 25 minutes, build in navigation as soon as videos are longer than five minutes.
- ❑ **Description and structure** | Give each weblecture a short but clear description and ensure a clear classification and structure of the subjects. Discuss this at the start of the weblecture.
- ❑ **Display items** | Hold objects that are being demonstrated in front of the camera and tell about them.
- ❑ **Summarize** | Summarize main issues at the end of each part of the web lecture.

## Using weblectures

- ❑ **Format** | Test the content of the course against the format of a weblecture. When direct communication and dialogue are central, a face-to-face contact moment is more suitable.
- ❑ **Appropriate use** | Use the weblecture in an appropriate way. Different scenarios are possible. For example, a lesson recording can serve as preparation, as a duplication and as an extension of the course material.
- ❑ **Additional assignments** | Supplement the weblecture with (online) assignments and learning materials. These offer added value and improve the learning outcomes of students.
- ❑ **Learning objectives** | Set clear learning goals and encourage students to interact with the video.
- ❑ **Advanced organizer** | Use an advance organizer or ask questions before or during the recording, this ensures that students can watch and listen in a focused way.
- ❑ **In-depth assignments** | Formulate in-depth assignments after the weblectures.

## Lesson recordings

- ❑ **Lighting** | Do not dim the room light or only a little. Too little light gives an underexposed image or makes filming impossible.
- ❑ **Display items** | Hold objects that are being demonstrated in front of the camera and tell about them.
- ❑ **Repeat questions** | Repeat questions from the audience, asked without a microphone, so that this audio is also recorded.
- ❑ **Transparency** | Make sure the students are aware that they can view the lecture.
- ❑ **Place online quickly** | Make the lecture available online soon after recording so that students who cannot attend can make up for the lecture in time.
- ❑ **Audio recording** | Allow students to make audio recordings of the lesson for personal use.

## Know more?

- Read here the [ICTO Multimedia survey report of Ghent University](#) on the use of video in higher education. Students and teachers give their opinion and talk about the added value and challenges of video in higher education (Dutch).

## In practice

“Most people think about the lesson recordings ‘waw, that's handy’, but in my case [as a student] the recordings are indispensable. This is often not considered. It is not only ‘easy’, but for some people the recordings are precisely the reason why studying is possible, despite of their limitations.”

“We have a service for audiovisual material and spaces where teachers can record knowledge clips. We have a platform with information about how to make a knowledge clip, what types there are and so on. We try to encourage teachers to do this. But it takes a lot of time.”

“We looked at what students were really struggling with and we made knowledge clips about it. We have to start somewhere and hope it will grow.”

“There is a fear of colleagues not being needed anymore. They think they will be replaced by video material. You must communicate with colleagues. Your role will shift to a coach, a supervisor, a developer. But you will never be replaceable.”

“Many actions are filmed for practical lessons, there are many videos. These are home-made videos, you can also find other videos online, but our own videos are really made with the material that the students will use and show everything exactly as they should know it and be able to do it.”

## References

- <sup>1</sup> Marinissen, J., & van Andel, S. G. (2012). Weblectures, een verrijking van het onderwijs. Ervaringen met verschillende varianten van weblectures in het hoger onderwijs. *Onderzoek van Onderwijs*, 41, 29-33.
- <sup>2</sup> Brotherton, Jason A. and Abowd, G. D. (2004). Lessons learned from eClass: Assessing automated capture and access in the classroom. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 11, 121–155.
- <sup>3</sup> Fernandes, L., Maley, M., & Cruickshank, C. (2008). The impact of online lecture recordings on learning outcomes in pharmacology. *International Association of Medical Science Educators*, 18(2), 62–70.
- <sup>4</sup> Van Den Bossche, J., Verliefde, N., Vandenbunder, C., & Vermeyen, A. (2012). The Use of Weblectures and Its Effect on Learning in Higher and University Education.
- <sup>5</sup> Traphagan, T., Kucsera, J. V., & Kishi, K. (2010). Impact of class lecture webcasting on attendance and learning. *Educational Technology Research and Development*, 58(1), 19–37.
- <sup>6</sup> Lust, G. (2014). Wetenschappelijk onderzoek naar het gebruik van webcolleges [Powerpoint slides]. Geraadpleegd op 15 april 2018 via <https://www.slideserve.com/tiger/wetenschappelijk-onderzoek-naar-het-gebruik-van-webcolleges>
- <sup>7</sup> Bos, N., Groeneveld, C., & Brand-Gruwel, S. (2016). Webcolleges: zegen of vloek? een literatuurstudie en empirisch onderzoek. *Onderzoek van Onderwijs*, 45.
- <sup>8</sup> Hove, M. C., & Corcoran, K. J. (2008). If You Post It, Will They Come? Lecture Availability in Introductory Psychology. *Teaching of Psychology*, 35(2), 91–95.
- <sup>9</sup> Bridge, P. D., Jackson, M., & Robinson, L. (2009). The effectiveness of streaming video on medical student learning: a case study. *Medical Education Online*, 14(11), 4506.
- <sup>10</sup> Danielson, J., Preast, V., Bender, H., & Hassall, L. (2014). Is the effectiveness of lecture capture related to teaching approach or content type? *Computers & Education*, 72, 121–131.

- <sup>11</sup> Chen, C.-M., & Wu, C.-H. (2015). Effects of different video lecture types on sustained attention, emotion, cognitive load, and learning performance. *Computers & Education, 80*, 108–121.
- <sup>12</sup> Duddy, C., Barton, J., Matthews, S., Kerr, E., & Wood, R. (2017). *Student use of ReCap*. Newcastle.
- <sup>13</sup> Williams, J., & Fardon, M. (2007). Lecture recordings: extending access for students with disabilities. In Wheeler & Whitton (Eds.), *ALT-C 2007: Beyond control, Learning technology for the social network generation, Research Proceedings* (pp. 139–148). The Association for Learning Technology.
- <sup>14</sup> Gorissen, P., van Bruggen, J., & Jochems, W. (2012). Students and recorded lectures: survey on current use and demands for higher education. *Research in Learning Technology, 20*(3).
- <sup>15</sup> Elliott, C., & Neal, D. (2016). Evaluating the use of lecture capture using a revealed preference approach. *Active Learning in Higher Education, 17*(2), 153-167.
- <sup>16</sup> Giannakos, M. N., Jaccheri, L., & Krogstie, J. (2016). Exploring the relationship between video lecture usage patterns and students' attitudes. *British Journal of Educational Technology, 47*(6), 1259–1275.
- <sup>17</sup> Owston, R., Lupshenyuk, D., & Wideman, H. (2011). Lecture capture in large undergraduate classes: Student perceptions and academic performance. *Internet and Higher Education, 14*(4), 262–268.
- <sup>18</sup> Hew, K. F. (2009). Use of audio podcast in K-12 and higher education: A review of research topics and methodologies. *Educational Technology Research Development, 57*(3), 333–357.
- <sup>19</sup> Day, J. A., & Foley, J. D. (2006). Evaluating a web lecture intervention in a human-computer interaction course. *IEEE Transactions on Education*.
- <sup>20</sup> Van Den Bossche, J., Verliefe, N., Vandenbunder, C., & Vermeyen, A. (2012). The Use of Weblectures and Its Effect on Learning in Higher and University Education.
- <sup>21</sup> Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information and Management, 43*(1), 15–27.

<sup>22</sup> Filius, R. & Lam, I. (2009). *Rapport evaluatie weblectures Universiteit Utrecht*.

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[https://www.researchgate.net/profile/Renee\\_Filius/publication/42318881\\_Rapport\\_evaluatie\\_weblectures\\_Universiteit\\_Utrecht/links/5464850f0cf2cb7e9daa0e2c/Rapport-evaluatie-weblectures-Universiteit-Utrecht.pdf](https://www.researchgate.net/profile/Renee_Filius/publication/42318881_Rapport_evaluatie_weblectures_Universiteit_Utrecht/links/5464850f0cf2cb7e9daa0e2c/Rapport-evaluatie-weblectures-Universiteit-Utrecht.pdf)

<sup>23</sup> Schellens, T. (2015-2016). *Onderwijstechnologie [Cursus]*. Universiteit Gent: Pedagogische Wetenschappen/Pedagogiek en Onderwijskunde

<sup>24</sup> Kelly, Anna M., and Padden, Lisa (2018). *Toolkit for Inclusive Higher Educations Institutions: From Vision to Practice*. Dublin: UCD Access & Lifelong Learning