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eCollab:
Examples from Practice

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Four Cs for the 21st Century

Communication

Sharing ideas, thoughts, solutions and questions

Collaboration

Working together to reach a common goal

Creativity and Innovation

Using new techniques and approaches to create new ideas

Critical Thinking and Problem Solving

Ask significant questions that lead to better solutions

Collaborative Learning Scenarios at ETH

- Discussions
- Write and edit texts (together)
- Preparation and follow-up of lectures and seminars
- Peer Review/Assessment
- Exchange and management of documents
- Exam preparation
- Learning Diary/ Portfolio

PressBooks

Hypothes.is

Polybox

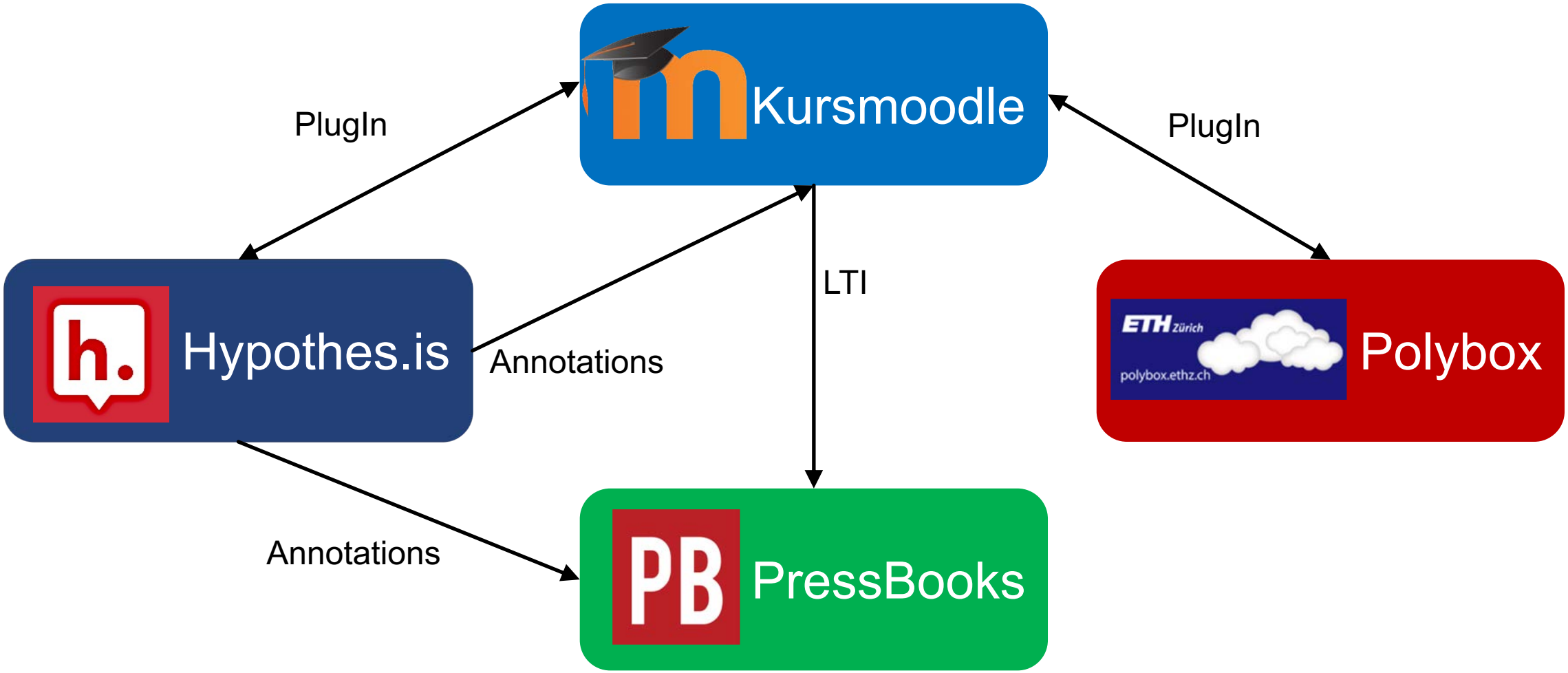
CODE
Collabora Online
Development Edition

ownCloud

Kursmoodle

Collaborative Folders

File Repository


Kursmoodle
PlugIn
PlugIn
Hypothes.is
Annotations
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Theoretical Background

Domain	Rubric Criterion	Description oft he criterion	Theoretical Background
Instruction	Positive interdependence	How does the teacher structure positive interdependence in his lesson, i.e. how does he guarantee that students can only succeed when their group member succeed?	Dillenbourg (1999), Jacobs et al. (2002), Johnson and Johnson (1999), Kagan (1994), Slavin (1996)
	Individual accountability	How does the teacher structure individual accountability in his lesson, i.e. how does he guarantee that each group member takes the responsibility for his own learning as well as for helping other group members to learn?	Dillenbourg (1999), Jacobs et al. (2002), Johnson and Johnson (1999), Kagan (1994), Slavin (1996)
	Social goals and objectives	Does the teacher strive for social goals and lesson objectives in addition to content-related lesson objectives?	Jacobs et al. (2002), Johnson and Johnson (1999)
	Type of CL	Does the teacher have a clear view on the type of CL he will use in his lesson?	Johnson and Johnson (1999), Kagan (1994), Slavin (1996)
	Learning task/ assignment	Does the teacher use an adequate collaborative learning task that is adjusted to the developmental level of the students and the lesson objectives?	Gillies et al. (2007), Gillies and Boyle (2010), Jacobs et al. (2002), Slavin (1996)
	Materials and resources	Does the teacher use adequate materials and resources that are compatible with the lesson objectives and the type of CL?	Gillies et al. (2007), Gillies and Boyle (2010), Jacobs et al. (2002)
	Opening instruction	Does the lesson plan contain adequate information for the opening instruction of the teacher?	Ebbens et al. (1997)
	Strategies for developing collaborative skills	How will the teacher help the students to collaborate in an effective and efficient way?	Blatchford et al. (2003), Gillies (2000), Gillies (2006), Johnson and Johnson (2003), Slavin (1996)
	Teacher as a guide	How will the teacher guide the collaborative learning process?	Delie`vre et al. (2006), Gillies et al. (2007), Reiser and Dick (1996)
	Differentiated instruction	How will the teacher deal with differences between students and/or groups during collaborative learning?	Jacques (2004), Reiser and Dick (1996)
Organization	Classroom arrangement	How will the teacher arrange the classroom, realizing possibilities for direct interaction between the students in their group?	Frudden (2001), Hertz- Lazarowitz (2008), Johnson and Johnson (1999), Kagan (1994), Naafs et al. (2002)
	Rules and agreements	How will the teacher manage the classroom by developing rules and agreements during collaborative work?	Ebbens et al. (1997), Reiser and Dick (1996)
	Timing	Does the teacher describe an adequate timing for the lesson?	Pinsky et al. (1998), Reiser and Dick (1996)
	Group composition	How will the teacher compose groups that promote efficient and effective CL?	Ebbens et al. (1997), Jacobs et al. (2002), Jacques (2004), Johnson and Johnson (1999), Lou et al. (1996)
Evaluation	Monitoring group processes	How will the teacher observe the approach and progress in individual students and/or groups?	Gillies et al. (2007), Johnson and Johnson (2003)
	Evaluating the learning process	How will the teacher assess the group process?	Johnson and Johnson (1999), Naafs et al. (2002)
	Evaluation the learning product/	How will the teachers assess the learning/product/ outcome?	Johnson and Johnson (1999), Reiser and Dick (1996)

Scoring Grid for CL Lesson Plans

		Exceeds Expactations	Adequate Measures/ Expectations	Needs Improvement	Unsatisfactory	Absent
	Domain: Instruction					
A-1	Key Components – Positive Interdependence	The teacher clearly describes more than one adequate way of realizing and guaranteeing positive interdependence in the lesson plan.	The teacher clearly describes at least one adequate way of realizing and guaranteeing positive interdependence in the lesson.	The teacher refers to one or more ways of realizing positive interdependence in the lesson, but the elaboration is restricted, incomplete, and/or vague.	The lesson plan grasps the realization of positive interdependence during CL only implicitly or the proposed way of realizing positive interdependence is inadequate.	There is no indication in the lesson plan that positive interdependence is pre-structured.
A-2	Key Components – Individual accountability	The teacher clearly describes more than one adequate way of realizing and guaranteeing individual accountability in the lesson plan.	The teacher clearly describes at least one adequate way of realizing and guaranteeing individual accountability in the lesson.	The teacher refers to one or more ways of realizing individual accountability in the lesson, but the elaboration is restricted, incomplete, and/or vague.	The lesson plan grasps the realization of individual accountability during CL only implicitly or the proposed way of realizing individual accountability is inadequate.	There is no indication in the lesson plan that individual accountability is prestructured.
A-3	Social goals and objectives	The teacher strives for clearly-defined social goals and objectives, and communicates about this to the students.	The teacher strives for clearly-defined social goals and objectives.	The teacher strives for social goals and objectives, but they are formulated vaguely or in general terms.	The teacher sets clearly-defined social goals and objectives, but the lesson plan provides little evidence for striving for those objectives.	The teacher sets no social goals and objectives.

Example 1 - Sustainable Agroecosystems

- Tool used:
  - Polybox + Collabora

- Purpose:
  - Providing Information to students
  - Gathering and organizing of experimental Data
  - Sharing of results

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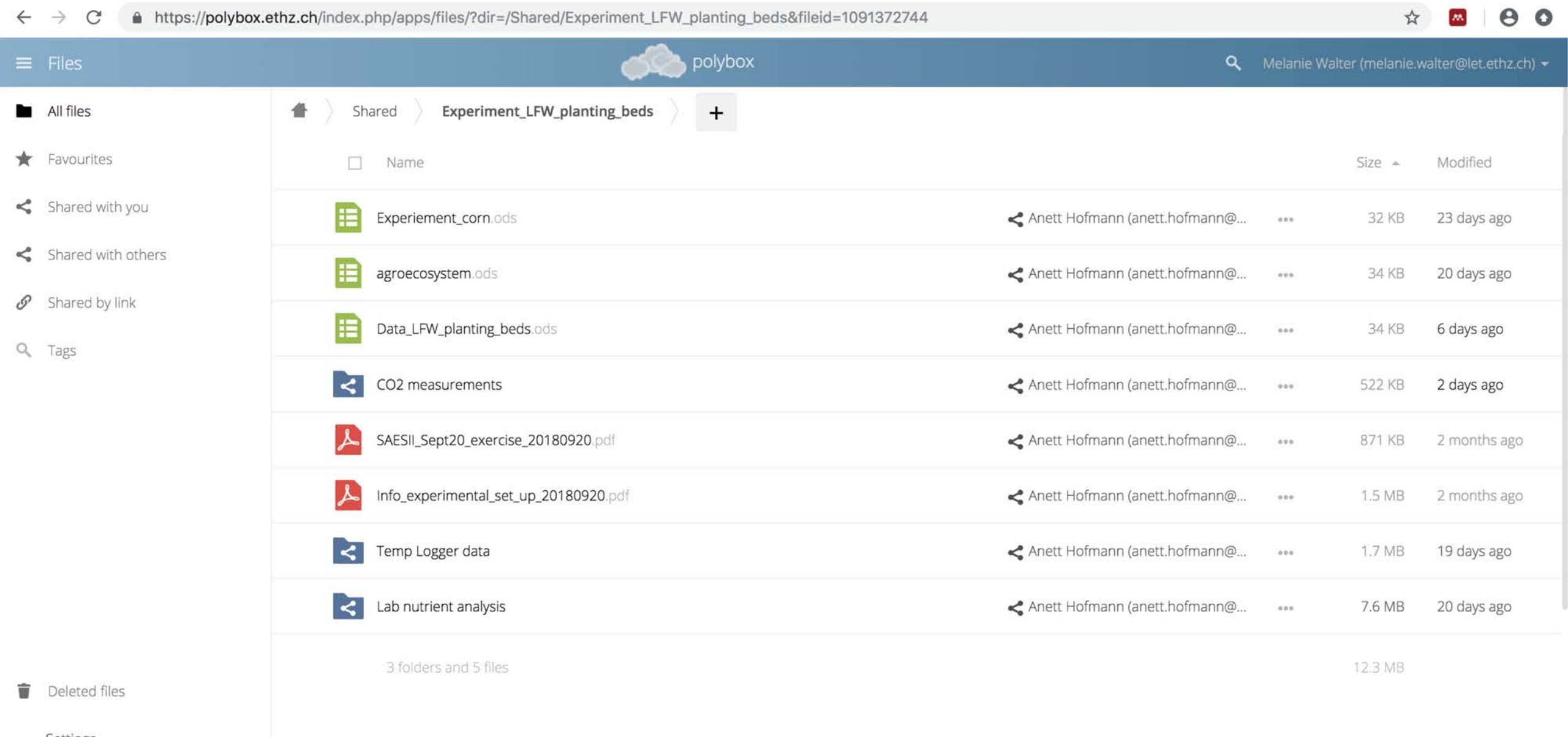
Sustainable Agroecosystems – Overview



Sustainable Agroecosystems – Instructions

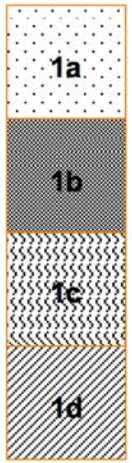
Experimental set-up at LFW planting beds (started in Nov. 2017)

Planting bed #: 1

Main factor: Biochar

Randomized block design, four treatments:

- a Control
- b Compost
- c Nitrified urine
- d Mulch



24 treatment plots = 1.5 x 1.5 m (2.25 m

ETH zürich Experimental set-up at LFW planting beds | Sept. 20, 2018

Soil improvement of LFW planting beds Overview of proposed strategies

Student team	Objectives
Compost	Soil amendment v

ETH zürich Experimental set-up at LFW planting beds | Sept. 20, 2018

Soil improvement of LFW planting beds Overview of proposed strategies

Student team	Objectives	Hypotheses
Biochar I	Improve water holding capacity of soil by adding (1) biochar and (2) mulch.	1. Biochar amendment (900 g/m^2) applied to topsoil (0-10/15 cm) will improve water holding capacity (Karhu et al., 2011). 2. Mulch increases SOC and therefore increases water holding capacity (Powlson et al., 2012).

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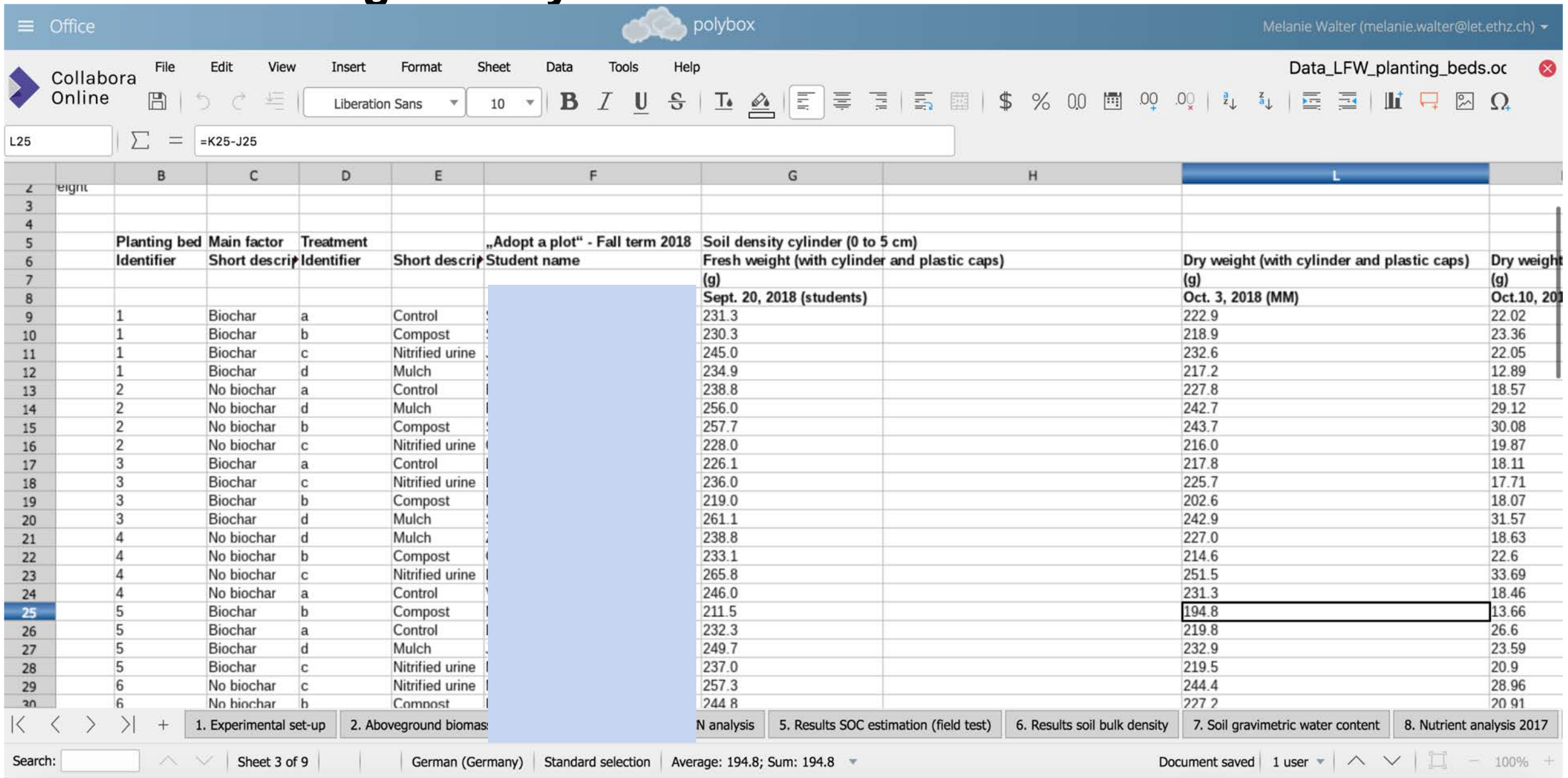
Sustainable Agroecosystems – Data



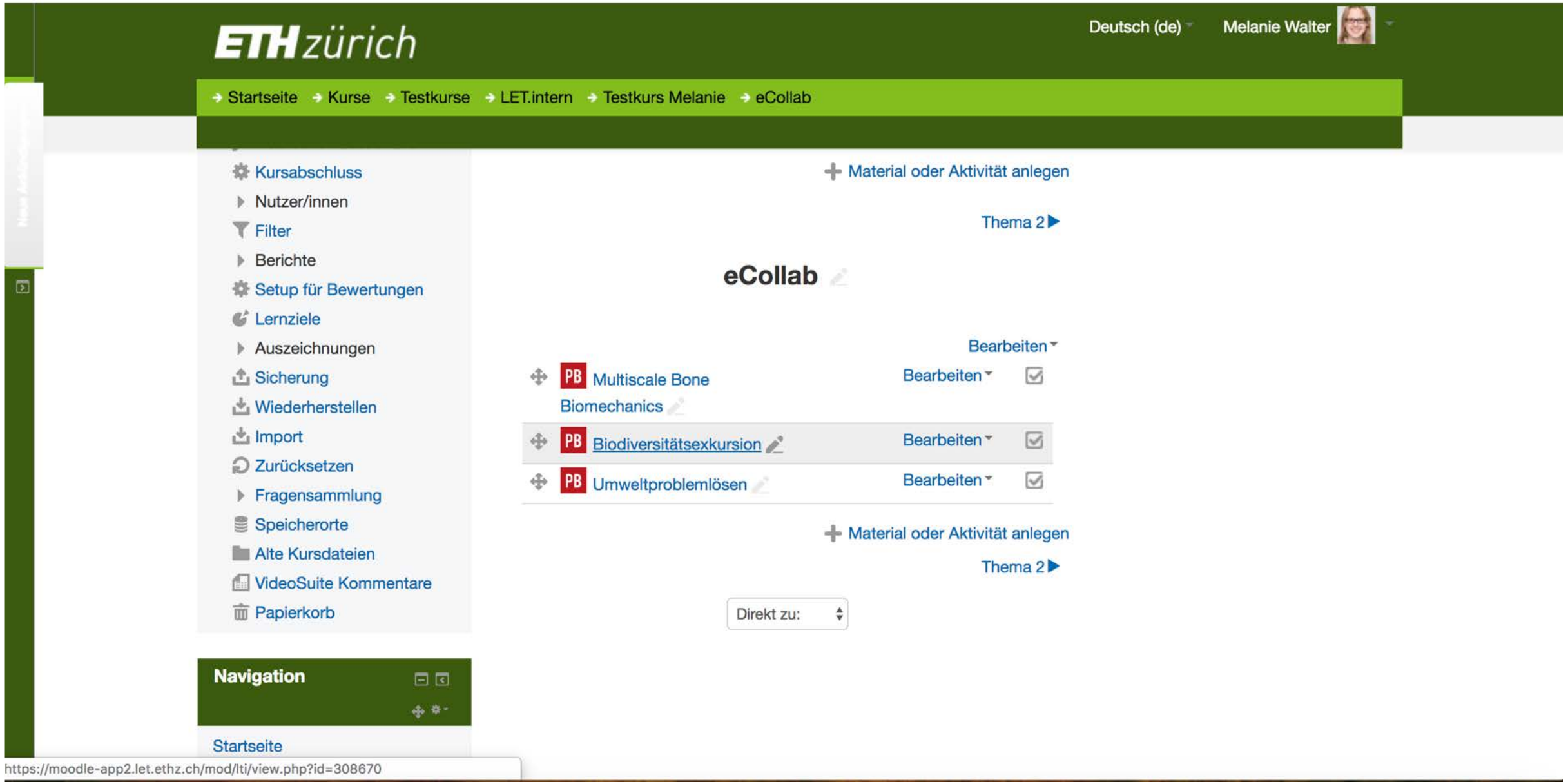
	B	C	D	E	F	G	H	L
5	Planting bed	Main factor	Treatment		„Adopt a plot“ - Fall term 2018	Soil density cylinder (0 to 5 cm)		
6	Identifier	Short descrip	Identifier	Short descrip	Student name	Fresh weight (with cylinder and plastic caps)		Dry weight (with cylinder and plastic caps)
7						(g)		(g)
8						Sept. 20, 2018 (students)		Oct. 3, 2018 (MM)
9	1	Biochar	a	Control		231.3		222.9
10	1	Biochar	b	Compost		230.3		218.9
11	1	Biochar	c	Nitrified urine		245.0		232.6
12	1	Biochar	d	Mulch		234.9		217.2
13	2	No biochar	a	Control		238.8		227.8
14	2	No biochar	d	Mulch		256.0		242.7
15	2	No biochar	b	Compost		257.7		243.7
16	2	No biochar	c	Nitrified urine		228.0		216.0
17	3	Biochar	a	Control		226.1		217.8
18	3	Biochar	c	Nitrified urine		236.0		225.7
19	3	Biochar	b	Compost		219.0		202.6
20	3	Biochar	d	Mulch		261.1		242.9
21	4	No biochar	d	Mulch		238.8		227.0
22	4	No biochar	b	Compost		233.1		214.6
23	4	No biochar	c	Nitrified urine		265.8		251.5
24	4	No biochar	a	Control		246.0		231.3
25	5	Biochar	b	Compost		211.5		194.8
26	5	Biochar	a	Control		232.3		219.8
27	5	Biochar	d	Mulch		249.7		232.9
28	5	Biochar	c	Nitrified urine		237.0		219.5
29	6	No biochar	c	Nitrified urine		257.3		244.4
30	6	No biochar	b	Compost		244.8		227.2

Example 2 – Biodiversitätsexkursion

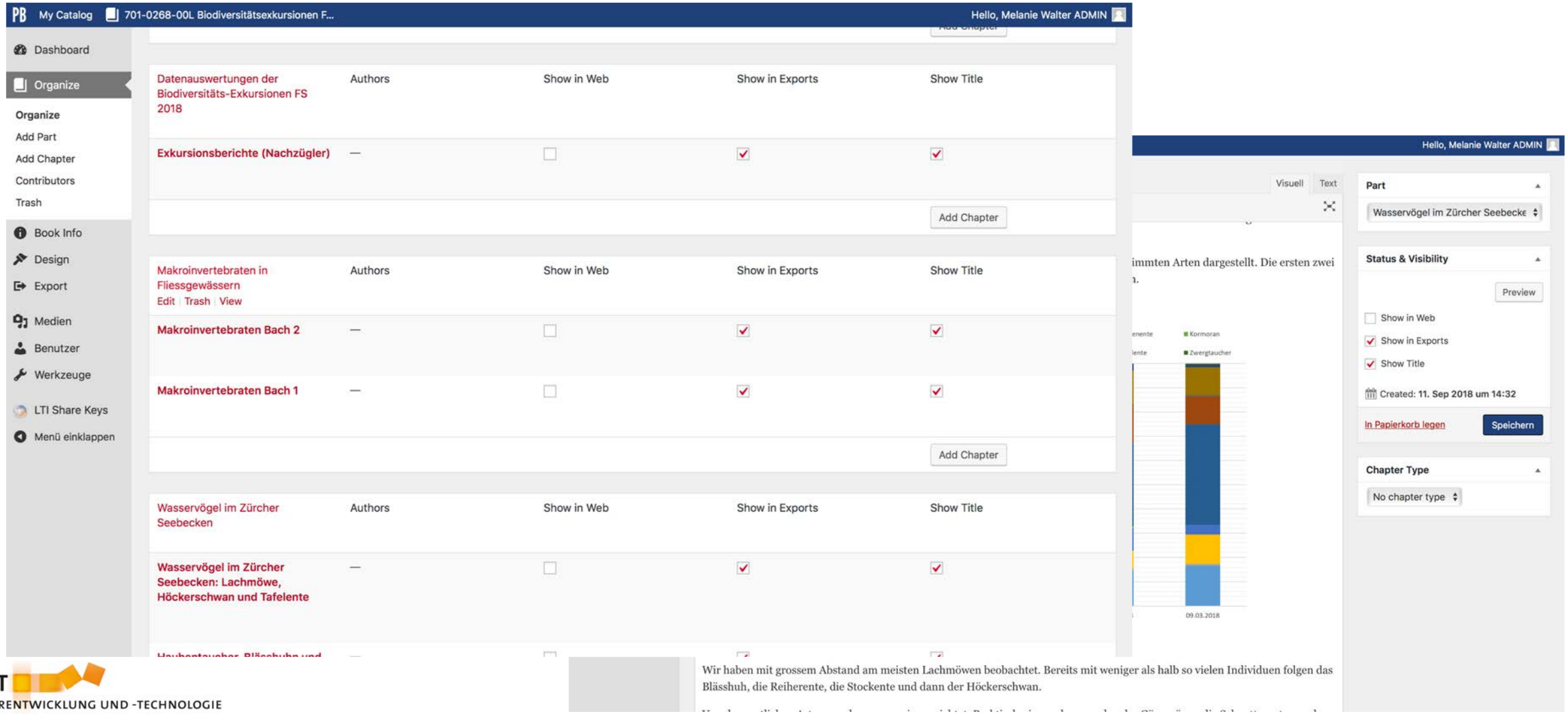
- Tool used:
  - Moodle – User Entrollment
  - Wordpress – Content

- Purpose:
  - Collaborative writing of excursion reports
  - Reflection and Peer Review through Comments

Biodiversitätsexkursion – Moodle



Biodiversitätsexkursion – Editing and Organizing Content



Biodiversitätsexkursion – Results

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Biodiversitätsexkursionen FS2018: Biodivs_Datenblog 2018

UMNW Studierende and 2.Semester FS 2018

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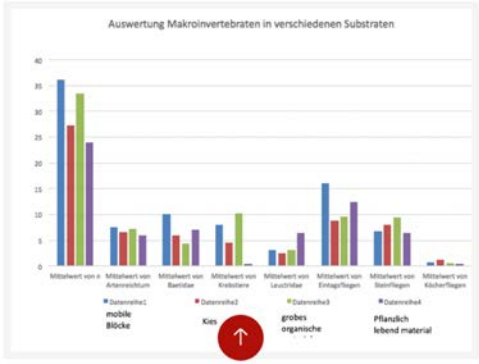
Resultate

1) Artenvielfalt in Zusammenhang mit Substrat:

Die Auswertung der Daten zeigt, dass auf mobilen Blöcken am meisten Lebewesen zu finden sind. Das grobe organische Material (wie Totholz) folgt an zweiter Stelle. Als drittbeliebtestes Substrat kommt der Kies, unter welchem sich Kleintiere gut verstecken können. An letzter Stelle liegt das pflanzlich lebendige Material. Wir gehen davon aus, dass die Tiere dort nicht genügend Versteckmöglichkeiten finden, wodurch sie ihren Feinden zu stark ausgeliefert sind und von der Strömung weggespült werden.



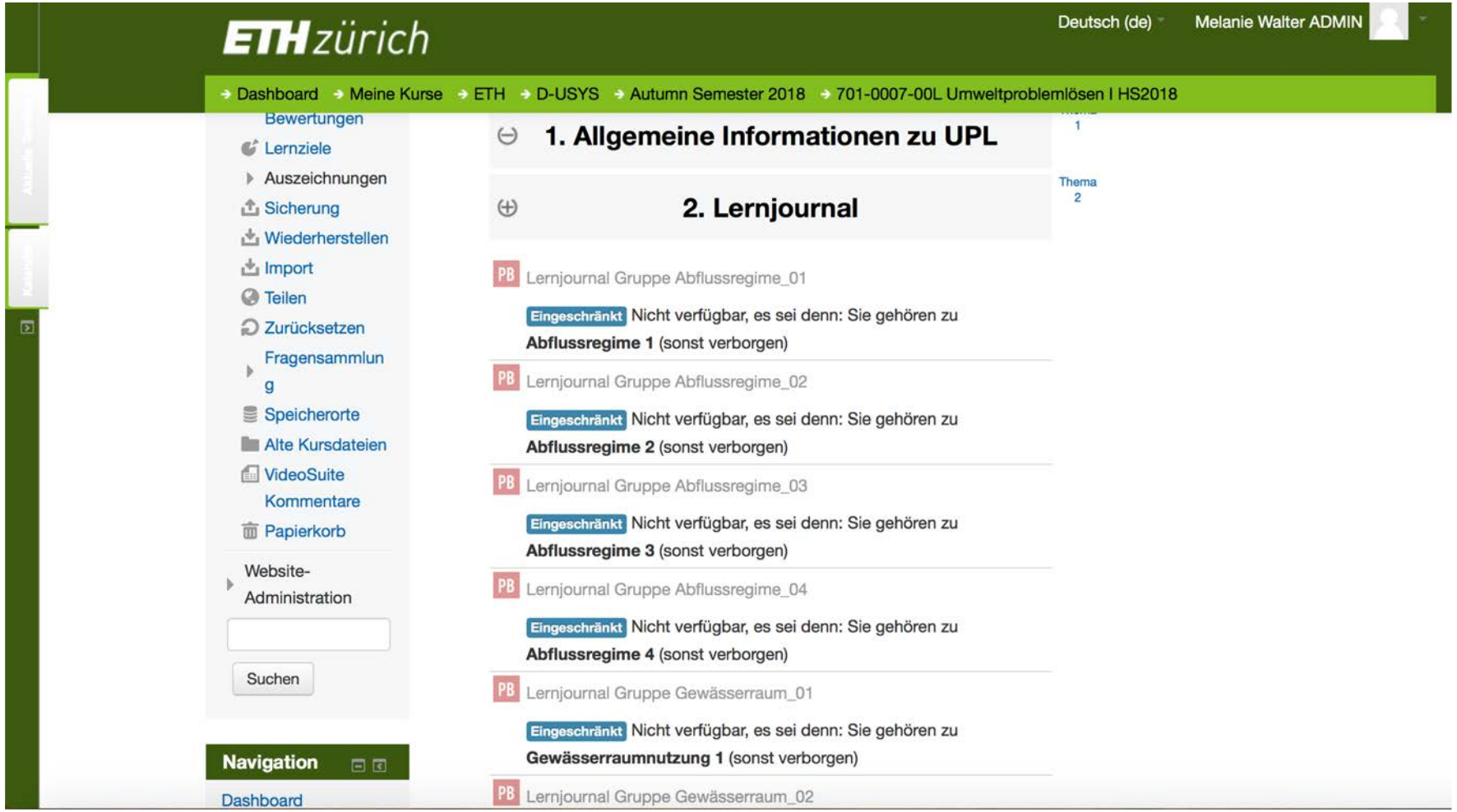
← Previous (Chapter) Next (Chapter) →

Example 3 - Umweltproblemlösen

- Tool used:
  - Moodle – User Entrollment, Group and Time Management
  - Wordpress – Content

- Purpose:
  - Collaborative writing of Learning Journal
  - Planning of Further Steps
  - Reflection on Learning Process and Group Dynamics

Umweltproblemlösen



Umweltproblemlösen

Woche 8 (bis 11.11.)

Zusammenarbeit reflektieren und Gruppenideal bestimmen

← Previous (Chapter)

Next (Chapter) →

Wie stellen wir uns die «ideale» Gruppe vor?

In einer idealen Gruppe sind möglichst viele der verschiedenen Rollen vertreten und keine kommt zwei Mal vor. Gäbe es zum Beispiel zwei Anführer, wären Konflikte zwischen ihnen unvermeidlich. Ein weiterer wichtiger Punkt ist die Kommunikation. Man sollte offen miteinander reden können, um somit Probleme aus der Welt zu schaffen, bevor diese überhaupt auftreten. Jedes Gruppenmitglied sollte in dem Bereich arbeiten können, der ihm/ihr am besten liegt, damit das Endergebnis sehr effizient und bestmöglich erzielt wird.

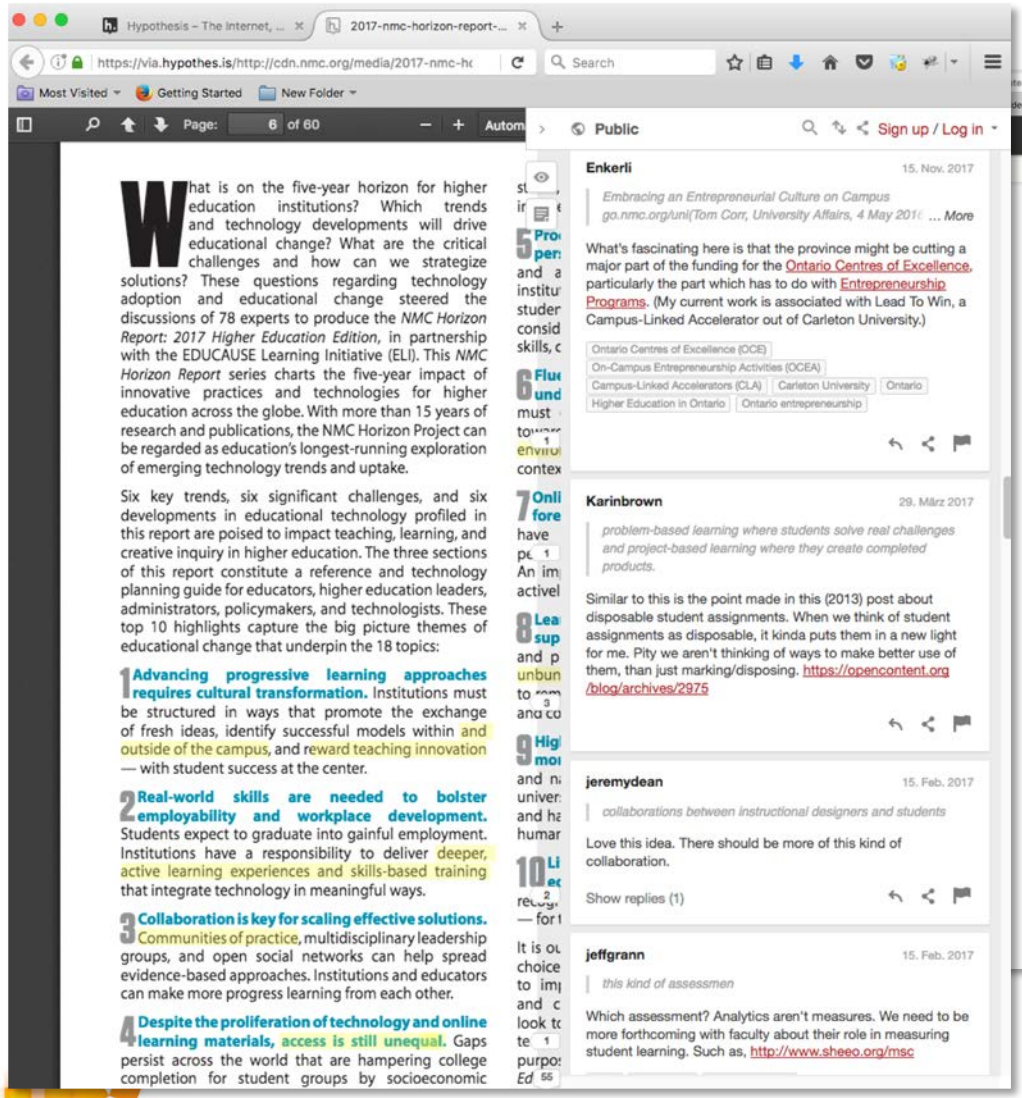
Was charakterisiert unsere Gruppe?

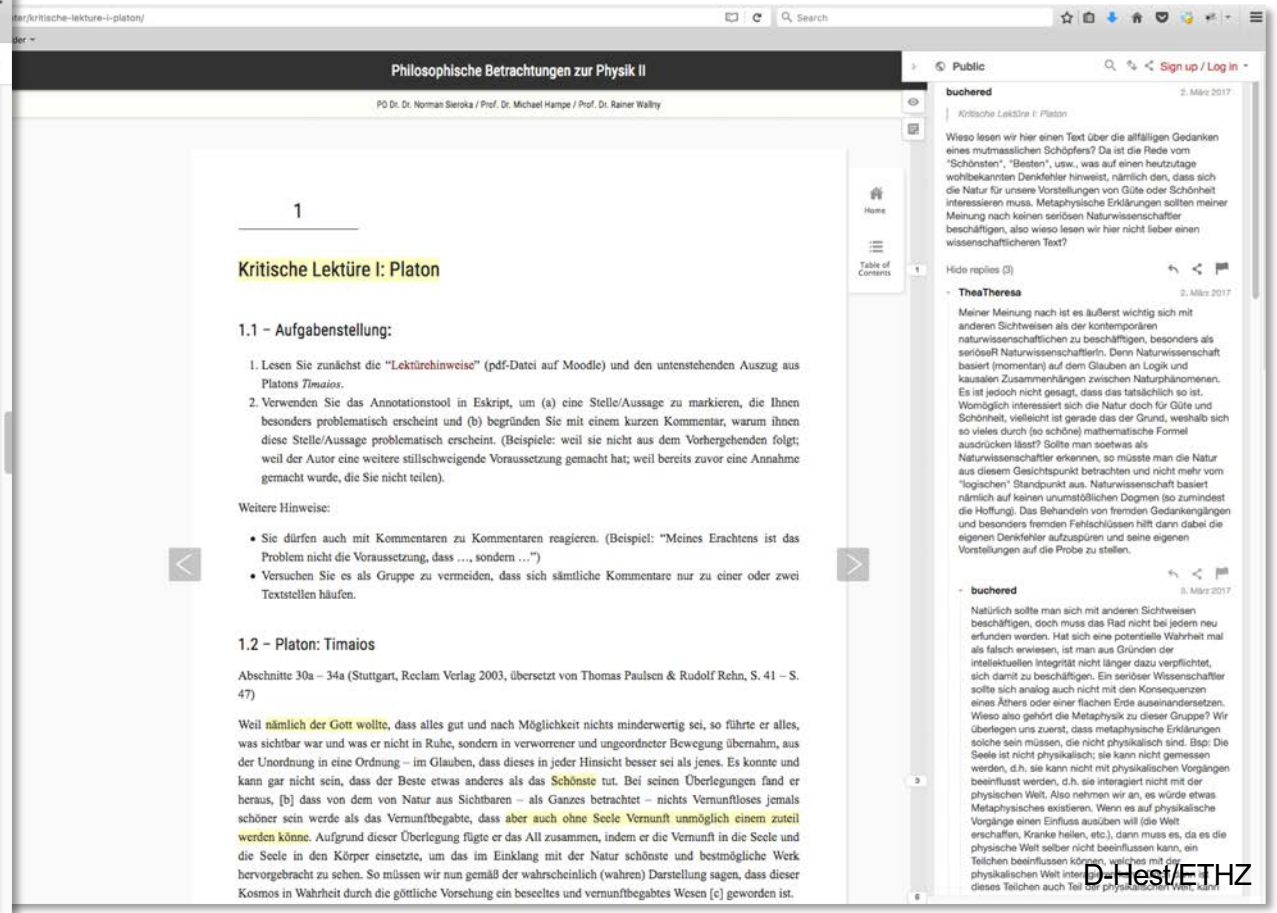
Wir haben viel Potential, müssen in Zukunft aber noch strukturierter vorgehen, um effizienter zu werden. Unsere Gruppe zeichnet sich durch viele Teamplayer aus und daher gab es bisher noch

Preview

- Online Annotation – hypothes.is
- Collaborative Folders – Moodle PlugIn
- Interactive Modules – H5P

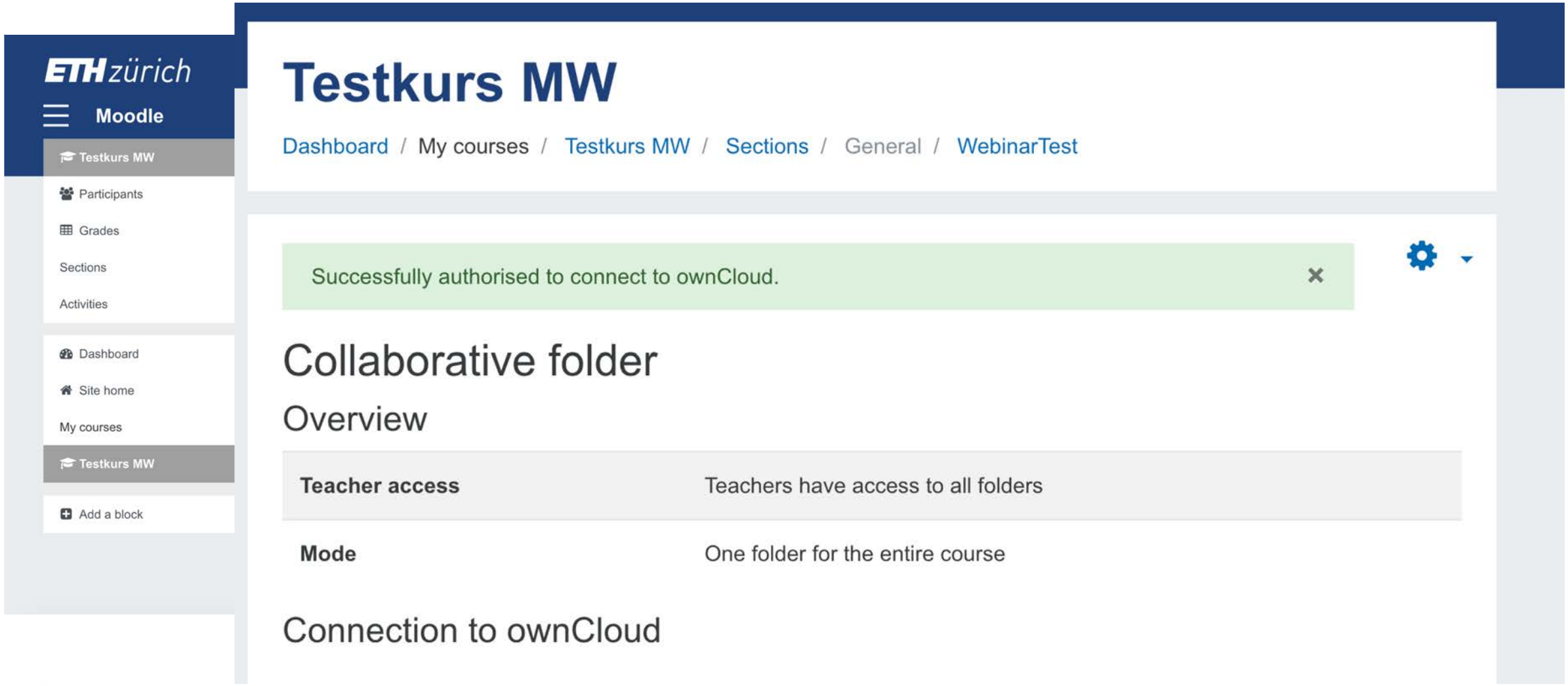
Online Annotation – Hypothes.is



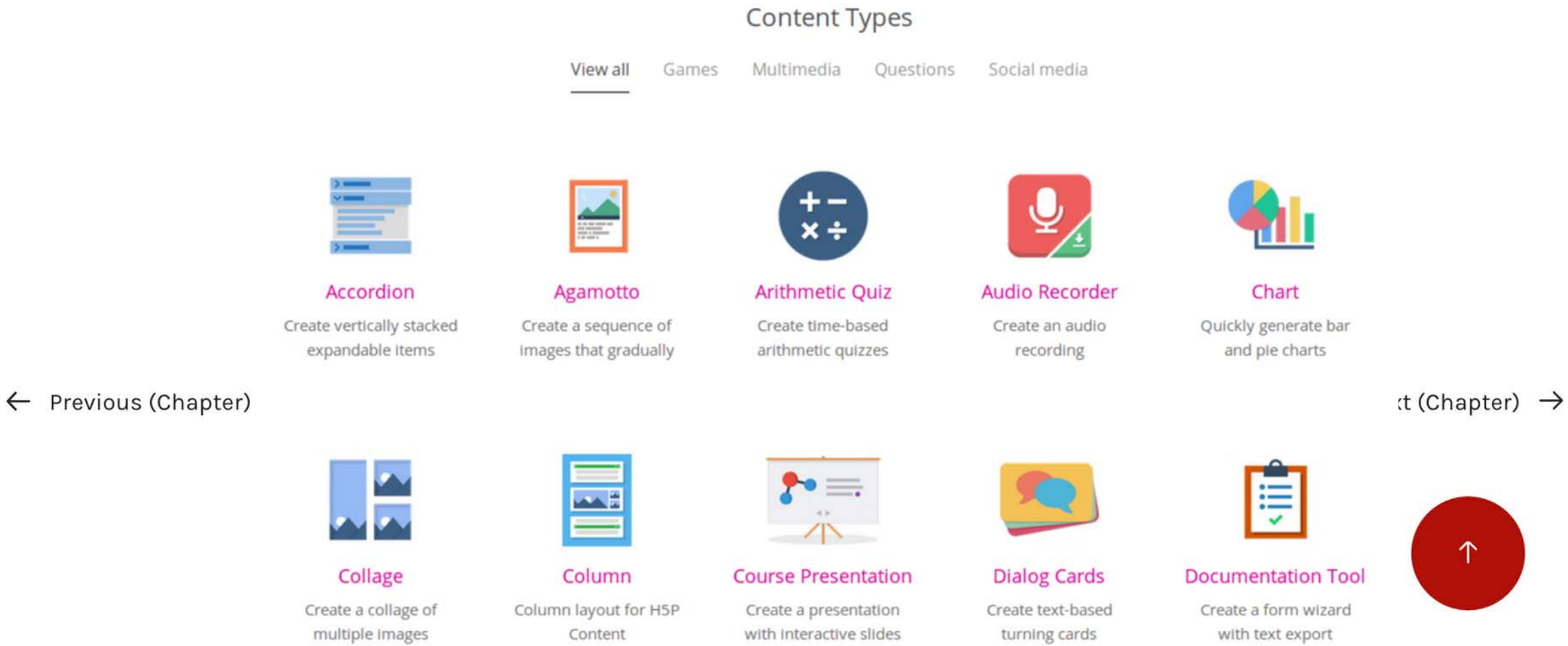


D-Hest/ETHZ

Collaborative Folders – Moodle PlugIn



Interactive Modules – H5P



Thank you!

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