

eCollab: Examples from Practice

Melanie Walter

Lehrentwicklung und -technologie LET, ETH Zürich



Four Cs for the 21st Century

Communication



Sharing ideas, thoughts, solutions and questions

Collaboration



Working together to reach a common goal

Using new techniques and approaches to create new ideas

Creativity and

Innovation

Critical Thinking and Problem Solving



Ask significant questions that lead to better solutions

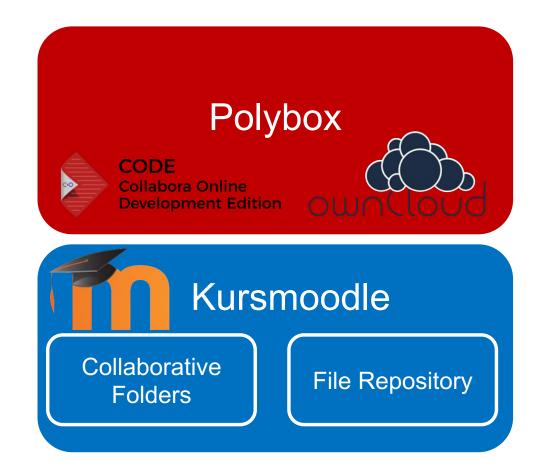


Collaborative Learning Scenarios at ETH

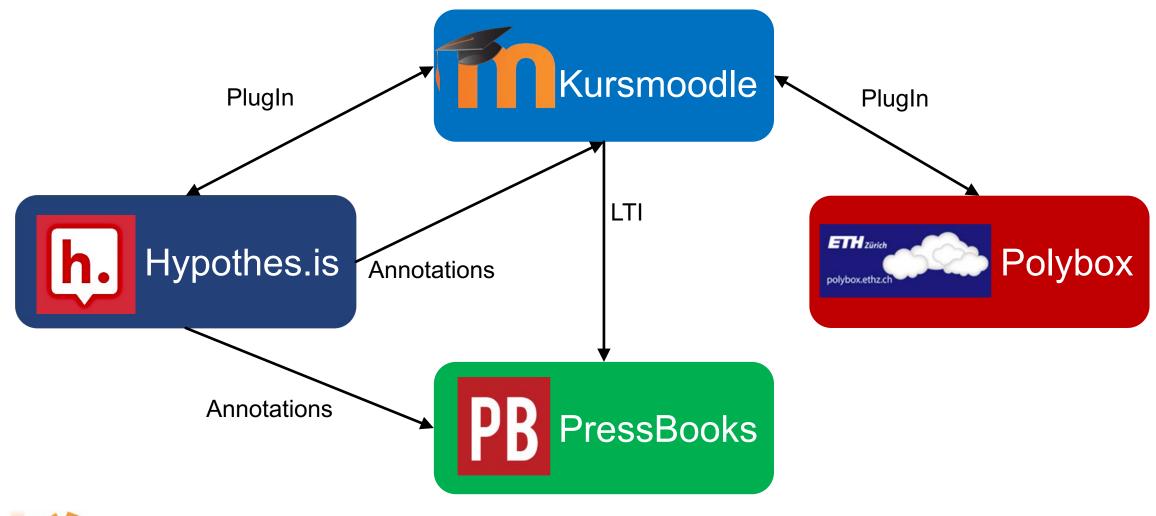
- Discussions
- Write and edit texts (together)
- Preparation and follow-up of lectures and seminars
- Peer Review/Assessment
- Exchange and management of documents
- Exam preparation
- Learning Diary/ Portfolio













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)
LET	TECHNOLOGIE	How will the teacher assess the group process?	Johnson and Johnson (1999) Naafs et al. (2002) 6
	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 individua accountability in the lesson plan.	The teacher clearly describes at least one adequate way of realizing and Iguaranteeing 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



Sustainable Agroecosystems – Overview

https://polybox.ethz.ch/index.php/apps/files/?dir=/Shared/Experiment_LFW_planting_beds&fileid=1091372744 0 \rightarrow C \$ 0 \leftarrow polybox All files Shared Experiment_LFW_planting_beds 睂 + ★ Favourites Modified Name Size + Shared with you Ħ Experiement_corn.ods Anett Hofmann (anett.hofmann@... 23 days ago 32 KB 0.0.0 Shared with others agroecosystem.ods Anett Hofmann (anett.hofmann@... 34 KB 20 days ago Shared by link Data_LFW_planting_beds.ods Anett Hofmann (anett.hofmann@... 6 days ago 34 KB 000 Q Tags < CO2 measurements Anett Hofmann (anett.hofmann@... 2 days ago 522 KB 000 SAESII_Sept20_exercise_20180920.pdf Anett Hofmann (anett.hofmann@... 871 KB 2 months ago Info_experimental_set_up_20180920.pdf Anett Hofmann (anett.hofmann@... 1.5 MB ... 2 months ago Temp Logger data Anett Hofmann (anett.hofmann@... < 19 days ago 1.7 MB 000 Lab nutrient analysis < Anett Hofmann (anett.hofmann@... 20 days ago 7.6 MB 0.0.0

Deleted files

e

Sustainable Agroecosystems – Instructions

ETH zürich Experimental set-up at LFW planting beds | Sept. 20, 2018 Experimental set-up at LFW planting beds (started in Nov. 2017) **ETH**zürich Planting bed #: 1 Experimental set-up at LFW planting beds | Sept. 20, 2018 Main factor: Biochar Soil improvement of LFW planting beds Overview of proposed strategies Randomized block design, **ETH** zürich Objectives Student team Experimental set-up at LFW planting beds | Sept. 20, 2018 1a four treatments: Soil improvement of LFW planting beds Overview of proposed strategies Compost Soil amendment v a Control **b** Compost 16 Student team Objectives **Hypotheses Biochar I** Improve water holding capacity of soil by adding 1. Biochar amendment (900 g/m²) applied to c Nitrified urine (1) biochar and (2) mulch. topsoil (0-10/15 cm) will improve water holding capacity (Karhu et al., 2011). d Mulch le 2. Mulch increases SOC and therefore increases water holding capacity (Powlson et al., 2012). 24 treatment plots = 1.5 x 1.5 m (2.25 m



Sustainable Agroecosystems – Data

Col Onl	abora ^{File} ine 🖺	Edit Viev	v Insert Liberatio	Ý	Sheet Data Tools Help 10 Image: Description of the second s		🛼 🖩 9	\$ % 0.0 🛅 0.0		anting_beds.oc 🧧 μ 🖵 🖾 Ω
5	$ \Sigma =$	=K25-J25								
z eigr	В	С	D	E	F	G		Н		
2 eigr 3										
4		-	-							
5	Planting b	ed Main factor	Treatment		"Adopt a plot" - Fall term 2018	Soil density cylinder (0 to 5	i cm)			
6	Identifier	Short descri		Short descrip	Student name	Fresh weight (with cylinder		1	Dry weight (with cylinder and p	lastic caps) Dry weig
7						(g)			(g)	(g)
8						Sept. 20, 2018 (students)			Oct. 3, 2018 (MM)	Oct.10, 2
9	1	Biochar	a	Control	1	231.3			222.9	22.02
10	1	Biochar	b	Compost		230.3			218.9	23.36
1	1	Biochar	с	Nitrified urine		245.0			232.6	22.05
12	1	Biochar	d	Mulch		234.9			217.2	12.89
13	2	No biochar	a	Control		238.8			227.8	18.57
14	2	No biochar	d	Mulch	1	256.0			242.7	29.12
15	2	No biochar	b	Compost	1	257.7			243.7	30.08
16	2	No biochar	с	Nitrified urine	1	228.0			216.0	19.87
17	3	Biochar	a	Control	1	226.1			217.8	18.11
18	3	Biochar	с	Nitrified urine		236.0			225.7	17.71
19	3	Biochar	b	Compost		219.0			202.6	18.07
20	3	Biochar	d	Mulch		261.1			242.9	31.57
21	4	No biochar	d	Mulch		238.8			227.0	18.63
22	4	No biochar	b	Compost		233.1			214.6	22.6
23	4	No biochar	С	Nitrified urine		265.8			251.5	33.69
24	4	No biochar	a	Control		246.0			231.3	18.46
25	5	Biochar	b	Compost		211.5			194.8	13.66
26	5	Biochar	a	Control		232.3			219.8	26.6
.7	5	Biochar	d	Mulch		249.7			232.9	23.59
28	5	Biochar	с	Nitrified urine		237.0			219.5	20.9
29	6	No biochar	С	Nitrified urine		257.3			244.4	28.96
20	6	No biochar	b	Compost	1	244 8			227.2	20.91
<	$\rangle \rangle + $	1. Experimental	set-up 2. Ab	oveground bioma	S	N analysis 5. Results SOC est	imation (field test)	6. Results soil bulk density	7. Soil gravimetric water content	8. Nutrient analysis 2017

Example 2 – Biodiversitätsexkursion

- Tool used:
 - Moodle User Entrollment
 - Wordpress Content
- Purpose:
 - Collaborative writing of excursion reports
 - Reflection and Peer Review through Comments



Biodiversitätsexkursion – Moodle

ETH zürich				
→ Startseite → Kurse → Testkurse	LET.intern + Testkurs Melanie + eCollab			
🔅 Kursabschluss	+	Material oder Aktivitä	t anlegen	
 Nutzer/innen Filter 		The	ema 2 🕨	
 Berichte Setup f ür Bewertungen 	eCollab			
LernzieleAuszeichnungen		Bear	beiten -	
📩 Sicherung	Biomechanics	Bearbeiten *	\square	
 ▲ Import ⊋ Zurücksetzen 	Biodiversitätsexkursion Z	Bearbeiten *		
Fragensammlung	Umweltproblemlösen	Bearbeiten *	\square	
Speicherorte Alte Kursdateien	+	Material oder Aktivitä	t anlegen ema 2 🕨	
VideoSuite KommentarePapierkorb	Direkt zu:			
w raponois	Direkt zu.]		
Navigation				
Startseite				

Biodiversitätsexkursion – Editing and Organizing Content

PB My Catalog 📕 70'	1-0268-00L Biodiversitätsexkursionen F	i -			Hello, Melanie Walter ADMIN		
Dashboard							
Organize	Datenauswertungen der Biodiversitäts-Exkursionen FS 2018	Authors	Show in Web	Show in Exports	Show Title		
Add Part Add Chapter	Exkursionsberichte (Nachzügler)	_					Hello, Melanie Walter ADM
Contributors						Visuell Text	Part
Trash					Add Chapter	×	Wasservögel im Zürcher Seebecke
Book Info							
DesignExport	Makroinvertebraten in Fliessgewässern Edit Trash View	Authors	Show in Web	Show in Exports	Show Title	immten Arten dargestellt. Die ersten zwei 1.	Status & Visibility Preview
91 Medien	Makroinvertebraten Bach 2	-			✓	enente E Kormoran	Show in Web
🕹 Benutzer						lente Zwergtaucher	 Show in Exports Show Title
🖋 Werkzeuge	Makroinvertebraten Bach 1	_			✓		Treated: 11. Sep 2018 um 14:32
LTI Share Keys							
O Menü einklappen					· · · · · · · · · · · · · · · · · · ·		In Papierkorb legen Speichern
					Add Chapter		Chapter Type
	Wasservögel im Zürcher Seebecken	Authors	Show in Web	Show in Exports	Show Title		No chapter type 💠
	Wasservögel im Zürcher Seebecken: Lachmöwe, Höckerschwan und Tafelente	÷.				09.03.2018	
	Unikantaushar Dišaahuka und		~	Wir haben mit grossem Abstand a	m meisten Lachmöwen beobachtet. Bereits mit we	niger als halb so vielen Individuen folgen das	
ENTWICKLUNG UND -	TECHNOLOGIE			Blässhuh, die Reiherente, die Stoc	kente und dann der Höckerschwan.	nye energen an energen en en fillte fan tit ferenaam ferste generale yn en en seren de fillte feren ferenaam fe	

Biodiversitätsexkursion – Results

Increase Font Size

ETH zürich

Home Read Admin Sign out Search in book ... Q

- Previous (Chapter)

Biodiversitätsexkursionen FS2018: Biodivs_Datenblog 2018

UMNW Studierende and 2.Semester FS 2018

All Rights Reserved



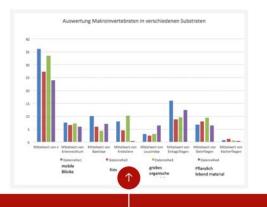


Resultate

Increase Font Size 🔒

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.



LET

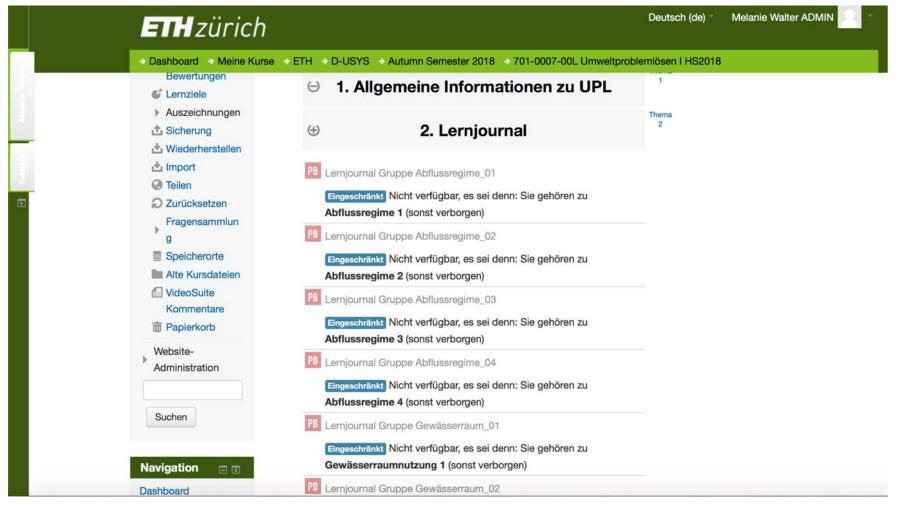
Next (Chapter) →

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





E *zürich*

CONTENTS

Umweltproblemlösen

 ∇

Increase Font Size 🛛 🖬

701-0007-00L UMWELTPROBLEMLÖSEN I HS2018: LERNJOURNAL GRUPPE ABFLUSSREGIME_01

Woche 8 (bis 11.11.)

Zusammenarbeit reflektieren und Gruppenideal bestimmen

← Previous (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

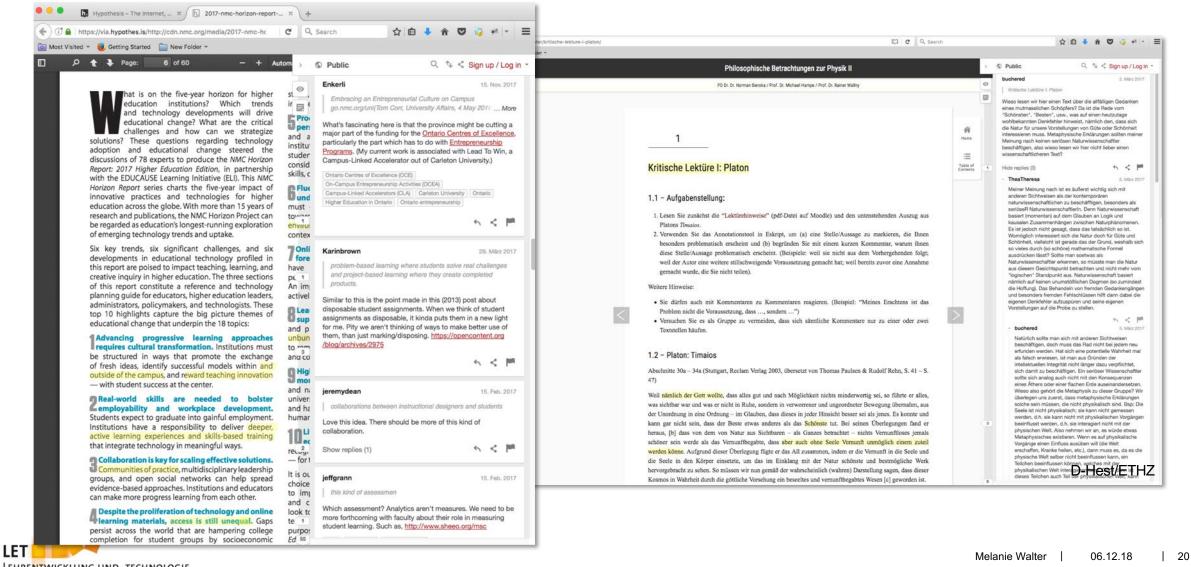
Next (Chapter) \rightarrow

Preview

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

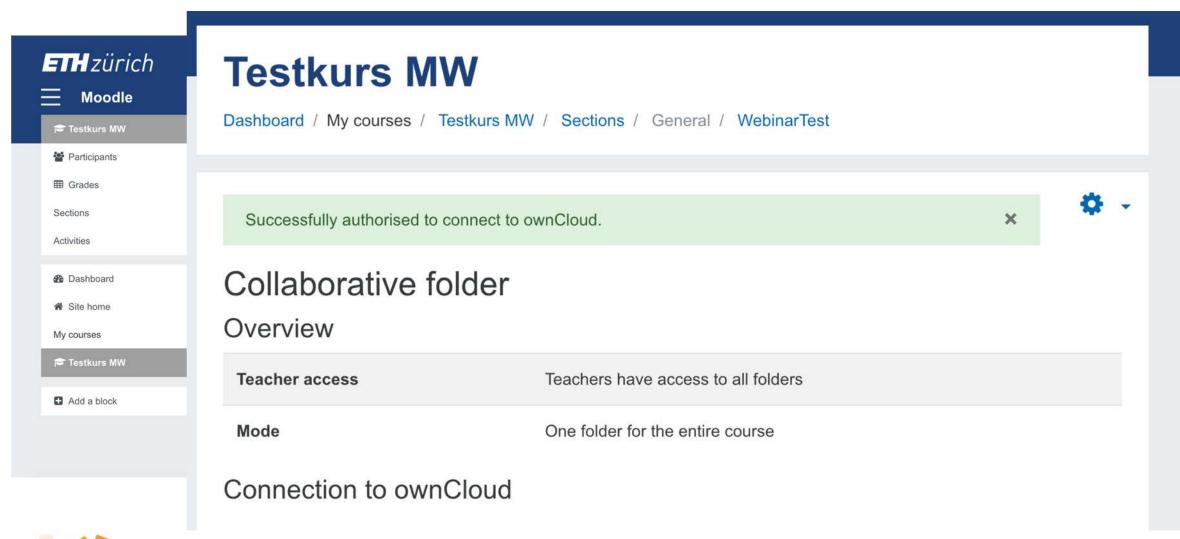


Online Annotation – Hypothes.is



EHzürich

Collaborative Folders – Moodle PlugIn



Previous (Chapter)

 \leftarrow

Interactive Modules – H5P





Accordion Create vertically stacked expandable items



View all

Agamotto cked Create a sequence of is images that gradually



Games

```
Arithmetic Quiz
Create time-based
arithmetic quizzes
```



Social media

Audio Recorder Create an audio

recording



Chart Quickly generate bar and pie charts

 $(Chapter) \rightarrow$

A



Collage Create a collage of multiple images



Column Column layout for H5P Content



Content Types

×÷

Ouestions

Multimedia

Course Presentation

Create a presentation with interactive slides



Dialog Cards Create text-based turning cards



Documentation Tool

Create a form wizard with text export



1049 ••••(100 + 558) **F**actorial (0.000)

Thank you!

Melanie Walter Educational Development and Technology (LET) Projectlead eCollaboration HAD F 14 Haldenbachstr. 44 8092 Zurich

www.let.ethz.ch <u>melanie.walter@let.ethz.ch</u> Tel: +41 44 632 32 20

