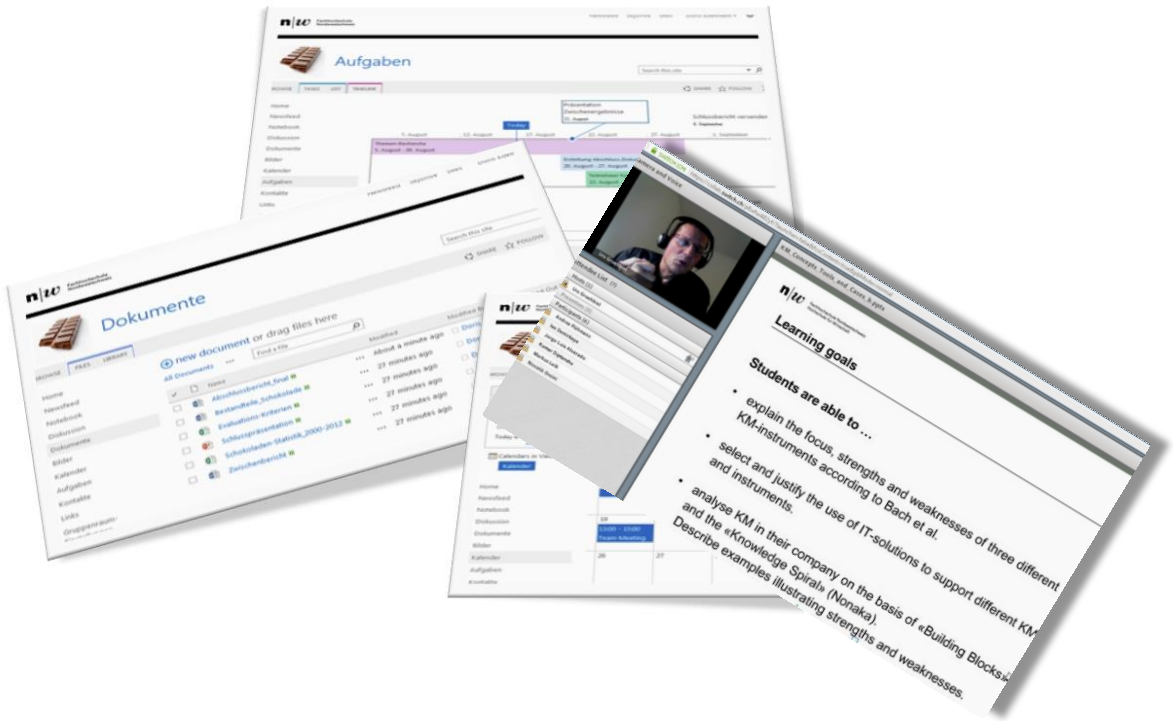
REPORT (WP.3.1)

PILOT AND EVALUATION OF COLLABORATION ENVIRONMENTS



CONSORTIUM: FHNW (WP LEADER), UNIBE

LAST UPDATED:WEDNESDAY, 25 DECEMBER 2013

Abstract

The main goal of this work package was to implement novel and innovative collaboration scenarios in teaching and learning in higher education and evaluate them in terms of usability, usefulness and pedagogical effectiveness. The scenarios realized and evaluated are the syntheses of the user requirements identified in WP.1.2 and the potentialities and constraints of the software discerned in WP.1.2. Evaluation was based on a mixed-method approach including questionnaires with open and closed questions and feedback rounds in the classroom. The technical platforms that were used in addition to Moodle were SharePoint, EtherPad and Adobe Connect, as well as other platforms of the students' own choice. To achieve a sustainable solution, the results have iteratively informed the implementation and configuration of SharePoint as the FHNW intranet and collaboration platform. Moreover, the validated didactical scenarios are not only being used and disseminated within FHNW but can provide guidance for any university interested in leveraging digital technology to enhance collaboration in learning and teaching. The results are structured in that the description of every scenario is followed by the presentation of the evaluation the results.

A separate part of 3.1 was conducted by the University of Berne using the learning management system ILIAS. On the basis of the detailed analysis in WP 1.2, a number of a collaboration plugins were developed, which are also provided to interested partners.

Content

Introduction and Background

The main innovation of this WP was to put new collaboration scenarios into practice in order to enrich teaching and learning in Higher Education, in addition to the collaboration affordances provided by traditional learning management systems.

Curricular setting of pilot course

Realization and evaluation of the scenarios were implemented in the course knowledge-management and competence development at the School of Business, University of Applied Sciences and Arts Northwestern Switzerland. This course was designed as part of the Master for Business Information Systems; a master course which was attended by full time as well as part-time students. The activities involved a class of n= 25 master students. The course was set up in the format of blended learning. That means that some of the lectures were taught in the classroom, other lectures were held in the form of an online conference, using mainly the Software Adobe Connect (See Image 1). In-between the lectures the students worked on a number of individual and team assignments. The advantage of involving this target group was that, while being media literate, they were particularly critical regarding the design of digital collaboration environments as the development of a reflective stance towards information systems was part of their studies.

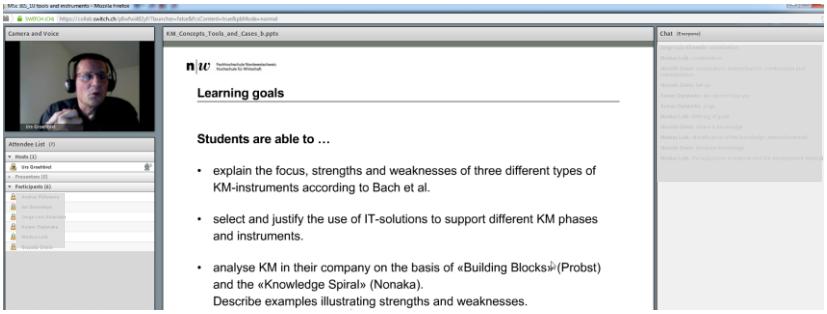


Image 1 Adobe Connect/Switchinteract

Technology used

As specified the collaboration scenarios included the following applications:

- Moodle (as the main site and jumping of point) https://moodle.fhnw.ch/
- SharePoint: A closed workspace where only students of the course had access. (Beta version of Inside FHNW https://inside.fhnw.ch/
- Adobe Connect as offered by Switch http://www.switch.ch/interact/
- Etherpad (http://titanpad.com/)

It needs to be acknowledged that with regard to SharePoint a beta version was used, i.e., a version which was not fully implemented at FHNW at that point in time and which was accessible only for specified pilot users (such as the course participants). As indicated, this presented a huge advantage, since the findings gained by this pilot were immediately fed back into the developing and implementation process of this platform. However, some of the technical problems that were reported by the evaluation were caused exactly by this pre-version and are not a general shortcoming of SharePoint. Accordingly, the generalization of these results has to be treated with caution.

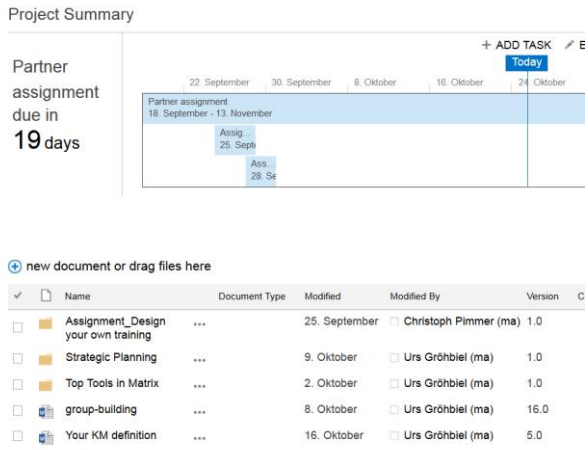


Image 2 Workspace in SharePoint

Realisation and evaluation format

The scenarios were planned beforehand on the basis of the requirements identified in WP.1.2 and the potentialities and constraints of the software discerned in WP.1.2. At the beginning of this work package the didactical scenario scripts were specified and refined, and were then implemented in the course by two lecturers. Upon completion of the individual assignments, students were asked to provide instant feedback in the form of open and closed questions on questionnaires and feedback rounds in class after each session. At the end of this course a final evaluation was conducted which consisted of a questionnaire and a final plenary discussion. In this discussion, aspects beyond the immediate course scenarios, such as the use of these tools for pre-student services and alumni-related usage, were addressed.

Results FHNW

Scenario 1: Team-based text production (SharePoint et al)

Script: In the first scenario the students were required to develop a written concept about e-learning or e- knowledge management in their own company. The assignment was initiated in the form of synchronous team work in the classroom during a lecture. The teams of approx. 2-4 students were asked to complete the assignment at home in the subsequent five days. While it was recommend using the SharePoint Workspace (and while the students were required to place the final documents there), the use of this platform in the elaboration of the concept was optional. Similarly, it was left to the students how to develop the concept (individual work, team work etc.).

Technology: The students elaborated their concept in the form of textual descriptions using SharePoint and other platforms/software capable of text editing.

Topic: The task was aimed at the development of a concept to characterize an existing/ideal e-training to address needs in the students' own work environments.

Evaluation results: The findings must be interpreted in the light of the different technologies and collaboration formats used. It has to be pointed out that during the realization of this

scenario the Beta Version of SharePoint was used, and technical problems occurred in this preliminary phase. Accordingly, the results have to be interpreted with caution. However, the following observations were made:

- The overall results were satisfactory. Usability was estimated higher than the usefulness. (See figures 1 and 2). This was the case since all students uploaded the final version onto SharePoint, and found this quite easy to do. However, only a few students used SharePoint to elaborate the solution jointly, in synchronous and asynchronous formats. Students tended to work with the texts offline (using for example MS-Word, or other tools such as Dropbox or Google Docs.
- Generally, the task was completed by most of the participants in an asynchronous way, one after another contributing her/his part (See figure 3). Asynchronous collaboration on SharePoint achieved higher levels of satisfaction than synchronous collaboration. Asynchronous collaboration on SharePoint was deemed suitable as it allowed for the contribution of all team members, and it was found by some as good as other tools like Dropbox or Google Drive.
- Students who used synchronous collaboration features criticized the low usability, i.e. that the document needed to be constantly saved by all collaborators to be synchronized: "*no really real-time work possible...".* In the light of this restriction one group used Google Drive. Technical problems were specifically reported from students using Macs.

Descriptive statistics

SharePoint was **useful** in describing the goals/principles/paradigms of an own training.

Antworten	Durchschnitt	Gesamt
Agree	27%	3
Neutral	55%	6
Disagree	9%	1
Strongly disagree	9%	1
Gesamt	92%	11/12

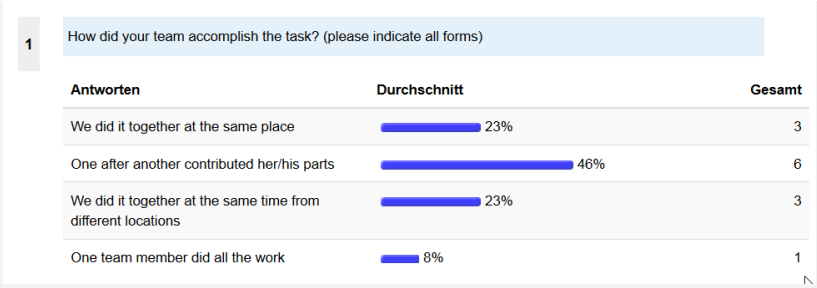
Figure 1 Usefulness of joint content production on SharePoint

4

SharePoint **was easy to use** regarding the task "describing goals/principles and paradigms of an own training".

Antworten	Durchschnitt	Gesamt
Agree	64%	7
Neutral	27%	3
Disagree	9%	1
Gesamt	92%	11/12

Figure 2 Usability of joint content production on SharePoint



1 How did your team accomplish the task? (please indicate all forms)

Antworten	Durchschnitt	Gesamt
We did it together at the same place	23%	3
One after another contributed her/his parts	46%	6
We did it together at the same time from different locations	23%	3
One team member did all the work	8%	1

Figure 3 Different forms of task achievement

Scenario 2: Team-based peer feedback (SharePoint)

Script: By adding an element of peer-evaluation, this scenario builds directly onto the first one. After the deadline (see scenario 1) each group evaluated the solution of another group, by annotating their remarks in the document. Concrete conceptual instructions were provided by the lecturers.

Technology: Everyone was able to edit these documents in the Workspace on SharePoint. Students chose different feedback procedures. They wrote directly in the original document using different colours, they used the commenting function, or they copied the document and annotated their remarks.

Topic: Students commented on the training/e-learnings concepts developed by their peers.

Evaluation results:

- The use of SharePoint to comment on the work of each other was received positively by the students, both in terms of usability and usefulness. 60% of the students made the comments in an asynchronous way, and 40% worked synchronously. Noticeably, 30% worked synchronously while residing in different locations.
- The perceived usefulness with 87% agreement (see Figure 5) was mainly grounded in the smooth way of accessing and commenting on the documents of this large group, specifically compared to e-mail:

  It's just more convenient than mailing documents around. There was also no coordination effort needed to find out which group is still available for commenting.
- Similarly, with only very few exceptions the students found the task easy to perform (Figure 6). One person even indicated commenting online while being on the train. A few Mac-users experienced technical problems. It has to be also acknowledged that students made little use of the integrated commenting function in SharePoint, as shown below.

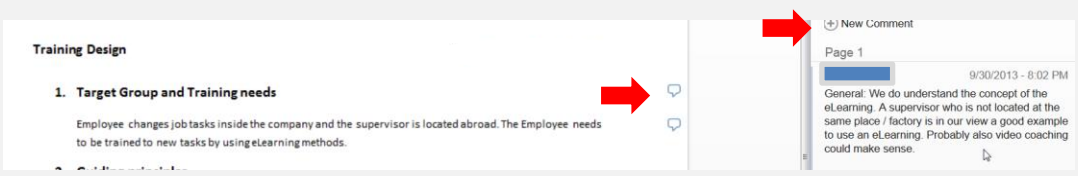
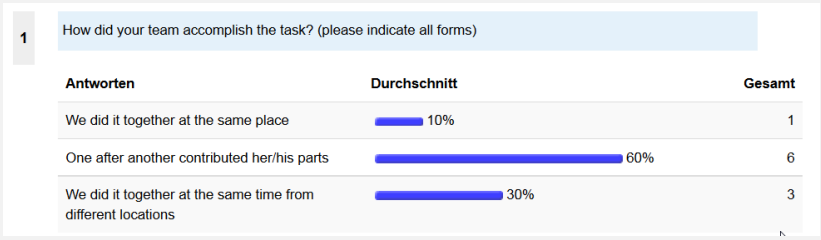


Image 3 Example of comment function

Recommendations

- Using SharePoint for student-peer evaluation can be recommend, both from a didactical and a usability perspective.
- Even more experienced and media-literate students should be instructed in the use of the commenting function prior to the task.

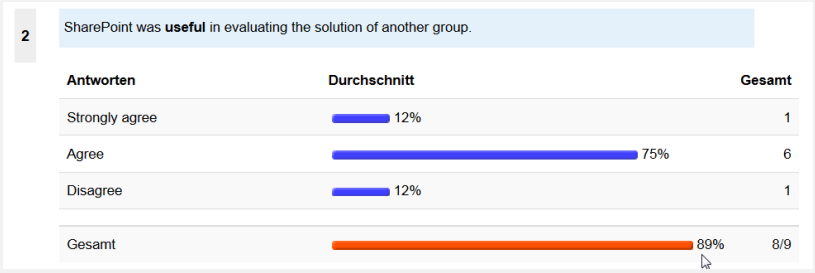
Descriptive statistics



1 How did your team accomplish the task? (please indicate all forms)

Antworten	Durchschnitt	Gesamt
We did it together at the same place	10%	1
One after another contributed her/his parts	60%	6
We did it together at the same time from different locations	30%	3

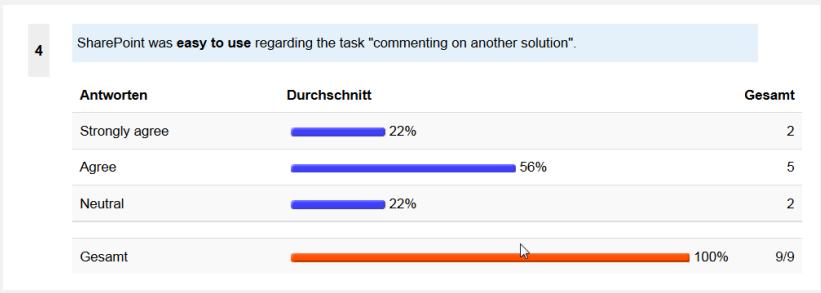
Figure 4 Different forms of task achievement



2 SharePoint was **useful** in evaluating the solution of another group.

Antworten	Durchschnitt	Gesamt
Strongly agree	12%	1
Agree	75%	6
Disagree	12%	1
Gesamt	89%	8/9

Figure 5 Usefulness of peer-evaluation on SharePoint



4 SharePoint was **easy to use** regarding the task "commenting on another solution".

Antworten	Durchschnitt	Gesamt
Strongly agree	22%	2
Agree	56%	5
Neutral	22%	2
Gesamt	100%	9/9

Figure 6 Usability of peer-evaluation on SharePoint

Scenario 3: Team-based synchronous text production (Adobe Connect)

Script: During an online lecture in the form of a synchronous conference on Adobe Connect the students were required to elaborate a concept in teams in separate breakout rooms and to present it then in the main virtual room of the conference. Since only a few teams were able to present their solution during the online-lecture, the lecturer commented on all solutions after completion of the class (see scenario 2b).

Technology: For the communication in the team, students were invited to use the Adobe Breakout room. Finally, the students uploaded all solutions on a SharePoint folder that was previously set up for this task.

Topic: The task was centred on the strategic planning of an e-learning solution.

Evaluation results:

Again, the results have to be interpreted in the light of the different technical solutions used. For the writing of the solution, 15% of the students used the Adobe Connect Breakout Room, another 28% used SharePoint and the breakout room for chat/audio transmission.

- The use of the **Breakout Room in Adobe Connect** for the joint creation of a written concept was experienced as difficult due to technical challenges. In several cases the screen sharing did not work with Firefox and chrome. Also the Adobe Connect notepad was not accurately prepared by the lecturer so that the students could not use it in their Break out rooms. Other students found the text formatting features (creation of tables etc.) to be limited. Nevertheless, the students appreciated the audio/video communicating features to interact with the lecturer, and some also for the teamwork:
  But the breakout room in **Adobe Connect** *was really useful for discussing and sharing the ideas.*
- Also the real-time editing functions of **SharePoint** for synchronous collaboration were viewed critically by many students. In particular the fact that documents needed to be saved manually to be synchronized (as already outlined in scenario 1a); a limitation which some deemed to be "*very annoying* ".
- The platform that was considered most suitable for this task and that was also used by most students was **Google Drive**. The students liked the synchronous editing, the chat and the commenting features and also highlighted that the exact position where the text was edited was marked in a colour associated with the respective editor.

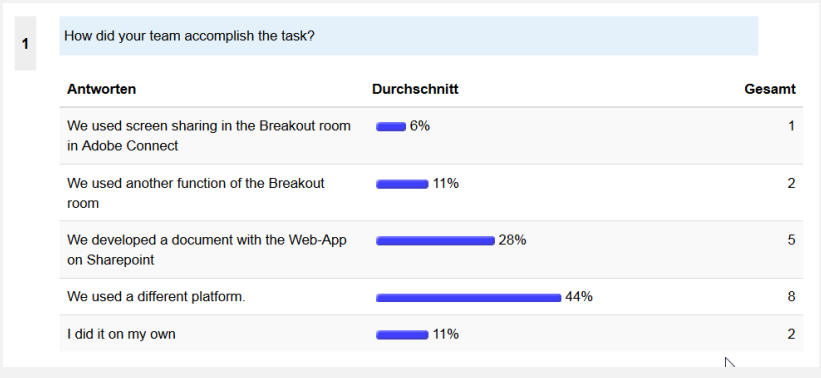


Figure 7 Usability of peer-evaluation on SharePoint

Scenario 4 Lecturer feedback in the form of comments (SharePoint)

Script: This scenario builds on the previous one (2a). The lecturer used the commenting function of the WebApp in SharePoint Word to give feedback to the students' concepts that were elaborated in scenario 2b.

Technology: The WebApp of SharePoint-Word allows the adding of context-specific comments to the students' documents.

Topic: The task was centred on the strategic planning of an e-learning solution.

Evaluation results: This feedback activity was received well by the students and can be recommended for further use. All of the participants of the survey read the comments of the lecturer, and no usability-issues were reported. In general, the context-specific comments were deemed to be useful (all of the participants agreed with this statement). The comments triggered little follow-up discussions. However, some of the students, in turn, provided their feedback in the form of SharePoint comments; others did so via Skype.

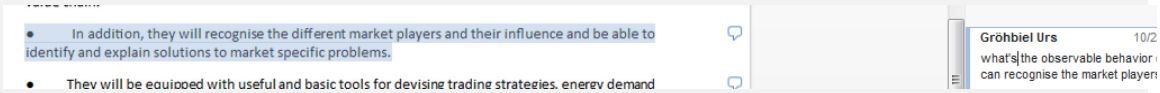


Image 4 Example of teacher feedback

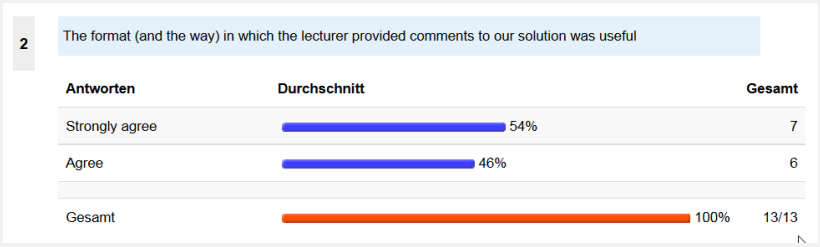


Figure 8 Usefulness of the format of the lecturer feedback.

Scenario 5 Synchronous text editing/reflection of the whole class (SharePoint)

Script: During an online session all students were first invited to provide their own definition of knowledge management. Then they reflected and commented on a solution of another fellow student. Finally, they were confronted with a few definitions of the literature, and, again, they critiqued these definitions. While in other scenarios smaller teams edited documents, in this setting the technical feasibility, practicability and educational effectiveness of synchronous editing of a whole class was piloted.

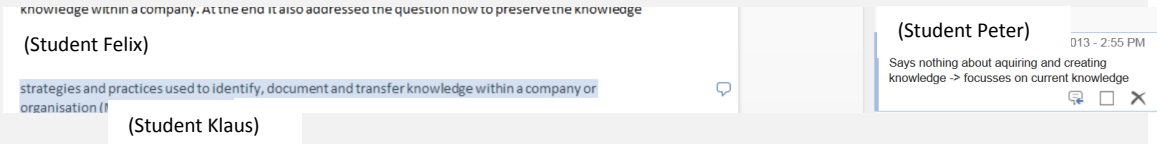


Image 5 Example peer feedback

Technology: Using SharePoint WebApp Word

Topic: Students reflected on different definitions of knowledge management in a written form

Evaluation results: While synchronous collaboration exercises of large groups can be expected to be tricky, this exercise turned out to work really well. 70% of the students found the synchronous commenting to be a useful activity (Figure 9). Didactically, this exercise can be seen as a success: engagement was high, and the written interaction triggered deep levels of reflection by many participants, i.e. the definition of knowledge management was analysed and discussed from different and interesting perspectives. Participation that would have been harder to achieve in a synchronous discussion in the classroom, as one student notes.

> *if everyone would have expressed them verbally, it would have been more difficult to recapitulate. Comments were structured.*

Usability of SharePoint for this task was also evaluated positively by the vast majority of the students. (Figure 10). However, as it was also pointed out in previous scenarios, real-time editing in SharePoint is limited by the fact that synchronisation can be achieved only if all editors manually save the document.

> *Its easy and helpful. Only the refresh is missing*

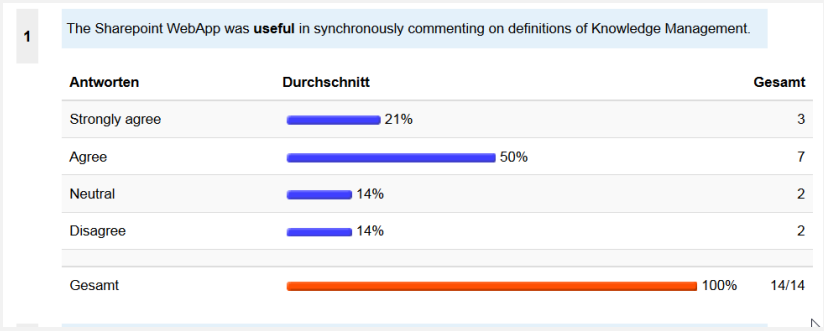


Figure 9 Usefulness of synchronous text editing with whole class

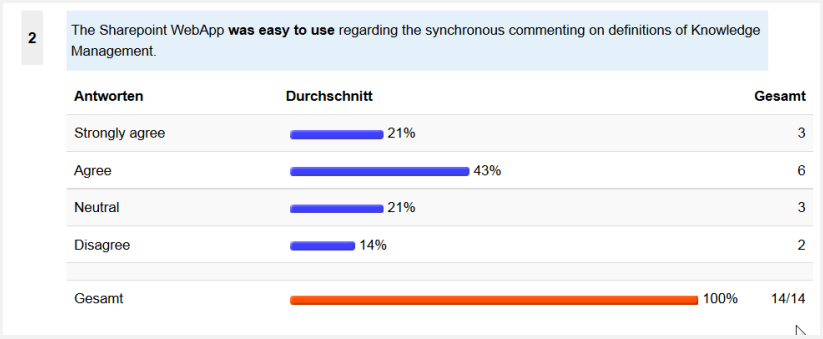


Figure 10 Ease of use of synchronous text editing activity with whole class

Scenario 6 Team-based synchronous creation of presentations (Adobe & PowerPoint)

Script: In an online session students were required to synchronously elaborate a PowerPoint presentation in teams and to present their results later in the main virtual room of the video conference. This is similar to the scenario 2a. This time, however, the format of the later presentation was pre-determined by using PowerPoint and uploading those onto Adobe

Connect.

Technology: Adobe Connect main room, breakout room: uploading PowerPoint

Topic: Reflecting work situations regarding knowledge management principles

Evaluation results: This time students indicated lower satisfaction rates with the solution both in terms of usefulness and usability. This was mainly due to technical problems which students experienced during their work on the tasks in their break-out rooms. They reported again that screen-sharing did not work (well or at all) specifically with Firefox and Chrome.

Recommendation: The combination of these elements can only be recommended if all students use Internet Explorer.

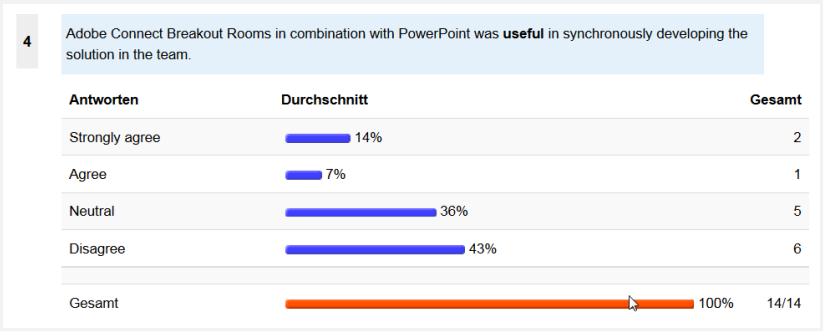


Figure 11 Usefulness: Creation of presentation in Adobe Breakout room

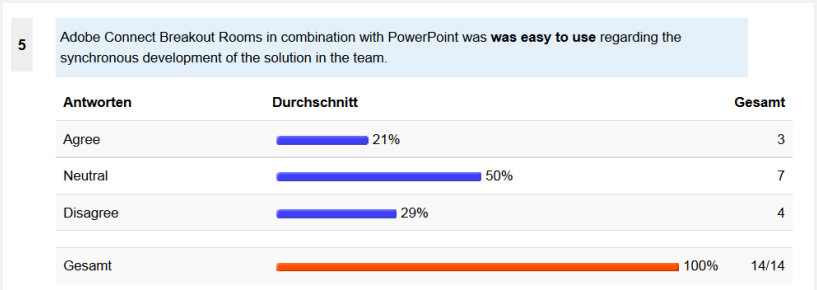


Figure 12 Ease of use: Creation of presentation in Adobe Breakout room

Scenario 7 Synchronous team-based editing in classroom using templates (SharePoint)

Script: Students were asked to conduct a group task in the classroom, within a given time of 30 minutes in small teams made up of 2-3 persons. For each group a document in the form of a template was prepared on SharePoint in which they filled in their answers. Students were free whether to use one account per group, or whether to collaborate in a synchronous way, using different SharePoint Accounts (several team members editing at the same time).

Technology: Common workspaces on SharePoint in which an MS-Word template was prepared for each team.

Topic: Proposing a solution of how to design an information system using design science

methods.

Evaluation results: This evaluation was not conducted by the students but represents the observations and reflections of the lecturer. Each of the student team used one laptop to elaborate the solution. Although it would have been possible to work with two or more computers per group in a face-to-face format, and to give each group member the opportunity to create and edit the text, this was only tried out by one group (who abandoned this co-editing after a while because they experienced technical problems).

The lecturer deemed this format convenient and practical because he was able to see the students' progress by simply accessing their documents. This process also provided an advantage for the lecturer as he was able to identify and support groups who had misunderstood the instruction and developed a solution into a wrong direction. The format was also highly valuable in the presentation phase: the lecturer randomly selected a few groups by clicking on their documents and invited them to present their solution in the plenum. This unpredictability ensured the students' active participation, and the opportunity to quickly share details of their written concepts with the whole class triggered in-depth discussions.

Scenario 8 Collaborative text creation for a term paper (software not pre-determined)

Script: Students were required to create a term paper, individually or in teams of two. In contrast to the previous assignments, which were conducted within one session or one week, the time schedule for this task was approx. two months and involved a much deeper thematic engagement. In a subsequent activity, each group evaluated two other term papers on the basis of predefined criteria, by commenting on them directly on SharePoint in the "comment format" and by filling in a table.

Technology: While the students needed to upload the final versions onto SharePoint, they were free to select the platform/software of their own choice to elaborate the text/graphics.

Topic: Term paper consisted of the elaboration of a business case, a design or an academic paper, reflecting the themes of the courses.

Evaluation results

Platforms used: The majority of the students (87%) used standard text editing software (MS word, Mac Office etc.) for most of the time (Figure 13). Google Drive and SharePoint, which was suggested to be used by the lecturers, were used only by a very small number of students most of the time (14% resp. 5%). (Figures 14,15).

These results were certainly influenced by the fact that roughly one third of the papers were written not in teams but individually, thus not requiring e-collaboration functions: "*I was alone. I did it offline*". Another explanation is that students stick to formats to which they are already used, and only slowly adopt new solutions for time reasons:

"It needs time to get used to the tools. Most of the time it is easier to stay with well-

known solutions and processes."

What platforms did you /and your team use to **write** the business case/design-/academic paper?

We used standard text editing software (MS word, Mac Office etc)

Antworten	Durchschnitt	Gesamt
most of the time	87%	20
sometimes	9%	2
never	4%	1
Gesamt	100%	23/23

Figure 13 Use of standard text editors for term paper

What platforms did you /and your team use to **write** the business case/design-/academic paper?

We used Google Drive

Antworten	Durchschnitt	Gesamt
most of the time	14%	3
sometimes	23%	5
never	64%	14
Gesamt	96%	22/23

Figure 14 Use of Google Drive for term paper

We used SharePoint

Antworten	Durchschnitt	Gesamt
most of the time	5%	1
sometimes	32%	7
never	64%	14
Gesamt	96%	22/23

Figure 15 Use of SharePoint for term paper

Collaboration formats: For the term paper, the students used and piloted different forms of collaboration. As could be seen by the statement of one student, finding appropriate ways of collaboration was not a straightforward process, but required the testing of different synchronous and asynchronous collaboration formats and platforms:

> *"We started with mailing the document around, which is not useful at all. Then we started using Dropbox, which has the disadvantage that you cannot really work*

synchronously."

For the majority of the respondents, team members predominantly contributed in asynchronous ways from different locations, i.e., one after another wrote her/his parts. (Figure 16). Synchronous forms of collaboration were applied by most of the students, but to a lesser extent. One explanation for this is that due to the long time horizon there was less need to work synchronously: "*Most of the time we didn't have to write synchronously*." A majority met sometimes to work on the document synchronously (Figure 17). Interestingly, for roughly one quarter of the respondents synchronous, remote collaboration, i.e., from different locations, was reporting being the prevailing form of communication (Figure 18).

Setting: How did you /and your team **write** the business case/design-/academic paper?
One after another contributed her/his parts

Antworten	Durchschnitt	Gesamt
most of the time	55%	12
sometimes	45%	10
Gesamt	96%	22/23

Figure 16 Asynchronous collaboration for the term paper

Setting: How did you /and your team **write** the business case/design-/academic paper?
We did it **together/synchronously at the same place.**

Antworten	Durchschnitt	Gesamt
sometimes	77%	17
never	23%	5
Gesamt	96%	22/23

Figure 17 Synchronous on-site collaboration for the term paper

Setting: How did you /and your team **write** the business case/design-/academic paper?
We **synchronously** worked on the text from **different locations**

Antworten	Durchschnitt	Gesamt
most of the time	23%	5
sometimes	41%	9
never	36%	8
Gesamt	96%	22/23

Figure 18 Synchronous remote collaboration for the term paper

Perceived usefulness and usability: The students were widely positive or neutral concerning the setting and platforms chosen. More precisely, 40% perceived the platform and setting to be useful, another large part had a neutral perception. Only a minority had no positive opinion about platform and setting. Similar patterns were observed for the ease of use. (Tables 19/20).

For SharePoint, which was used to a much lesser extent compared to standard/offline text editing software, the usability was again reported to be an issue: "*it was not easy to work with SharePoint because it never has worked as expected*." However, for the subsequent peer evaluation, the functions of the SharePoint to share and comment on documents were valued:

> *But for the reviews the SharePoint platform was very helpful; as well as the adobe connect sessions for the discussion*

One group appreciated the use of SharePoint for sharing contributions (which were written before in standard text editors) with the other team members, and then to make cursory changes in the SharePoint document:

> *We just used word for asynchronous writing on the document and then distributed it over SharePoint. Sometimes we edited the document directly on SharePoint and this was helpful.*

The platform and setting was **useful** for writing the text.

Response	Average	Total
Agree	39%	9
Neutral	43%	10
Disagree	13%	3
Strongly disagree	4%	1
Total	100%	23/23

Figure 19 Usefulness of platform/setting chosen for term paper

The platform and setting was **easy to use regarding the** writing the text

Response	Average	Total
Agree	50%	11
Neutral	41%	9
Disagree	5%	1
Strongly disagree	5%	1
Total	96%	22/23

Figure 20 Ease of use of platform/setting chosen for term paper

Scenario 9 Scheduling dates (SharePoint calendar)

Script: Upon the written peer-evaluation (scenario 8), each group needed to present their feedback to at least one other group, using Adobe Connect. This peer feedback process was moderated by the lecturers.

In order to coordinate the dates for the feedback sessions, the SharePoint calendar was used in the following way: The lecturers marked their availabilities in the calendar. As soon as two student groups had agreed on one date, they entered their session in the calendar (Image 6)

Technology: SharePoint calendar.

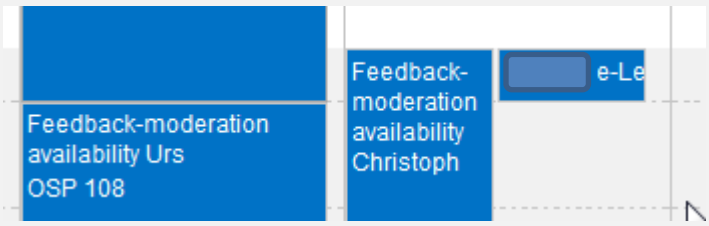


Image 6 SharePoint Calendar used for the arrangement of peer feedback sessions

Evaluation results: The benefits of this functionality were not didactical but logistical, resulting in a smother coordination of dates. The majority of the students were neutral or positive toward the use of the calendar in terms of ease of use and usefulness. (Figures 21/22).

Lecturers and students clearly preferred this format over the use of emails. One positive aspect highlighted by the students was that "*it was always clear on which dates & times the professor was available."* The lecturers appreciated this functionality as they were automatically notified in the form of an email when a new calendar entry was made. However, as this was not clearly communicated to the students, many of them sent additional emails upon entering the date for their session.

One limitation of this format was that the students needed to arrange a date between groups of them anyway before arranging a date with the lecturers. For this purpose they indicated using, inter alia, polling tools like doodle.ch. Another limitation was that the SharePoint calendar in the installation used at the time of the study was not integrated with other calendar formats, e.g., Outlook, and the students and lecturers were required to manually synchronise dates with own calendars. The calendar was often compared to the functionalities offered by Outlook and thus critiqued for usability and visualisation issues. Many participants pointed out that they missed an overview over the dates.

..missing a simple visual overview to schedule meetings such as in Outlook

The Sharepoint Calendar was **useful** in arranging dates for the discussion of the feedback session.

Response	Average	Total
Agree	48%	10
Neutral	33%	7
Disagree	14%	3
Strongly disagree	5%	1
Total	91%	21/23

Figure 21 Usefulness of SharePoint calendar for the arrangement of dates

The Sharepoint Calendar was **easy to use regarding the** arrangement of dates for the discussion of the feedback session.

Response	Average	Total
Agree	50%	10
Neutral	40%	8
Disagree	5%	1
Strongly disagree	5%	1
Total	87%	20/23

Figure 22 Ease of use of SharePoint calendar for the arrangement of dates

Extended use of SharePoint: General feedback, use in further lectures, in alumni & work environments

Method: In the final lesson students were questioned again about their general perception of SharePoint, and about the use of this collaboration platform in other settings. Firstly, the students provided qualitative and quantitative answers in a survey. Then they were asked to come up with positive and negative statements of the use of SharePoint in this course. Finally, the whole class was questioned whether they agree (or disagree) with the statements collected.

General perceptions: The majority of the students appreciated the functions related to the document exchange on SharePoint, as well as the visibility of deadlines in the calendar (this was valued by half of the class). One student appreciated that, in comparison to the LMS Moodle, documents could be edited online, and did not need to be downloaded first.

Nearly all of the students found that collaboration was limited in terms of synchronous cooperation (as indicated in other sections of this report). More generally, usability was said to

be challenging by a clear majority of the students, for example in terms of “hidden functions”.

> *In general, SharePoint is just too complicated, especially when you use it only from time to time*

Another area where students faced problems until the end of this course was the use of browsers other than the Internet Explorer. Along these lines they indicated that SharePoint was limited in terms of cross platform collaboration.

Further lectures

A slight majority of the student were positive, and another big share neutral toward the use of SharePoint in further lectures in the curriculum (Figure 23). In the discussion it turned out that many students found the use of two (or more) platforms to be somewhat confusing in a course setting. The majority of the students indicated a preference for Moodle, but stated that Moodle would not offer many of the collaboration functions they appreciated with SharePoint. In the discussion approx. one third of the students welcomed the piloting of different platforms as a means to practically learn about new e-tools. They liked the fact that the use of learning and knowledge platforms was not only discussed on a theoretical level in this course but was also tied to practical testing of and experimenting with new tools.

I can recommend the use of SharePoint also for further lectures

Response	Average	Total
Agree	52%	12
Neutral	30%	7
Disagree	9%	2
Strongly disagree	9%	2
Total	100%	23/23

Figure 23 Recommendation to use SharePoint in further lectures

Alumni

Affordances and constraints of cooperation and information platforms for alumni networks, i.e., after the students’ graduation, were also addressed in the project’s context. Accordingly, the lecturers discussed with the students whether they would like to use SharePoint as an alumni platform, or, what other, general requirements an alumni platform would need to have according to their views. The students felt that intensive forms of collaboration among former peers were not needed after graduation, but rather looser interactions and connectedness. Thus they did not prioritize SharePoint as their potential alumni platform. **Importantly**, while SharePoint also offers networking functions, these were not implemented in the installation used for this study. Thus, these statements of the students have only limited very limited

explanatory power with regard to the potential use of SharePoint as a networking and alumni platform.

More generally, the students valued the use of an already existing networking platform for alumni purposes, or a solution that would be well connected with other, existing social network sites. Some of them indicated that they would not be ready to use another, extra platform. Roughly one third was keen to re-access learning contents after finishing their studies, e.g. on the LMS used. One third was neutral, and third did not want to do so.

Project management in general, and work environments:

There were mixed perceptions of the students about their use of SharePoint for project management in general and in their work environments in particular, with the majority of the students having positive or neutral views. (See figures 24/25). (In the surveys students made very little comments about this.)

I can recommend the use of SharePoint for project management

Response	Average	Total
Agree	43%	10
Neutral	43%	10
Disagree	4%	1
Strongly disagree	9%	2
Total	100%	23/23

Figure 24 Recommendation to use SharePoint for project management

I would use SharePoint also in my job environment

Response	Average	Total
Strongly agree	9%	2
Agree	35%	8
Neutral	26%	6
Disagree	17%	4
Strongly disagree	13%	3
Total	100%	23/23

Figure 25 Interest to use SharePoint in the respondents' work environments

Results UNIBE

On the basis of the detailed analysis (WP 1.2), a number of a plugins have been developed (in house and in cooperation), which are also provided to other interested partners."

- An ILIAS Plugin for SWITCHCast ist readily available and can be downloaded here.
- A Etherpad Lite Plugin is available and can be downloaded here.
- A Etherpad Server is hosted at the University of Bern. The ILIAS of the University of Bern uses the Etherpad Lite Plugin on the productive installation. There is no piloting necessary.
- We developed a new core-object for ILIAS 4.4: "Cloud Object". Informations and further developments are available here.
- A Dropbox Plugin for the new Cloud Object is available here.
- An additional prototype of a Google Drive Plugin is developed. We will finish the Google Drive Plugin together with the Unibe-Cloud Plugin.
- The IT-department of the University of Bern decides till end of 2013 which Cloud-solution they choose. After the decision, we will build and implement the cloud-solution for ILIAS.
- The cloud solution is part of ILIAS 4.4. We plan to update our productive system in summer 2014.