

Evidence-based course design to enhance retrieval literacy

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- discussion

task and status quo

- information science competencies:
 - information literacy (ACRL, 2000)
 - identify information needed
 - search and find relevant information
 - evaluate the quality of information and its sources
 - use information efficiently
 - also relevant: (Huvila, 2011, Stock and Stock 2013)
 - creation of information
 - representation and storage of information

- course “deep web retrieval” ->> retrieval literacy

task and status quo

- course content: “deep web retrieval”, April – July each year
 - learn to use professional databases:
 - Web of Science and Scopus
 - Hosts: STN and Dialog
 - learn to use command languages in STN and Dialog
 - BEST: **b**egin – **e**xpand – **s**elect – **t**ype
 - apply research strategies
 - berrypicking model (Bates, 1989)
 - building block strategy and citation pear growing (Efthimiadis, 1996)
 - **aim: approve learning strategies to foster retrieval literacy**

learning scenarios

inquiry-based learning

(Edelson, Gordin, & Pea, 1999)

“pursuit of open questions”

foster self exploration

foster self-consistent learning

teacher-guidance important (Kirschner, Sweller, & Clark, 2006)

project-based learning

(Thomas, 2000; Chu, 2009)

foster problem-solving skills

foster autonomous work of students

improvement of research skills (Chu, 2009)

computer-supported collaborative learning

(Alavi, 1994; Beutelspacher & Stock, 2011)

foster collaboration

asynchronous, time- and place-independent

support team work and team learning

team-based learning

(Michaelsen & Sweet, 2008; Sibley & Parmelee, 2008)

foster (small) group learning

foster feedback process among students

foster communication skills

foster problem-solving skills e. critical thinking

Figure 1. Advantages of the learning strategies.

learning scenarios

- team formation
 - self-selected grouping: students choose their team
 - instructor-selected grouping: teacher establishes teams
 - randomly grouping: no specific choice
 - structured grouping: applying methods to form student teams

- general settings
 - three introductory sessions
 - during the semester communication through a Wiki
 - final meeting at the end in July
- team-based learning
 - 10 self-selected teams with 6 to 9 students
 - 4 homogeneous teams with 5 to 7 students
 - 5 heterogeneous teams with 7 to 8 students
- feedback not only by teachers, but also by students
 - extern reviewers give feedback to a group's work

**team-based
learning**

← foster (small)
group learning

foster feedback
process

← foster
communication
skills

re-design of retrieval course

www.wikispaces.com

The screenshot shows a Wikispaces wiki page titled 'redeweb2013'. The page content includes a welcome message, a 'NEWS' section, and a list of 'Wichtige Hilfeseiten' (Important Help Pages). Annotations in red boxes and arrows highlight specific features:

- project team pages**: An arrow points to the 'Projects' link in the left sidebar.
- discussion among teams**: A red box highlights the '1' icon in the top right toolbar, representing a discussion page.
- teacher guidance**: A red box highlights the 'NEWS: Alles Wichtige zum Seminar, Ankündigungen, Änderungen etc.' and 'Best of - Projektaufgaben' links.
- teacher guidance**: A red box highlights the 'Interessantes' link in the 'Wichtige Hilfeseiten' list.

The page content includes:

- home
- Willkommen in ReDeWeb-Wiki,
dem Wiki für das Seminar "Recherchieren im Deep Web" - SoSe 2013 der Informationswissenschaft
Düsseldorf!
- NEWS: Alles Wichtige zum Seminar, Ankündigungen, Änderungen etc.**
- Best of - Projektaufgaben**
- Wichtige Hilfeseiten**
 - [Allgemeine Diskussions- und Frageseite](#)
 - [Interessantes](#)
 - [Literatur und Links](#)
 - [Präsentationen der Dozenten](#)
 - [Termine und Meilensteine](#)

computer-supported collaborative learning

Wiki: asynchronous, time- and place-independent

support team work, team learning e. collaboration:

- project for single team
- discussion pages for all students
- support between teams through main pages

- inquiry-based learning
 - open retrieval task from BluePatent (bluepatent.com) ←
 - example: “therapy of green star”
 - patent research and market analysis
- project-based learning
 - problem-oriented task
 - choose relevant databases
 - choose appropriate research strategy
- → **recommendation report for client based on the retrieval results**

inquiry-based learning

“pursuit of open questions”

foster self exploration



foster self-consistent learning

project-based learning

foster problem-solving skills



foster autonomous work of students



improvement of research skills

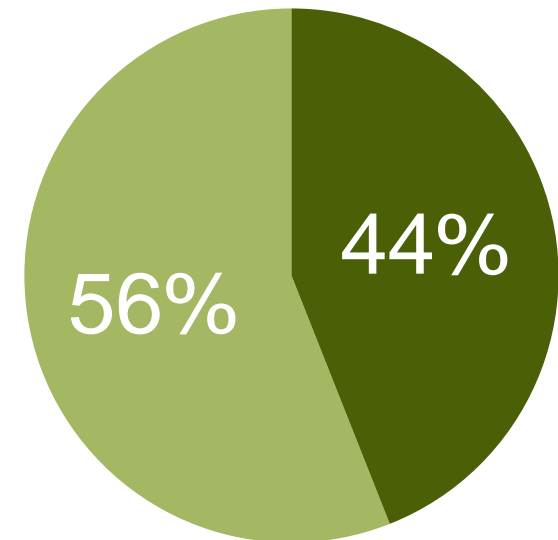
research questions

- Can the new course design foster collaborative learning and improve retrieval skills of information science students?
- Is a Wiki an appropriate tool to support this approach?
- Is there a difference between student-selected and instructor-selected teams concerning collaborative and individual learning processes?

- two-part online survey
 - a) general questions
 - about learning groups, group communication, experiences with Wikis
 - b) SERVQUAL survey
- analysis of Wiki history and student interactions
 - How did students collaborate?
 - How did they communicate and interact?
 - How was team work done in the Wiki?
 - How did they create content within a team?
- retrieval literacy test planned

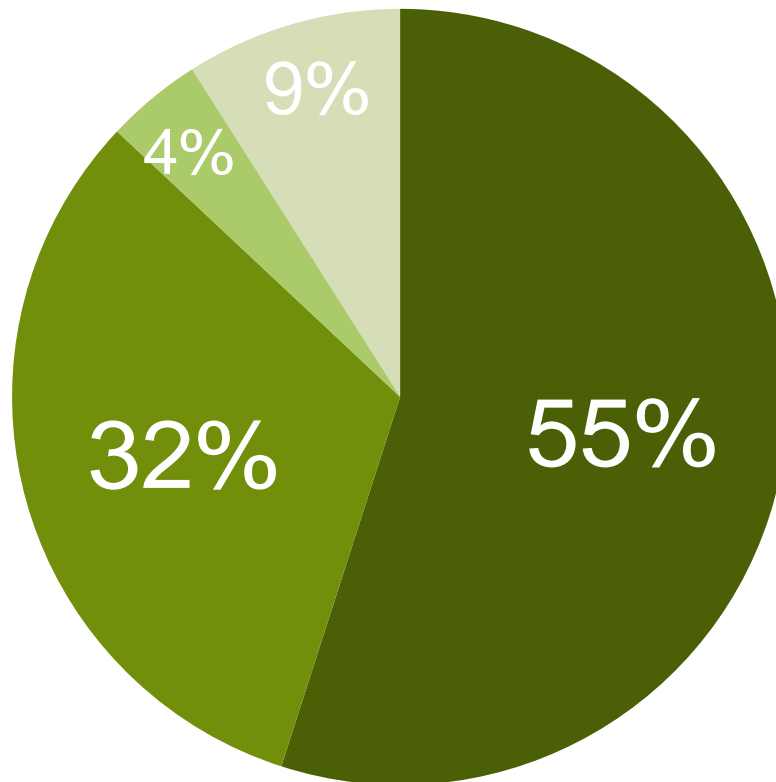
survey results

- 148 course students participated in the survey
- 71 students are members of an academic learning group (38 female, 33 male)
 - mostly 2 to 5 persons (93%)
 - 4 members is the most occurring group size (36.6%)
- learning group established...
 - for a specific course
 - to learn for general academic studies



survey results

- how did you come to your learning group?



- I was invited
- I am the founder
- I asked for membership
- I just joined the open group

survey results

- group composition
 - students who met each other during the studies
 - only 10% said that their group includes friend members they knew before
- which relationship do you have to the group members?

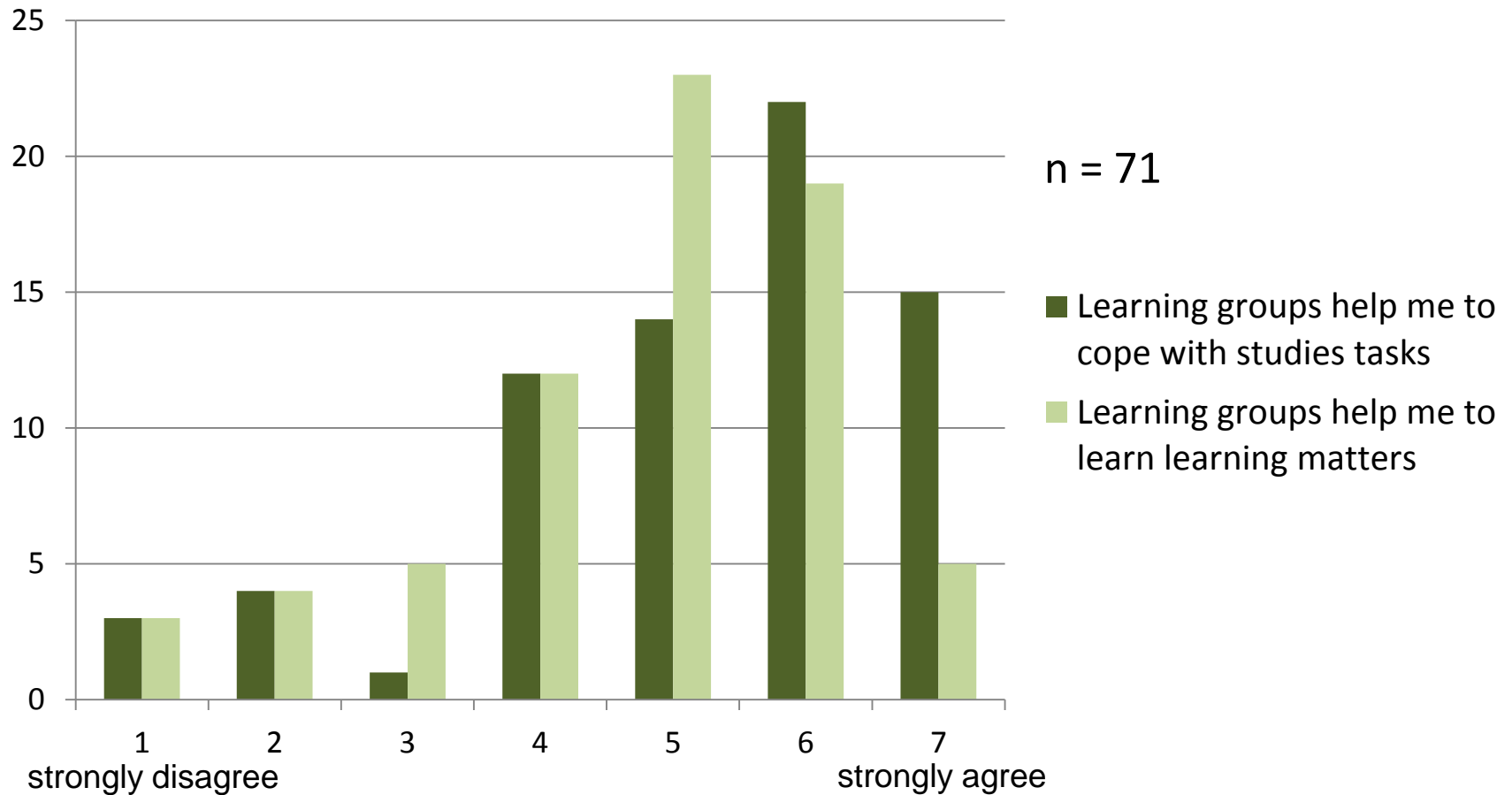


survey results

- group meetings (multiple answers)
 - **80%** meet before an academic examination
 - 58% have digital meetings
 - 24% have regular meetings
- 7 students only meet digitally and not face-to-face
 - Facebook group of first year students
 - digital work unusual

survey results

■ helpfulness of learning groups



survey results

- Wiki usage
 - 109 of 148 students know Wikis.
 - 24 (22%) of them used a Wiki (instead of only reading Wiki content)

current situation

- difficulties in organising team
- difficulties in team communication
- starting difficulties in organising Wiki pages
 - after 1st milestone and reviews teams started to re-organise project pages
 - Wikispaces does not allow members to delete or rename pages
- in most teams every member contributes to the sub-tasks
 - no task splitting

with you

- how to foster team work?
 - what about a team leader?
- how to examine retrieval literacy?
 - what should students be able to do concretely?
- are there other Wiki experiences?

thanks for your attention

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