

# ***A Collaborative Lecture in Information Retrieval for Students at Universities in Germany and Switzerland***

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World Library and Information Congress: 71st IFLA General Conference and Council  
"Libraries - A voyage of discovery", August 14th - 18th 2005, Oslo, Norway

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## **Contents**

### **(1) K3 project**

- (2) Design of the course
- (3) Course of action: Experiences from the instructors' point of view
- (4) Evaluation and feedback by the students
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## Outline of the K3 project

- **K3** (German acronym for **communication, collaboration, competence**) is a knowledge management project based on the thesis that knowledge production is to a large extent the result of communication processes.
- **K3** is a knowledge management system in learning environments for academic teaching.

**Assumption: Learning can be especially effective and motivating, if different people share their knowledge and are committed to argumentation and negotiation to work out common results and producing new knowledge (collaborative knowledge construction).**



## Didactic base concept of K3

### **Variation and combination of constructivist and instructional teaching methods.**

Enrich (classic) lecturing by boosting mutual communication and discourse through constructivist group work and self determined individual work in alternation between face-to-face lessons and virtual phases.

### **New rating system**


Replace punctiform efficiency control with a progressional rating system that rewards steady activity on part of the students.

### **K3 - Knowledge Management Software**

Provide a platform for complex discussions to support collaborative knowledge production in a controlled virtual environment - developed at Constance.



## K3 courses


Home Kontakt Informationen Software Impressum Tutorial K3-Projekt  
Logout (griesbau)


Kurse Suche MyK3

Auswahl Überblick aktuelle Kurse Go!


**Aktuelle Kursübersicht**

Übersicht über Ihre gegebenen Kurse

- [Kurs: SS04-Informationsethik](#)
- [Kurs: E-Commerce](#)
- [Kurs: WS04/05-Information Retrieval](#)
- [Kurs: WS04/05-SS05-K3-Praktikum](#)
- [Kurs: WS04/05-Informationsmarkt](#)
- [Kurs: WS04/05-Kolloquium Informationswissenschaft \(LS Kuhlen\)](#)
- [Kurs: WS04/05-Seminar Evaluierungsformen](#)
- [Kurs: WS04/05-Seminar Informationspolitik](#)
- [Kurs: WS04/05-Doktorandenkolloquium](#)
- [Kurs: WS04/05-Kooperation/CSCW und Wissensmanagement](#)
- [Kurs: WS04/05-Organisations- und Geschäftsmodelle des elektronischen Publizierens](#)
- [Kurs: SS05 Seminar Information Retrieval](#)
- [Kurs: SS05-Informationsaufbereitung/Information Retrieval](#)
- [Kurs: SS05-Informationsethik](#)
- [Kurs: SS05 Geschäfts- und Organisationsmodelle für elektronische \(freie und kommerzielle\) Informationsgüter](#)
- [Kurs: SS05 Einführung in die objektorientierte Programmiersprache JAVA](#)
- [Kurs: SS05 Seminar Multimediales Lehren und Lernen](#)



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Overview of K3 courses since summer term 2004


Course „Information Retrieval“ in winter term 2004/2005

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## Research aim of the course Information Retrieval

To examine whether the quality of teaching and learning can be raised, if the collaborative ideas of K3 are employed in a dislocated lecture.

- Collaboration on three different levels:
  - **Group level:** Group exercises in face to face and virtual phases.
  - **Community/Course level:** Initially individual concept-oriented student work within the K3 system.
  - **Lecturer level:** Coordination & collaboration concerning course content, course structure, execution of the course.



## Didactics

### Knowledge Transfer

- Traditional lecturing – face-to-face lessons (weight 40%)

### Succeeding group work orders

- Face-to-face and virtual phases (weight 40%)
- Partly with mixed groups Constance-Geneva

### Concept-oriented work withing the K3 system

- Solely virtual (weight 20%)
- Working out important concepts and questions in the field of the course topics. Contributions had to be worked out individually.



## K3 system: screenshot of the topic „information retrieval in the internet“

**Course „Information Retrieval“**

Reference objects provided by course instructors and students

Contents of the topic „information resources“

Discussion on the course/community level

Work orders (e.g. „Analyze online host DATASTAR“ with 52 contributions)

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## Example group work order (translated in english) – collaboration at group level

### Task: Analyze an ONLINE-HOST and work out the following aspects

1. Content focus and coverage: Range of topics, kind and number of offered data bases
2. Search Options: retrieval language, search fields etc..
3. Access conditions: price structure, target group
4. Customer service: Support during the document procurement, document delivery, offer of search assistance and online help

Clarify diversification characteristics compared with other hosts. Try to point out the search capabilities with the help of a example. Presentation date is 16.11.04. Use K3 to compile the work order.

### Workflow suggestion

1. The group specifies the fundamental operational sequence and determines, which members works out which of the named aspects, e.g. each of the team members compiles which one of the four central aspects (up to 5.11)
2. The Rechercheur researches the necessary information resources (up to 6.11.)
3. The team members accomplish the textual analysis of the four aspects. Each member put his results in K3 (up to 9.11)
4. The Summarizer compiles a total analysis from the single contributions (up to 11.11)
5. The Rechercheur works out the search example (up to 11.11).
6. The presenter prepares out 4. and 5. (up to 15.11.) (consider: the quality of the presentation flows into the evaluation)

It is possible to arrange the workflow after own ideas. Deviations from the suggested operational sequence, and/or a different structured should be discussed and negotiated with the help of the forum .

## Example of concept-oriented work within K3 – collaboration at course level

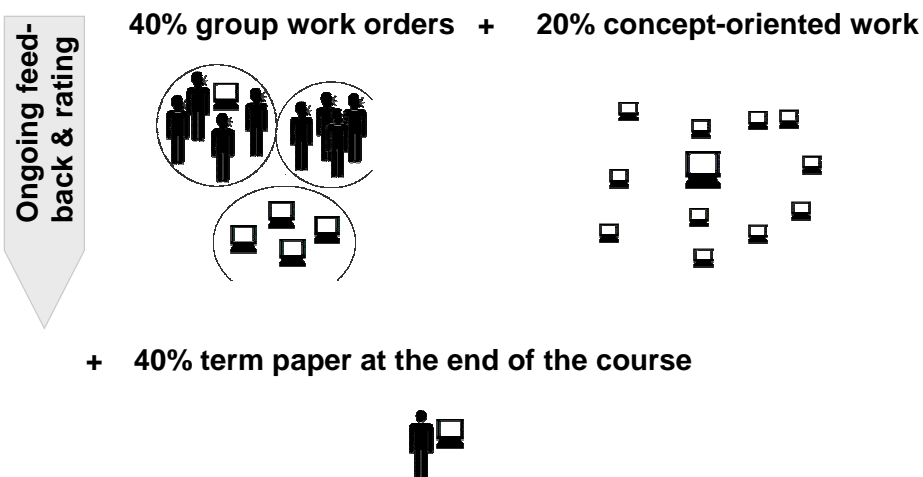
### Example of a students comment

<p><b>Question (lecturer)</b></p>	<p><b>Information Retrieval a computer activity?</b> von: griesbau (Kommentare: 4) am: 18.11.2004 16:04          Dozent          Beitragstyp: Frage          Was denken Sie, ist Information Retrieval notwendigerweise immer eine rechnergestützte Aktivität? Nehmen Sie Stellung zur folgenden Aussage von [Meadows 1991, S.2]: "Is information retrieval a computer activity? It is not strictly necessary that it be [...]" und begründen Sie ihre Antwort.</p> <p>Kommentar anlegen    Kommentar löschen    Kommentar bewerten</p>	<p><b>Literatur</b>          Knowledge and communication ... mehr  <b>Hyperlinks</b>          Dozent-Dateien    add          Student-Dateien</p>
<p><b>Comment/ answer (student)</b></p>	<p><b>Information Retrieval a computer activity?</b> von: schaeuble (Kommentare: 3) am: 28.11.2004 16:47          Beitragstyp: Kommentar          Information Retrieval muss nicht unbedingt mit dem Computer ausgeführt werden. Die meiste Arbeit im Retrievalprozess muss vom Menschen gemacht werden, insbesondere die kognitive Leistung. Der Computer ist dabei lediglich ein Hilfsmittel, das mit großen Informationsmengen umgehen kann. Heutzutage ist ein Retrieval ohne Computer allerdings kaum vorstellbar.</p> <p>Kommentar anlegen    Kommentar bewerten</p>	<p><b>Literatur</b>          Hyperlinks          Dozent-Dateien    add          Student-Dateien</p>

The contributions receive feedback from the lecturers and can be commented by the other participants. Ideally the initially individual concept-oriented work in K3 leads to self-supporting discussions, resulting in an agile virtual exchange in which all participants of the course are involved.



## Evaluation and rating system



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## Course of action: Experiences from the instructors' point of view

### Number of participants

- Constance 12, Geneva 6 participants - no drop-outs during the course

### Interuniversity Cooperation – Collaboration on the lecturer level

- Quality of the teaching materials was very high.
- Increased expertise

### Ongoing feedback and progressional rating

- High to very high quality of students contributions
- Ongoing feedback is very time consuming on part of the lecturers.



## Course of action: Experiences from the instructors' point of view

### Communication behaviour and use of the K3 system

- K3 was used as specified. No handling troubles
- Partly intense online discussion at the group work orders
- But no self-supporting discourse beyond explicitly specified group work activities
- Only minimal interaction and discussion between students in K3 on community level. A self-supporting discourse between the participants of the course did not arise.



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## Evaluation and feedback by the students

**Main result: Students judged their learning success as high to very high.**

### Didactics

- Variation and combination of teaching methods raises motivation and improves learning success
- Especially group work is judged as raising motivation and facilitating learning success
- Concept-oriented work with the K3 system is judged as raising learning success but not as raising motivation
- Classic lecturing is seen as an important part of the course



## Evaluation and feedback

### Rating system

- Progressional rating improves motivation and raising learning success

### Interuniversity Cooperation

- Mixed group work was rated as a useful personal experience. But on the whole interuniversity cooperation was seen as „nice to have“ but not as a part of the course of outstanding importance



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## Conclusions

**The K3 approach of collaborative knowledge construction allowed us to boost communication and discourse between the participants on different collaboration levels. The results differ in dependence of the level.**

- Collaboration on group level was very successful and often led to intense virtual discussions.
- Collaboration on a (dislocated) community level was rather sparse.
- Collaboration on lecturer level effected in a higher quality of the teaching materials and increased lecturers' expertise.



## Conclusions

The K3 approach of collaborative knowledge construction seems to be worthwhile and has got the potential to enrich and enhance learning situations. But it is still an open experimental ground that needs further research.

Thank you for your attention!

Visit K3 at [www.k3forum.net](http://www.k3forum.net)

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