Change of Paradigm in KM – Towards Collaborative Knowledge Management

Epos-Forum Knowledge Management Workshop 18th of May 2006

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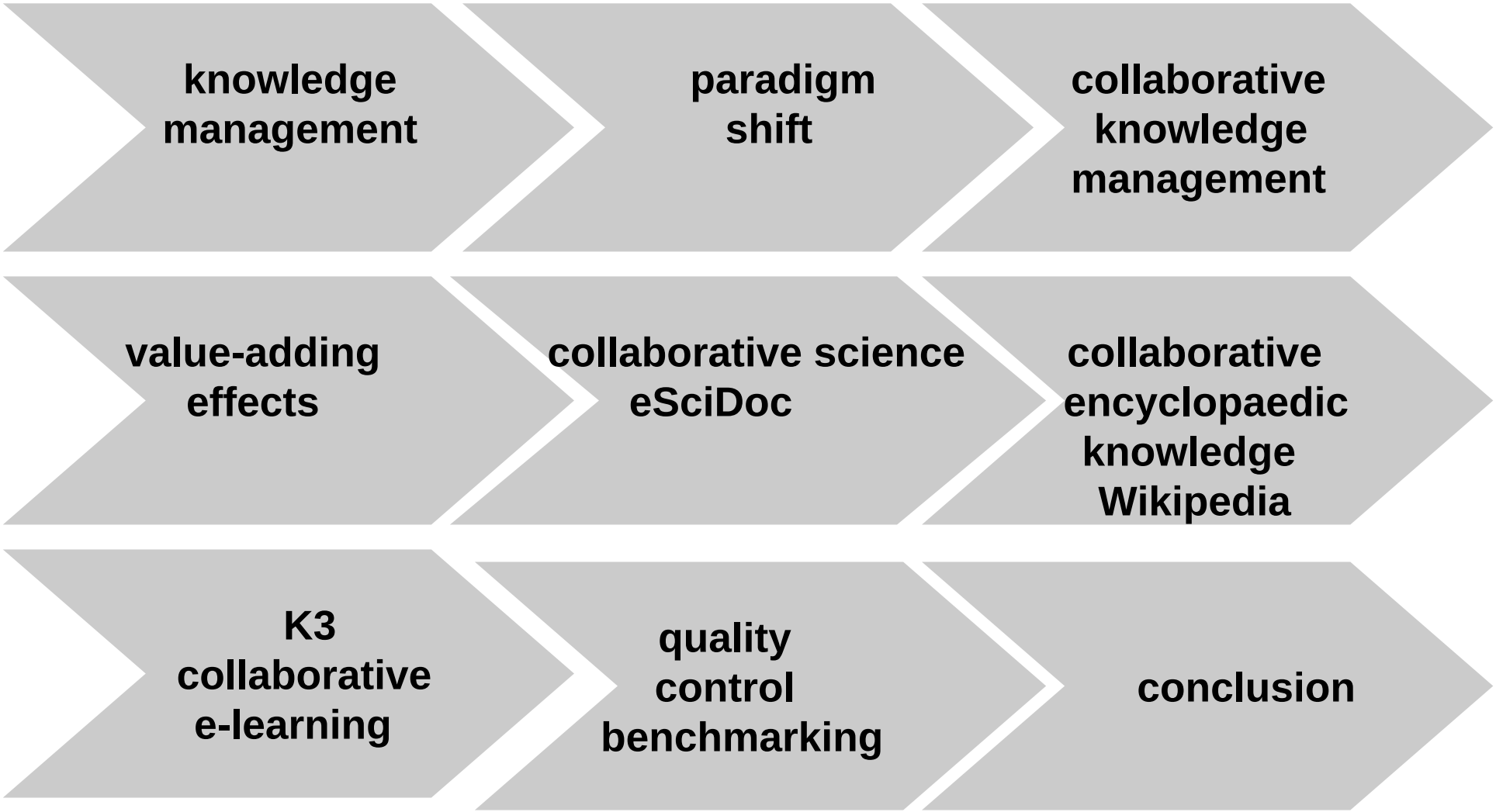
Content


knowledge management
paradigm shift
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value-adding effects
collaborative science eSciDoc
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General understanding of knowledge management

Knowledge management is generally understood as a means of having better control over the production and usage of explicit and implicit knowledge in organizations of any kind.

The objectives of traditional knowledge management in a nutshell:
to know what an organization in principle knows and to make that knowledge available to the right people at the right time.

Paradigm shift

from

a **knowledge warehouse** approach

to

a **communicative collaborative foundation**

of knowledge management

Paradigm shift – from knowledge warehouses ...

- collect existing knowledge
- transform tacit knowledge into explicit knowledge by representing and structuring it
- store knowledge in data - or rather knowledge bases
- quality control by experts

Paradigm shift to collaborative knowledge production

basic assumptions

- knowledge is **decreasingly** produced **individually** but **increasingly** in **distributed** and often **virtually** organized **groups**
- knowledge **asymmetries** are advantageous for collaborative work
- incentives are needed for collaborative work

Paradigm shift to collaborative knowledge production

The paradigm shift in the understanding of knowledge has come about because knowledge and information are increasingly **no longer considered a mainly receptive process** of knowledge

but a **constructive process** where information is not just the result of a particular distribution or retrieval process, using and applying existing knowledge to new problems, but is the result of **communication** (**discourse**) processes.

This can be called the network or collaborative approach to knowledge management.

Science

P2P Journal - Collaborative Computing
http://www.p2pjournal.com/main/collaboration.htm

Science

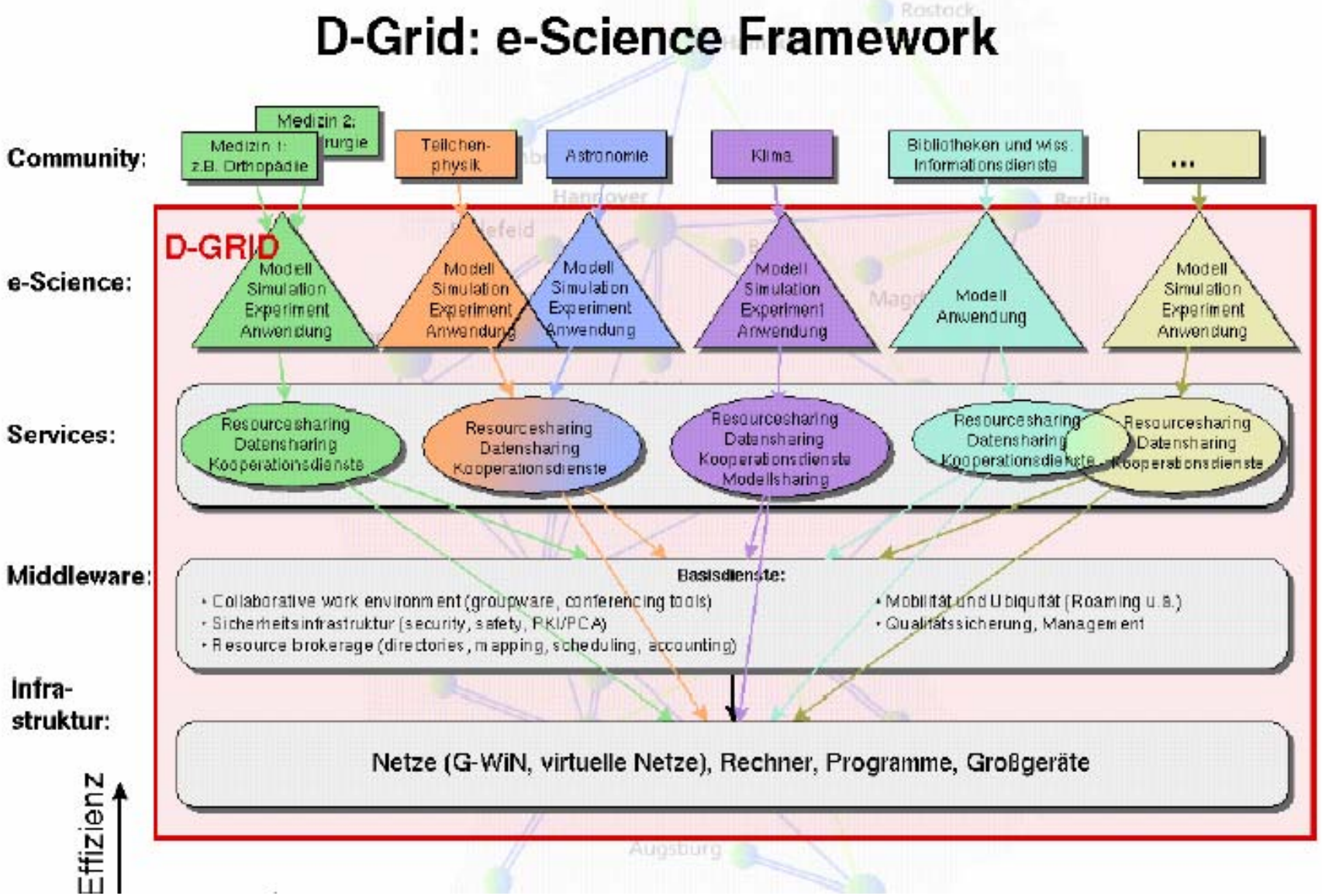
Science needs new collaborative forms such as Distributed Collaborative Computing (GRID-approach)

Collaborative computing is a concept that says we can use CPU capacities from multiple machines to work jointly solving a problem that requires huge number of CPU cycles if a single machine was to do the calculation by itself.

As the advent of internet has allowed computing **systems to be connected together**, we started to harness the computing powers from multiple commodities equipments.

Wissenschaft

*Collaborative Computing – GRID - **Strategie***



Knowledge is a common good and is collaboratively produced

•distributed.net - Using your computer's idling CPU cycle to do shared computing projects, such as cypto, encryption, dedecryption, prime number studies and researches, etc

•SETI@home - Using shared CPU cycles to calculate the probability of extra-terrestrial (E.T.) intelligence existence from radio signal analysis.

•Human Genome project - A 13-year effort coordinated by the U.S. Department of Energy and the National Institutes of Health to map and identify all the approximately 30,000 genes in human DNA and determine the sequences of the 3 billion chemical base pairs that make up human DNA.

•Anti-Spam efforts, like Bright Mail - Use collaborative to score e-mail source and determine if it is a spam.

Collaborative science

eSciDoc

eSciDOC develops a multi-disciplinary publication and communication platform for science on the basis of open access and open collaboration

Collaborative science

eSciDoc

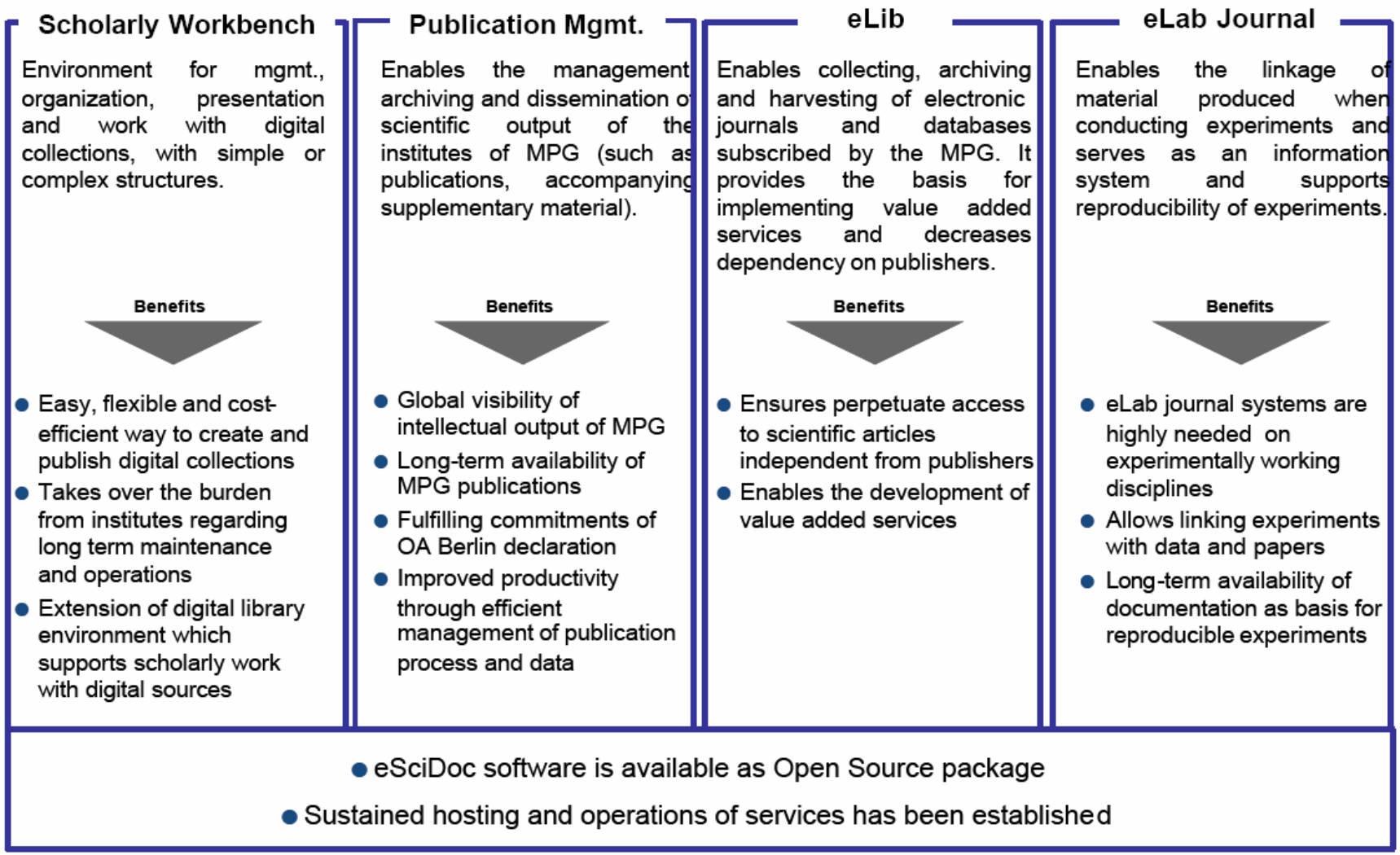
Project aims

The result of the entire eSciDoc project is intended to:

1. Ensure permanent access to the research results and research materials of the Max-Planck Society and seamless integration within eSciDoc as well as integration into an emerging, global, electronic knowledge space.
2. provide effective opportunities for access to information for scientists of the Max-Planck Society and their work groups.
3. Support scientific collaboration in future eScience scenarios.

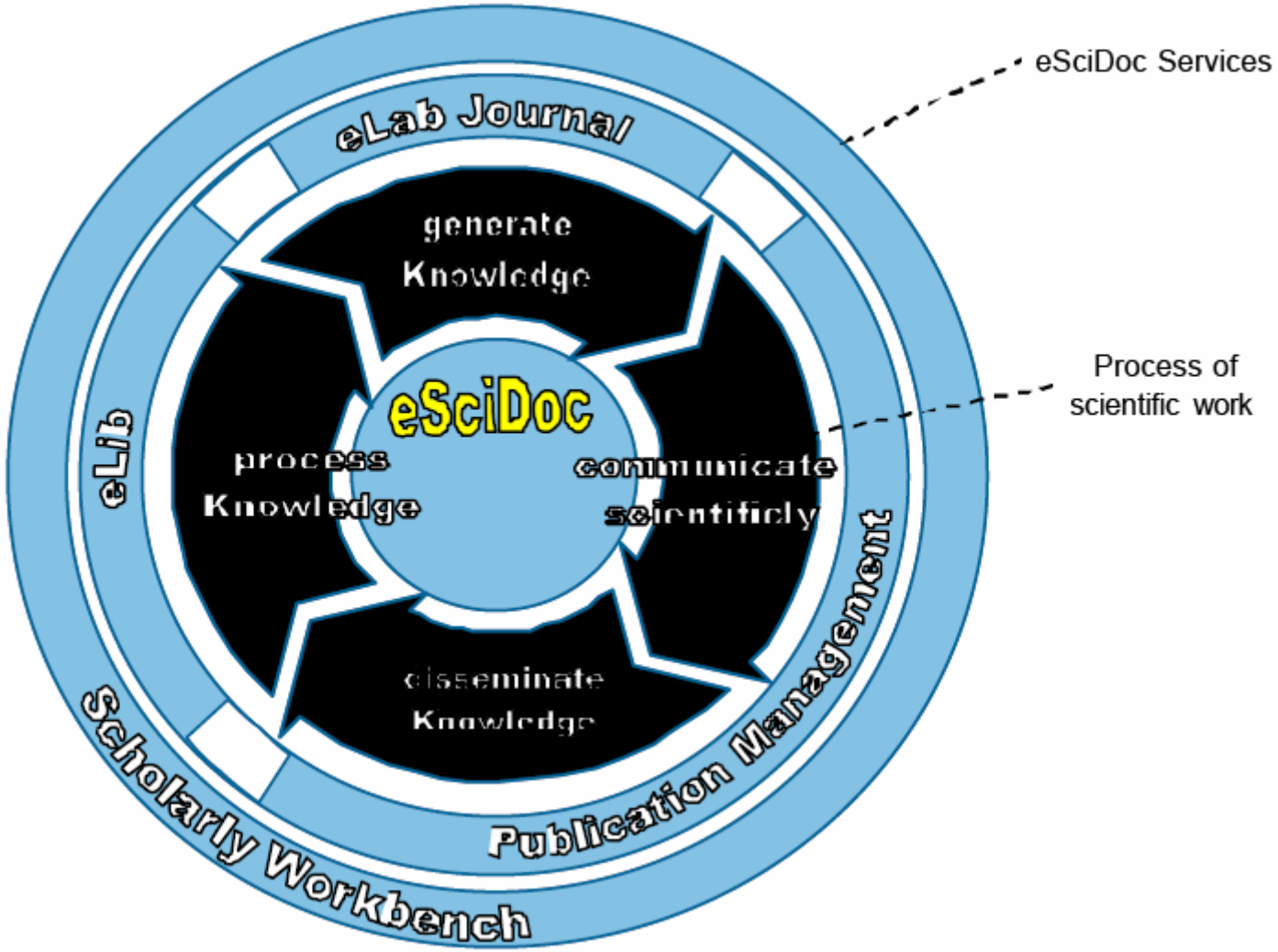
Collaborative science

eSciDoc



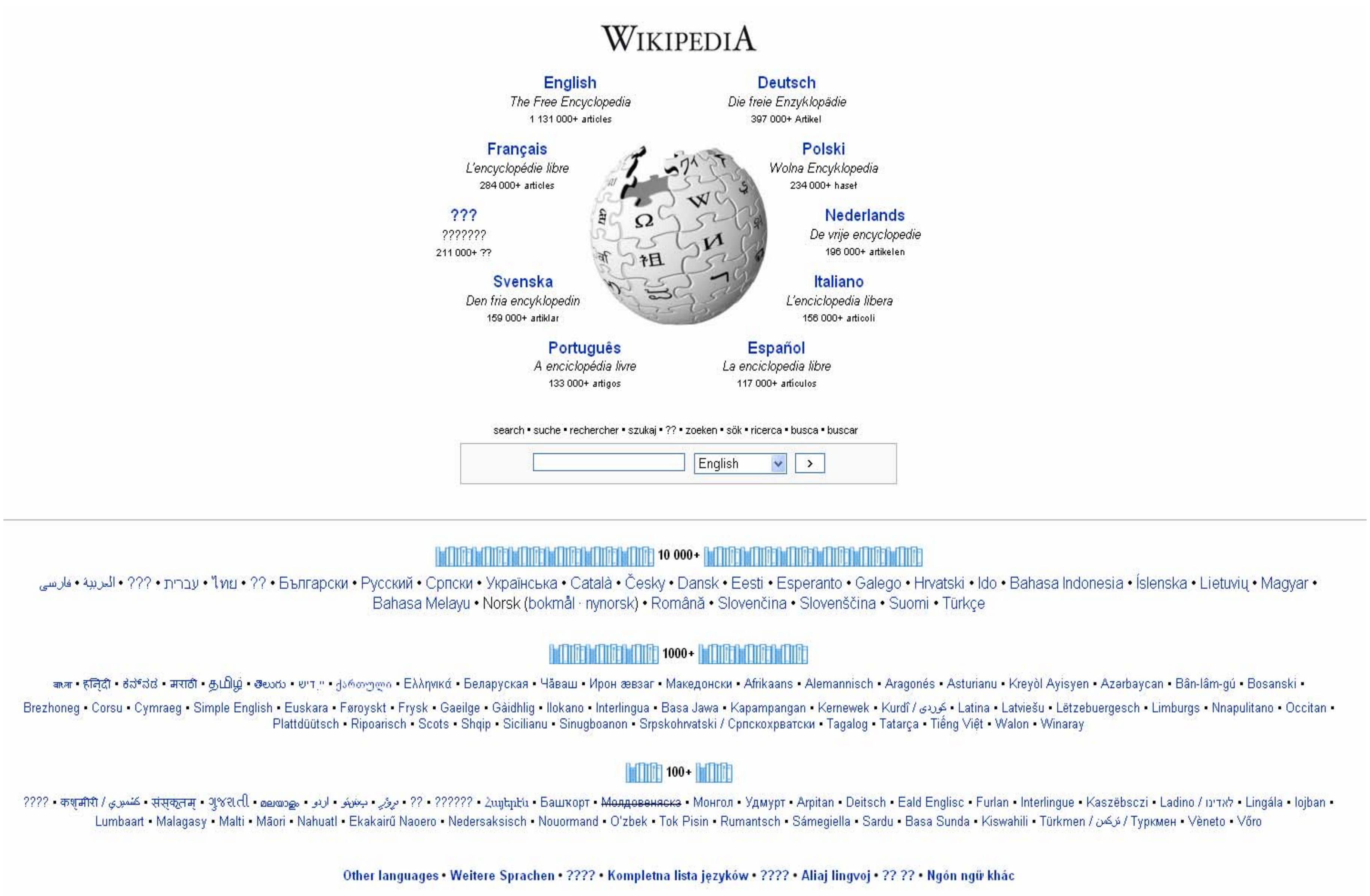
Collaborative science

eSciDoc



Wikipedia

collaborative encyclopaedia


WIKIPEDIA
English
The Free Encyclopedia
1 131 000+ articles
Deutsch
Die freie Enzyklopädie
397 000+ Artikel
Français
L'encyclopédie libre
284 000+ articles
Polski
Wolna Encyklopedia
234 000+ haseł
???
???????
211 000+ ??
Nederlands
De vrije encyclopedie
196 000+ artikelen
Svenska
Den fria encyklopedin
159 000+ artiklar
Italiano
L'enciclopedia libera
156 000+ articoli
Português
A enciclopédia livre
133 000+ artigos
Español
La enciclopedia libre
117 000+ artículos
search • suche • rechercher • szukaj • ?? • zoeken • sök • ricerca • busca • buscar
English
10 000+
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1000+
বাংলা • हिन्दी • ಕನ್ನಡ • मराठी • தமிழ் • తెలుగు • ייִדיש • ქართული • Ελληνικά • Беларуская • Чăваш • Ирон æвзаг • Македонски • Afrikaans • Alemannisch • Aragonés • Asturianu • Kreyòl Ayisyen • Azərbaycan • Bân-lâm-gú • Bosanski • Brezhoneg • Corsu • Cymraeg • Simple English • Euskara • Føroyskt • Frysk • Gaeilge • Gàidhlig • Ilokano • Interlingua • Basa Jawa • Kapampangan • Kernewek • Kurdî / كوردی • Latina • Latviešu • Lëtzebuergesch • Limburgs • Nnapulitano • Occitan • Plattdüütsch • Ripoarisch • Scots • Shqip • Sicilianu • Sinugboanon • Srpskohrvatski / Српскохрватски • Tagalog • Tatarça • Tiếng Việt • Walon • Winaray
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???? • कश्मीरी / كشميري • संस्कृतम् • ગુજરાતી • മലയാളം • اردو • پښتو • ?? • ?????? • Հայերեն • Башкорт • Молдовеняскэ • Монгол • Удмурт • Arpitan • Deitsch • Eald Englisc • Furlan • Interlingue • Kaszëbsczi • Ladino / לאדינו • Lingála • lojban • Lumbaart • Malagasy • Malti • Māori • Nahuatl • Ekakairũ Naoero • Nedersaksisch • Nouormand • O'zbek • Tok Pisin • Rumantsch • Sámegiella • Sardu • Basa Sunda • Kiswahili • Türkmen / تركمن / Туркмен • Vèneto • Võro
Other languages • Weitere Sprachen • ???? • Kompletna lista języków • ???? • Aliaj lingvoj • ?? ?? • Ngôn ngữ khác

Wikipedia

From Wikipedia, the free encyclopedia

Wikipedia (IPA: [/ˌwɪkiˈpiːdi.ə/] or [/ˌwiki-/]) is an international Web-based free-content encyclopedia. It exists as a wiki, a type of website that allows visitors to edit its content; the word *Wikipedia* itself is a portmanteau of *wiki* and *encyclopedia* and is often abbreviated to **WP** by its users. Wikipedia is written collaboratively by volunteers, allowing most articles to be changed by anyone with access to a computer, web browser and Internet connection.

The project began on January 15, 2001 as a complement to the expert written (and now defunct) Nupedia, and is now operated by the non-profit Wikimedia Foundation. Wikipedia has more than 3,800,000 articles in many languages, including more than 1,131,000 in the English-language version. Since its inception, Wikipedia has steadily risen in popularity[1] and has spawned several sister projects.

Wikipedia's most notable style policy is that editors are required to uphold a "neutral point of view", under which notable perspectives are summarized without an attempt to determine an objective truth.

Wikipedia's co-founder, Jimmy Wales, has called Wikipedia "an effort to create and distribute a multilingual free encyclopedia of the highest possible quality to every single person on the planet in their own language."[2] However, there has been controversy over Wikipedia's reliability and accuracy, with the site receiving criticism for its susceptibility to vandalism, uneven quality and inconsistency, systemic bias, and preference of consensus or popularity over credentials. Nevertheless, its free distribution, constant updates, diverse and detailed coverage, and numerous multilingual versions have made it one of the most-used reference resources available on the Internet.

There are over 200 language editions of Wikipedia, around 130 of which are active. Fourteen editions have more than 50,000 articles each: English (the original), German, French, Polish, Japanese, Dutch, Italian, Swedish, Portuguese, Spanish, Russian, Chinese, Norwegian and Finnish. Its German-language edition has been distributed on DVD-ROM, and there are also proposals for an English DVD or paper edition. Many of its other editions are mirrored or have been forked by other websites.

Collaboration

From Wikipedia, the free encyclopedia

Collaboration (co+labor+ation) refers abstractly to all processes wherein people work together —applying both to the work of individuals as well as larger collectives and societies. As an intrinsic aspect of human society, the term is used in many varying contexts such as science, art, education, and business. In certain political contexts, the term "collaborator" may refer (pejoratively) to individuals who are claimed to have been working with an outside entity *against* their own societies.

Research into the properties of and process of collaboration has intensified with the advent of the Internet, collaborative editing, and computer mediated communication (CMC). As software designers, facilitators and theorists from diverse fields of study strive to create more useful and effective collaborative environments and methods, more light is shown on this ubiquitous and taken for granted practice, and the nature of collaboration is coming under more intensive study.

Contents [hide]

Wikipedia:Collaboration of the week

From Wikipedia, the free encyclopedia

Each week, Wikipedians nominate an article to become the **collaboration of the week**. The aim is to produce featured-standard articles, through widespread cooperative editing. This project aims to fill holes in Wikipedia, so only non-existent articles, or stubs may be nominated. If the article does not fit these guidelines, it should be placed on the Article Improvement Drive for further expansion and improvement.

The current *collaboration of the week* is Storm (see nomination)

Last week's collaboration was **Fauna (animals)** (see improvements)

Selection process

The collaborations are selected by approval voting. This is done by clicking the edit button to the right of the article's nomination, and adding the text # ~~~~.

- Only registered users may vote, and their first edit must have been before the article was nominated.
- Only support votes and comments should be added, as the articles are chosen by approval voting.
- Only vote for articles that you will personally help to improve, either with research or with writing.
- Do not vote for all of the nominations. If you do, your votes will be discounted, as people can't expect you to work on all of them.
- The article with the most votes at selection time will become the next COTW.
- Articles that fail to receive 3 votes per week from the time of nomination will be removed from this page.

A **storm** (from the Dutch "Storm") is any disturbed state of a planet's atmosphere, especially affecting its surface, and strongly implying severe weather. It may be marked by strong wind (a wind storm), thunder and lightning (a thunderstorm), heavy precipitation, such as ice (ice storm), or wind transporting some substance through the atmosphere (as in a dust storm, snowstorm, hailstorm, etc).

Storms are created when a center of low pressure develops, with a system of high pressure surrounding it. This combination of opposing forces can create winds and result in the formation of storm clouds, such as the cumulonimbus.

A sea storm.

A strict meteorological definition of a terrestrial storm is a wind measuring 10 or higher on the Beaufort scale, meaning a wind speed of 89 km/h (55 mph) or more; however, popular usage is not so restrictive. Storms measuring 10 on the Beaufort scale occur once every five years on average. The storms of such force usually cover all water area exhausting. Average duration of storm varies from 12 hours in August up to 28 hours in December and March while the longest continuous duration varies from 40 hours in July up to 200 hours in November. The east and northeast storms are noted for the most frequent repeatability and duration, especially during the cold period [1]. Big terrestrial storms alter the oceanographic conditions that in turn may affect the food abundance and distribution: strong currents, strong tides, increased siltation, change in water temperatures, overturn in the water column, etc. Sea storms regularly cause bird deaths and injury, the bodies washing up on the beach as heavy seas batter the coast.

Storm (file info)

Time lapse video of a storm, with a front coming in, lightning strikes then rain.

Talk:Storm

From Wikipedia, the free encyclopedia

Revision history

(Latest | Earliest) View (previous 50) (next 50) (20 | 50 | 100 | 250 | 500).

To view a previous version, click the date for that version.

Legend: (cur) = difference with current version, (last) = difference with preceding version, **m** = minor edit

Compare selected versions

- (cur) (last) 22:56, 12 May 2006 Covington (→*Content restructing - great ideas)*
- (cur) (last) 21:56, 12 May 2006 Nilfanion *(Content restructing)*
- (cur) (last) 00:22, 11 May 2006 CRobey *(Beaufort / Storm Classification)*
- (cur) (last) 14:00, 10 May 2006 The Missing Piece *(from dutch?)*
- (cur) (last) 10:09, 9 May 2006 The Missing Piece *(supporting windstorm merge)*
- (cur) (last) 22:48, 8 May 2006 Covington *(todo list)*
- (cur) (last) 22:47, 8 May 2006 Covington (→*Merge Windstorm here - +)*
- (cur) (last) 15:21, 8 May 2006 Brandmeister *(Merge Windstorm here)*
- (cur) (last) 03:18, 4 May 2006 PDXblazers (→*Merge)*
- (cur) (last) 03:18, 4 May 2006 PDXblazers (→*Merge)*
- (cur) (last) 23:43, 28 April 2006 Pierre cb (→*Merge)*
- (cur) (last) 22:47, 28 April 2006 Famartin (→*Merge)*
- (cur) (last) 17:45, 28 April 2006 Halbersma
- (cur) (last) 06:33, 11 April 2006 Covington *(hint)*
- (cur) (last) 07:46, 8 April 2006 Covington *(cotw)*
- (cur) (last) 08:14, 30 March 2006 EWS23 *({{subst:Meteorology}})*
- (cur) (last) 13:39, 18 January 2006 212.219.248.236
- (cur) (last) 18:26, 30 June 2005 Falphin *(not COTW)*
- (cur) (last) 17:22, 9 June 2005 Falphin
- (cur) (last) 16:08, 16 August 2004 ALoan **m** *(-{{AOTW}})*
- (cur) (last) 13:26, 4 August 2004 ALoan **m** *(duh - {{AOTW}})*
- (cur) (last) 13:25, 4 August 2004 ALoan **m** *(+{{ATOW}})*
- (cur) (last) 03:26, 26 October 2002 W **m** *(Learned how to sign :))*
- (cur) (last) 06:57, 24 October 2002 W

Compare selected versions

(Latest | Earliest) View (previous 50) (next 50) (20 | 50 | 100 | 250 | 500).

A rolling thundercloud over Enschede, Netherlands

Wikipedia quality control conflict resolution

Wikipedia:Policies and guidelines

From Wikipedia, the free encyclopedia

While we try to respect consensus, Wikipedia is not a democracy, and its governance can be inconsistent. Hence there is disagreement between those who believe rules should be explicitly stated and those who feel that written rules are inherently inadequate to cover every possible variation of problematic or disruptive behavior.

In either case, a user who acts against the spirit of our written policies may be reprimanded, even if no rule has technically been violated. Those who edit in good faith, show civility, seek consensus, and work towards the goal of creating a great encyclopedia should find a welcoming environment. Wikipedia greatly appreciates additions that help all people.

1. **Wikipedia is an encyclopedia.** Its goals go no further, and material that does not fit this goal must be removed to another Wikimedia project, or else altogether. (See What Wikipedia is not)
2. **Avoid bias.** Articles should be written from a *neutral point of view*, representing all views on a subject, factually and objectively, in an order which is agreeable to a common consensus.
3. **Don't infringe copyrights.** Wikipedia is a free encyclopedia licensed under the terms of the GNU Free Documentation License. Submitting work which infringes copyrights threatens our objective to build a truly free encyclopedia that anyone can redistribute, and could lead to legal problems. (See Wikipedia copyrights)
4. **Respect other contributors.** Wikipedia contributors come from many different countries and cultures, and have widely different views. Treating others with respect is key to collaborating effectively in building an encyclopedia.

How are policies enforced

Since Wikipedia has **no editor-in-chief** or top-down article approval mechanism, active participants make copyedits and corrections to the format and content problems they see. So the participants are both writers and editors.

Individual users thus enforce most policies and guidelines by editing pages, and discussing matters with each other.

Some policies, such as Vandalism, are enforced by Administrators by blocking users.

Vandalism is any addition, deletion, or change to content made in a deliberate attempt to reduce the quality of the encyclopedia. The most common type of vandalism is the replacement of existing text with obscenities, page blanking, or the insertion of bad jokes or other nonsense. Fortunately, this kind of vandalism is usually easy to spot.

How are policies enforced

In extreme cases the Arbitration Committee has the power to deal with highly disruptive situations, as part of the general dispute resolution procedure.

The **Arbitration Committee** exists to impose binding solutions to Wikipedia disputes. This solution may be anything up to and including a ban from editing Wikipedia for a period of time.

The Arbitration Committee is the last step in the dispute resolution process — it is a **last resort** to be turned to when all else has failed. Other steps, including discussion between users and, where appropriate, mediation, should be tried first. The Arbitration Committee exists to deal with only the most serious disputes and cases of rule-breaking.

How are policies enforced

Some features of the software which could potentially be misused, such as deleting pages and locking pages from editing, are restricted to Administrators, who are experienced and trusted members of the community.

Administrators are Wikipedians who have access to technical features that help with maintenance ("*SysOp rights*"). Wikipedia practice is to grant this access to anyone who has been an active and regular Wikipedia contributor for a while, is familiar with and respects Wikipedia policy, and is generally a known and trusted member of the community.

Other existing features of quality control

- Godparenthood – for single articles or sub-domains
- discussion groups
- excellent articles (consensus needed within 20 days)

Other features of quality control are needed

- Implementation of **reviewing procedures** (not necessarily peer reviewing)
- Each modification should be **reported** to the last contributor(s)
- Each new article needs to be marked as **tentative/preliminary** – **released** when
  - a **certain number of collaborateurs** have contributed to the article
  - the collaborateurs are well-known „wiki activists“ (**degree of reputation**)
  - article qualifies by a **high link and/or reference degree** (number of internal and external references/links)

K3 collaborative knowledge management in e-learning

Success factors of collaborative learning

In general

The preference for collaborative knowledge management in e-learning is based on the assumption that the **quality of collaboratively produced or acquired knowledge is higher** than the quality of individually produced or acquired knowledge, even higher than the set union of all individually produced or acquired knowledge in a group.

Success factors of collaborative learning

In particular

Access to Information and Information Sharing

- The success of collaborative learning is not only an exchange of knowledge of group members, but is in addition highly dependent on **access to external (new) knowledge** which has not yet been acquired by the group members.

Success factors of collaborative learning

In particular

Taking Advantage of Information Asymmetries

- Collaborative work normally takes place among people with heterogeneous backgrounds of knowledge and experience. By providing different perspectives and problem-solving strategies, **asymmetries are not a negative factor but can promote the group process** of generating alternatives for solving a problem or generating different learning paths.

Success factors of collaborative learning

In particular

New Communicative/Social Competence

- Higher quality and effectivity for acquisition and production of knowledge is the main purpose of collaborative learning, but the **acquisition of a special kind of communication or social competence** from working in groups in a virtual environment it is more than a mere side-effect.

K3

K3 is an open software system that supports collaborative and distributed production/acquisition of knowledge in academic learning environments

- A **rating feature** is integral part of the K3 system and is the basis of the incentive system. Every entry a student makes to the system – be it a comment on a current thread or a reference link – is registered and credited as individual performance or as part of collaborative work.

- These contributions also generate certain (visualized) scores. This allows a permanent **feedback function** showing the students how they are performing. By comparing individual (or group) performance with other students' (or group) performance every participant (or group) can see their current standing within the community.

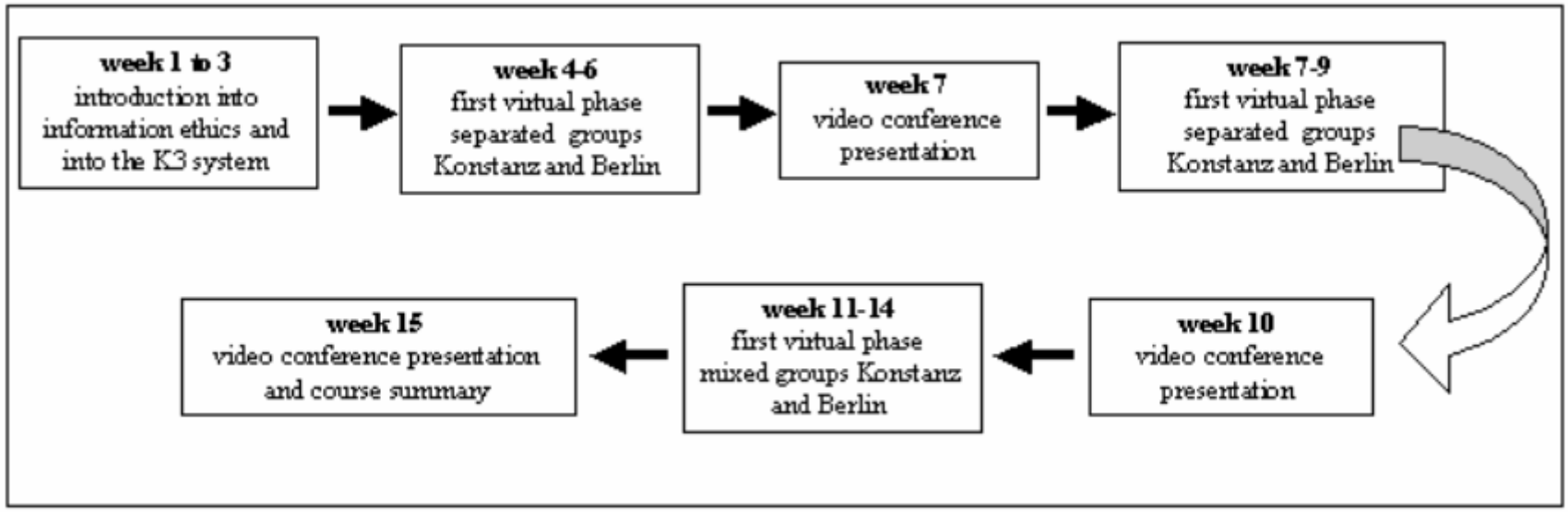
K3 objectives

Collaborative e-learning in K3 has a twofold general objective:

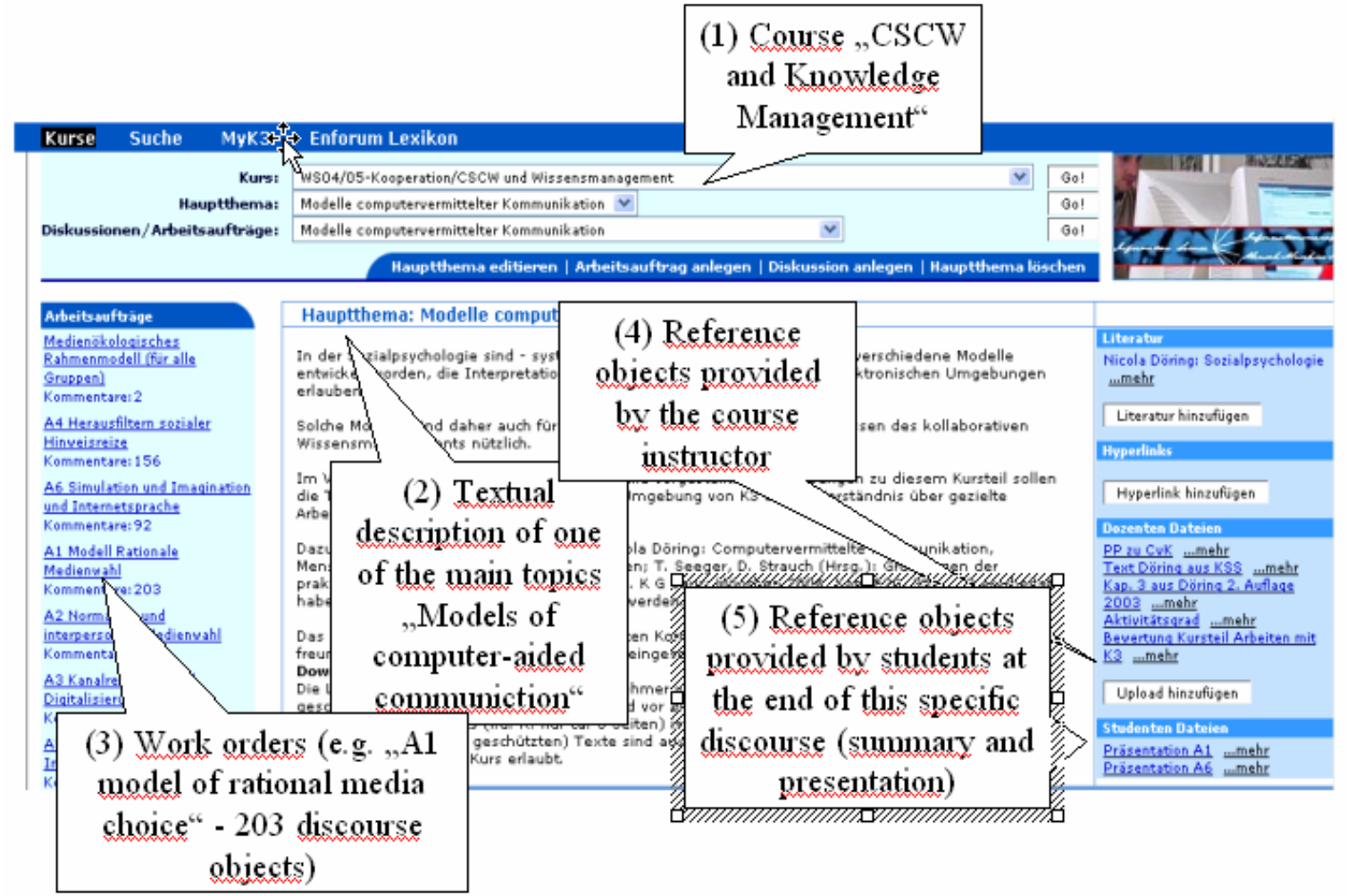
- Firstly, to let **virtual groups** (and in them, of course, individual learners) produce content and acquire knowledge in the special course domain, and,

- secondly, to acquire **information and communication competence**.
  With respect to raising information competence, students are encouraged to attach so-called reference objects (web links, bibliographic references, external files) to their contributions in K3

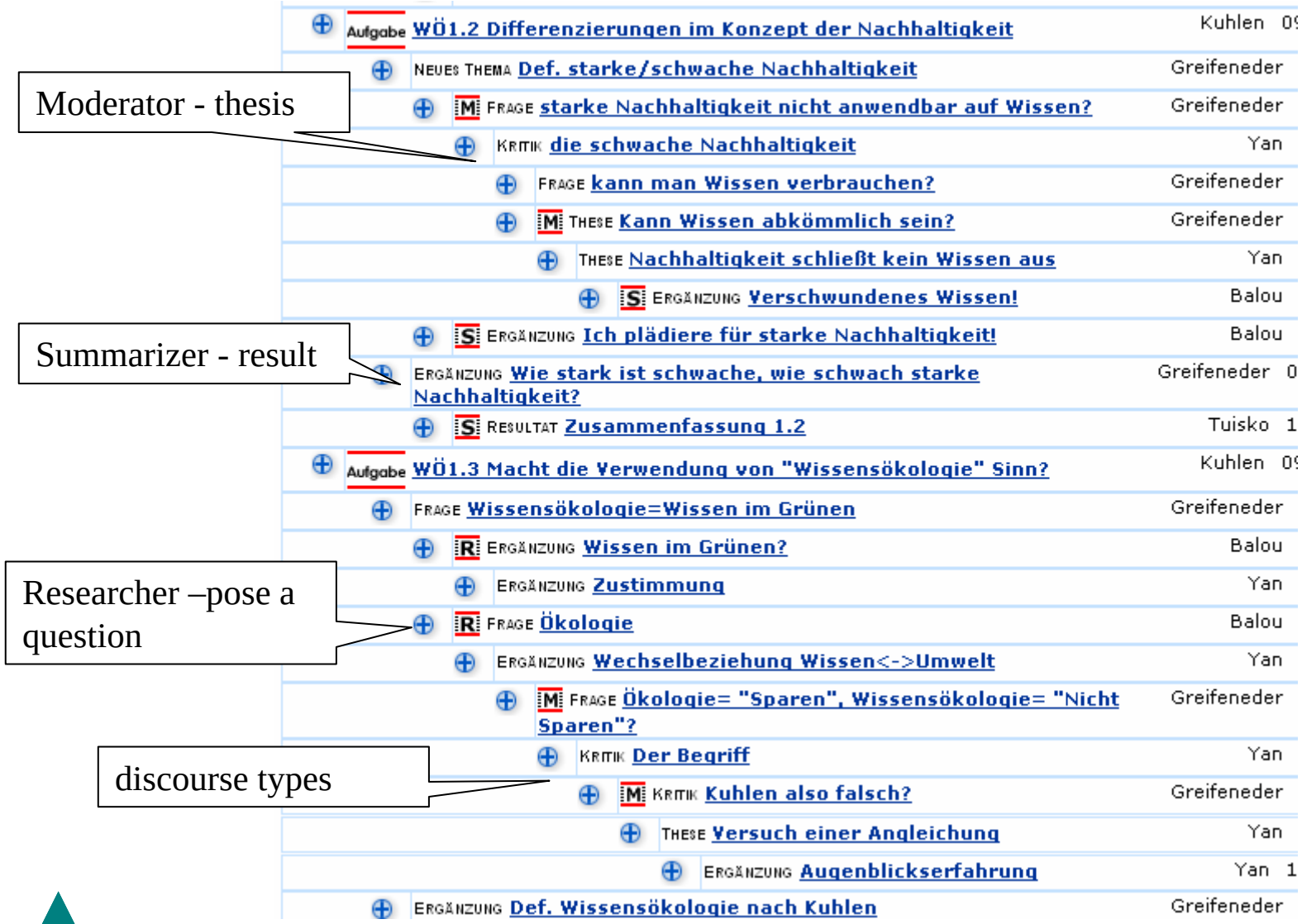
Blended learning – Phases in a K3-course (information ethics)



K3 course structure (overview)



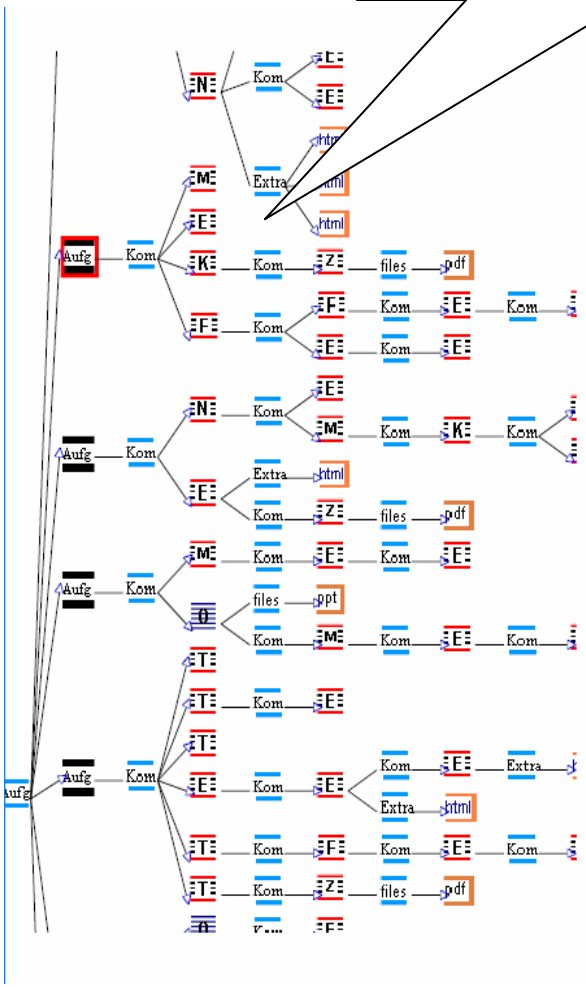
K3 discourse structure



Visualization - K3Vis

Discourse objects – roles and types

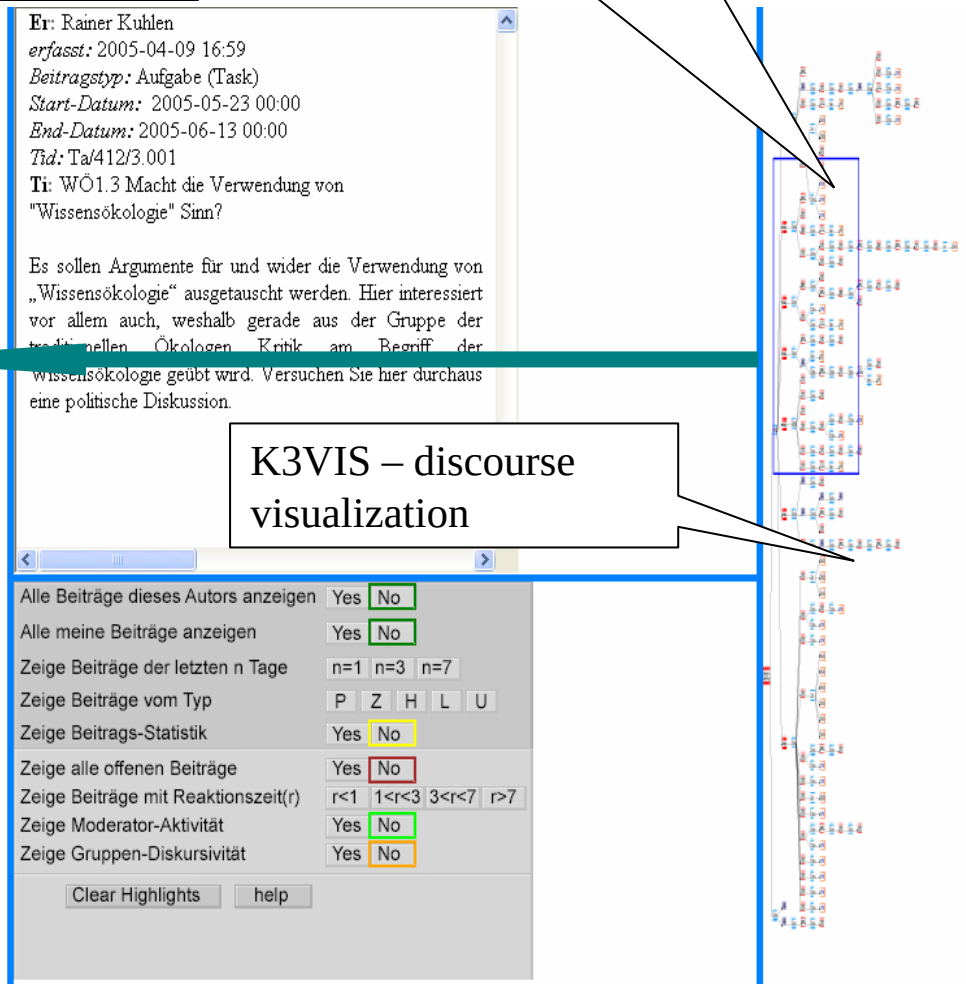
subset of a discourse



Er: Rainer Kuhlen
erfasst: 2005-04-09 16:59
Beitragstyp: Aufgabe (Task)
Start-Datum: 2005-05-23 00:00
End-Datum: 2005-06-13 00:00
Tid: Ta/412/3.001
Ti: WÖ1.3 Macht die Verwendung von "Wissensökologie" Sinn?

Es sollen Argumente für und wider die Verwendung von „Wissensökologie“ ausgetauscht werden. Hier interessiert vor allem auch, weshalb gerade aus der Gruppe der traditionellen Ökologen Kritik am Begriff der Wissensökologie geübt wird. Versuchen Sie hier durchaus eine politische Diskussion.

K3VIS – discourse visualization



Evaluation

Benchmarking in K3

Concluding remarks on benchmarking in K3

K3 benchmarks have been designed to evaluate and to rate the collaborative activities of the groups and members.

The comparison of the individual scores and making it visible to every member is also a strongly motivational momentum.

Benchmarking is also a proof of discourse control. For the lecturer, it is a great help for assessing students.

Benchmarking works on a quantity basis and does not reflect quality issues.

To rate the quality of discourse objects it is necessary to analyse content (intellectually and/or automatically).

K3 benchmarks on individual level.

Benchmark on individual level	Calculating	Description
Overall activity	Number of all articles of a participant.	Ranking of the most active participant.
Personal degree of reaction	Number of all replies by a participant to other articles.	Ranking of response frequency.
Degree of active reaction	Ratio of one's own replies to all one's own articles.	Value between 1 (participant did react) and 0 (participant did not react).
Degree of passive reaction	Ratio of group's replies to all one's own articles.	Value between infinite (participant received many reactions) and 0 (participant received no reactions)
Degree of reputation	Number of links (of all participants) to one's own articles.	Number of refercences given.
Personal degree of information	Discourse starting entries / all reactions	Indicates, if anyone reacted only or acted proactively.
Personal degree of referencing	Referential objects / all entries.	Shows the intensity of using external proof.
Degree of interaction of a group member	1 – (Number of stand-alone entries in a group / Number of entries by all students).	If the result is close to 0, there is little interaction; if it is close to 1, there is a lot of interaction.
Degree of participation of a group member Pi	The ratio of (Number of entries by user i / Number of entries by all group members).	If this value is close to 0, the member has not done much group work, if the value is close to 1, this member has made all contributions.
Delta Pi (degree of deviation)	The deviation σ from (default value)	Thus indicates the deviation between the standard value and the personal degree of participation.

K3 benchmarks on group level.

Benchmark on group level	Calculating	Description
Overall group activity	Number of all articles of the group	Ranking of the most active groups.
Degree of lecturer's correcting	Number of lecturer's correcting entries (within a group)	Number of lecturer's interventions.
Degree of underwriting	Ratio of given reference objects to all articles of the group.	Shows to which extent the group referred to external sources.
Degree of moderation	Number of moderation / Number of all entries (within a group)	Shows the intensity of moderation in a group.
Degree of organisation	Number of organisational entries / Number of group entries (within a group)	Shows how well-organised a group acts.
Degree of participation of a group	The degree is defined as identical with the normalised entropy hn(x) [10, p. 57].	If the result is close to 0, there is imbalanced participation of the single members; if it is close to 1, the participation of the members is fairly balanced.

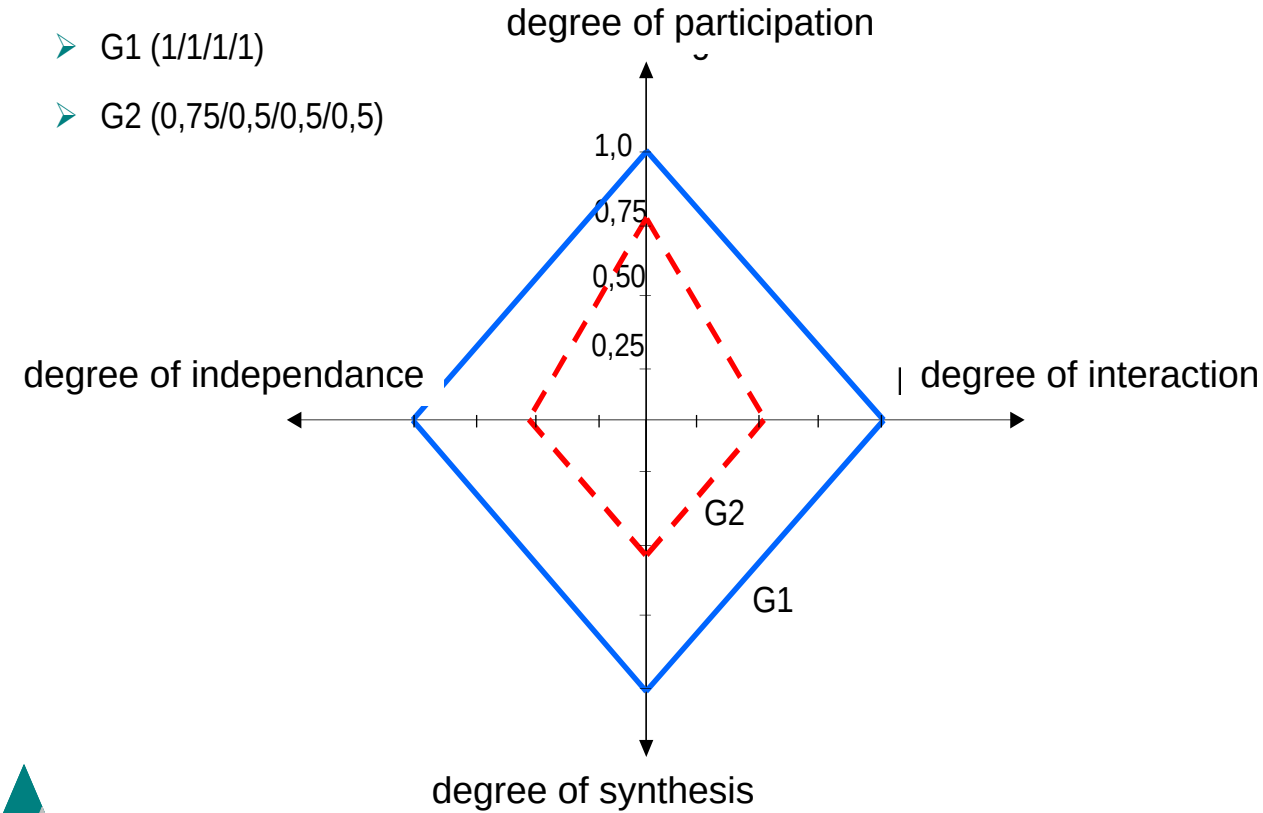
K3 benchmarks on group level.

Benchmark on group level	Calculating	Description
Degree of interaction of a group	1 - (Number of stand-alone entries in a group / Number of entries by all students)	If the result is close to 0, there is little team interaction; if it is close to 1, there is a lot of interaction.
The degree of independence of a group	1 - (Number of corrective instructor's entries / Number of all entries in the group (students' plus corrective instructor's entries))	If it is close to 0, there is little independence within the team; if close to 1, there is strong independence.
The degree of synthesis of a group	Every participant of the group has to consent and to rate the summary with a voting tool.	If all group members agree with the summary and each individual entry has been respected, the result is close to 1; if it is close to 0, there has been no collaborative group work.
Degree of collaboration within a group	This is a quadruple of the four degrees: "degree of participation", "degree of interaction", "degree of independence", and "degree of synthesis".	The "degree of collaboration of a group" shows if a group is really collaborating or if it is just cooperating, and how successful and effective the collaboration is.

Evaluation of group performance according to the degree of collaboration

Degree of collaboration within a group

- G1 (1/1/1/1)
- G2 (0,75/0,5/0,5/0,5)



Summary

Conclusion

Perspectives

Summary - Conclusion - Perspectives

- Knowledge is **increasingly** in **distributed** and often **virtually** organized **groups**
- Knowledge **asymmetries** are advantageous for collaborative work
- **Incentives** for the collaborative production of knowledge and for sharing knowledge are necessary
- **Gratification** not necessarily based on **financial** recognition but on **reputational recognition** (at least in science and education)
- Elaborate **quality control** and **conflict resolution** is necessary in collaborative environments

Conclusion - Perspectives

- Collaboration supports a **multi-perspective and multi-disciplinary view** on knowledge

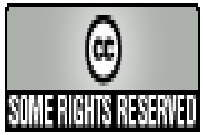
- Collaboration in electronic communication environments **abolish hierarchies and authorities**

- Knowledge **sharing**, creating **win-win-situations** for each participants in collaborative work is the basis for open innovation

- Traditional **intellectual property rights** (IPR) regimes (protecting individual rigths) support the exploitation of existing knowledge rather than advantaging the production of new knowledge as the basis for innovation

Thank your for your attention

Powerpoints available at www.kuhlen.name



Paradigm shift – from knowledge warehouses ...

- knowledge accessible through **retrieval/query languages** and, increasingly, through sophisticated **data mining** techniques

- knowledge **adaptable** to heterogeneous user profiles

- presenting retrieval/mining results in flexible sophisticated forms of **visualization**.

Value-adding effects of electronic communication for collaborative knowledge production, distribution and use

- electronic communication makes **exchange of knowledge possible** between people who never will have a chance to meet in person
- electronic communication **brings people together** with different (domain-specific, professional and personal) backgrounds and different life styles and different normative behaviour

supports a multi-perspective view on knowledge

Value-adding effects of electronic communication for collaborative knowledge production, distribution and use

- in electronic communication environment each contribution/comment is subject to **modification, correction, enlargement** – there is no such a thing as final knowledge
- electronic communication promotes **knowledge sharing**
- **discourse** is the main means of quality control rather than **expert peer reviewing**

electronic communication abolish hierarchies and authorities

Collaborative science

eSciDoc

e-Science in Germany

e-Science (enhanced science) refers to new ways of netbased scientific work. Based on novel net technologies and in consistent usage of information and knowledge technologies, research processes will be made easier, improved and intensified.

In order to make e-Science reality, various research and development activities around the world are planned or have already started: aiming at a new infrastructure for scientific communication and collaboration, for information provision, data exchange and data usage as well as publication of scientific outcome.
Quality of digital-based, scientific work will improve, thus enabling permanent exchange, documentation and immediate publication of primary and secondary data already in early project stages.

Also Germany has set up a wide-ranging **e-Science initiative**. The Federal Ministry of Education and Research funds among other the building of a digital infrastructure for future scientific work. The **eSciDoc project** is funded by the Federal Ministry of Education and Research in the context of

“The Encyclopedia of the French philosophers was not just a knowledge base project, but it was also a political project designed to propagate the ideas of the Enlightenement and to establish the reign of "Reason" as the basis of modern public debate.” (Jean-Baptiste Soufron).

Jean-Baptiste Soufron: The political importance of the Wikipedia Project : the only true Encyclopedia of our days. Wikipedia : towards a new electronic Enlightenment Era ? (2004 - http://soufron.free.fr/soufron-spip/article.php3?id_article=71)

Cf. Richard Stallmann: The Free Universal Encyclopedia and Learning Resource (first 1999 - http://www.gnu.org/encyclopedia/free-encyclopedia.html).