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## **Comparison between a VET-related search query in an Internet search engine and via a subject-specific information resource**

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## Abstract

The present paper focuses on the opportunities for successful scholarly research through effective use of the Internet. A systematic approach necessary for the research of specialist scientific information is then demonstrated. In conclusion, a selection of useful information resources for the subject field is introduced. A comparison between a search query related to Vocational Education and Training (VET) in an Internet search engine with a query in special online portals and databases will be drawn. A comparison will be made with the query *“Implementation of National Qualification Framework in Austria and in Germany in the course of the Implementation of the European Qualification Framework”* for the purpose of pointing out the advantage of using subject-specific information resources. The subject-specific information resources “ReferNet-Portal”, the German Literature Database on VET-topics “LDBB” and CEDEFOPs “European Literature database VET-Bib” will be presented.

Finally, this paper also emphasises the necessity of information literacy. It will be argued that information professionals should actively promote their work in order not to become redundant.

### 1. Information overload and (young) people’s media use

A glance at the status quo of the information society and the development of the so-called ‘digital universe’ reveals that the amount of information searchable via the Internet is subject to continuous and rapid increase. This point is colourfully illustrated by an assertion we happened across: *“today a person is subjected to more new information in a day than a person in the Middle Ages in his entire life”*<sup>1</sup>. Of course, the validity of this statement depends on the social class of a human being living some five hundred years ago. Scholars, research workers or philosophers were most probably an exception to the rule. However, why do we feel this way? Why do we feel that we are faced with a permanent stream of information we are not really able to cope with and process?

*“A lot of information, a lot of alternatives and a lot of choices have to be made. It takes time and energy and can cause stress and frustration when we make the wrong decisions, which we of course often do, as much of the information is aiming at making us feel that way. We live in a society of information overload, we get too many hits on the Net, too many reports to read in our job, too many power point presentations to listen to or, worst case, read too many meetings to attend, too many offers and mails in our physical and electronic mailboxes, too much “must read” information in order to be a good colleague, citizen or parent.”*<sup>2</sup> John Naisbitt’s frequently-used witticism (*“We are drowning in information and starved for knowledge”*) from some 30 years ago may well be verified by the facts and

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<sup>1</sup><https://supplychaintech.wordpress.com/2010/05/19/how-to-cope-with-information-overflow/> [6.12.2010]

<sup>2</sup> Nelke, Margareta: Information competence or infotainment – where are we heading. (2004)

figures in our times. A white paper from the International Data Corporation (IDC)<sup>3</sup> calibrated the size and growth of the digital universe. In 2008, almost 400 billion gigabytes (3,892,179,868,480,350,000,000) of new digital information was produced. By 2011, the digital universe will be 10 times the size it was in 2006, reduplicating every 18 months. In ten years the digital universe will be 44 times the size it was in 2009. The duplication rate of published scientific information is, according to de Solla Price<sup>4</sup>, estimated to be every ten to twenty years. However, new challenges concerning the processing of digital information have obviously to be met.

### **1.1 How and to what extent do people use new media like the Internet?**

A current survey by the Kaiser Family Foundation<sup>5</sup> found out that the amount of time young people spend with entertainment media has risen dramatically. 8-18 year-olds in the USA devote an average of 7 hours and 38 minutes to using entertainment media across a typical day (this means more than 53 hours a week). Due to their ability to multitask, they actually manage to pack a total of 10 hours and 45 minutes worth of media content into those 7½ hours.

In Germany, 50 million people use the Internet for private or professional reasons. They devote an average of 2 hours and 20 minutes a day to using the Internet. 10 percent spend more than five hours a day on line<sup>6</sup>. 71 percent of those aged 7-10 use the Internet at home (provided their parental home offers access to the web). 93 percent of the 11-14 age group appreciate the benefits of web 2.0, a figure which rises as high as 99 percent for the 15-17 age group<sup>7</sup>.

Researching information using search engines such as Google, Yahoo and Bing has advanced to the position of the most widely used Internet application. Although people spend a lot of time researching information, topics being searched are to a large extent either not scientific in nature or else confined to the level of popular science. There is no great difference between middle-brow users and researchers. A study conducted by the German National Library of Economics (ZBW), which undertook the questioning of scientific workers in 2007<sup>8</sup>, reveals that researchers also prefer search engines, even when seeking for scientific literature.

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<sup>3</sup> Cf.: Gantz, John F.; Chute, Christopher: The diverse and exploding digital universe : an updated forecast of worldwide information growth through 2011. - Framingham: International Data Corporation, 2008 - S. 2ff

<sup>4</sup> De Solla Price, Derek J: Little Science, Big Science. - Frankfurt, 1974

<sup>5</sup> The Kaiser Family Foundation report "*Generation M2: Media in the Lives of 8-to 18-Year-Olds*", 2010

<sup>6</sup> (N)ONLINER ATLAS, 2008

<sup>7</sup> Studie zur Mediennutzung: Schon Grundschüler häufig online. BITKOM, 2009

<sup>8</sup> Virtuelle Fachbibliotheken im System der überregionalen Literatur- und Informationsversorgung. Hamburg, 2007

### Fastest Rising By Quarter

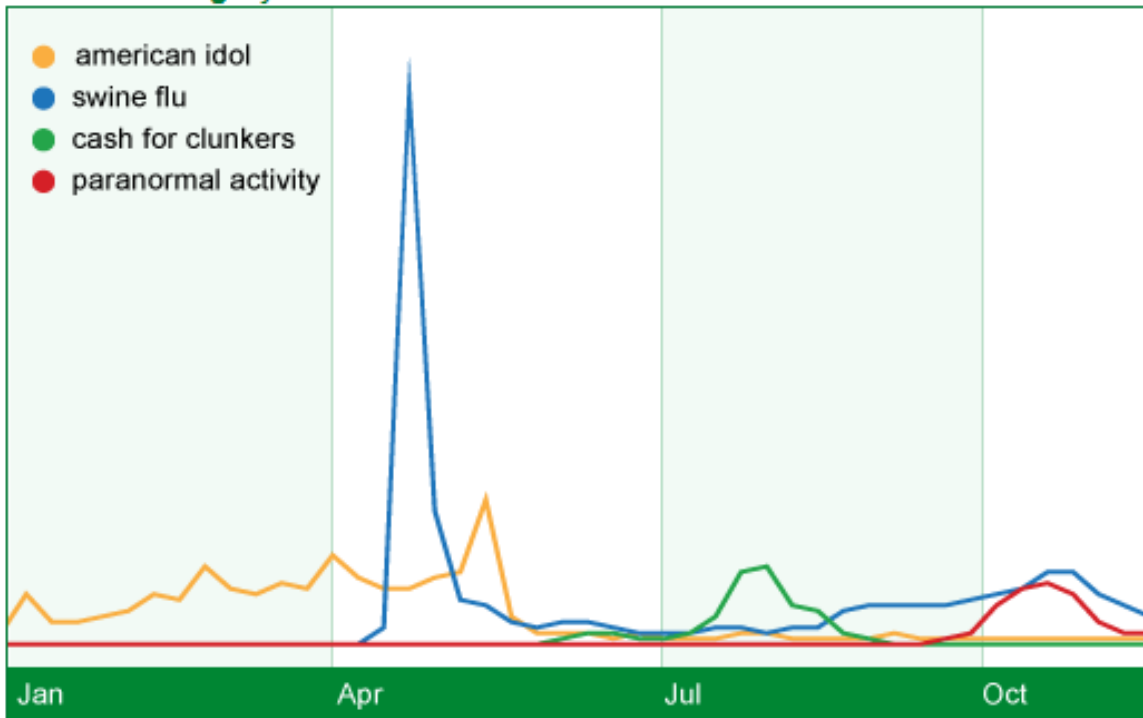


Fig. 1: Most popular searches on Google in the U.S. in 2009<sup>9</sup>

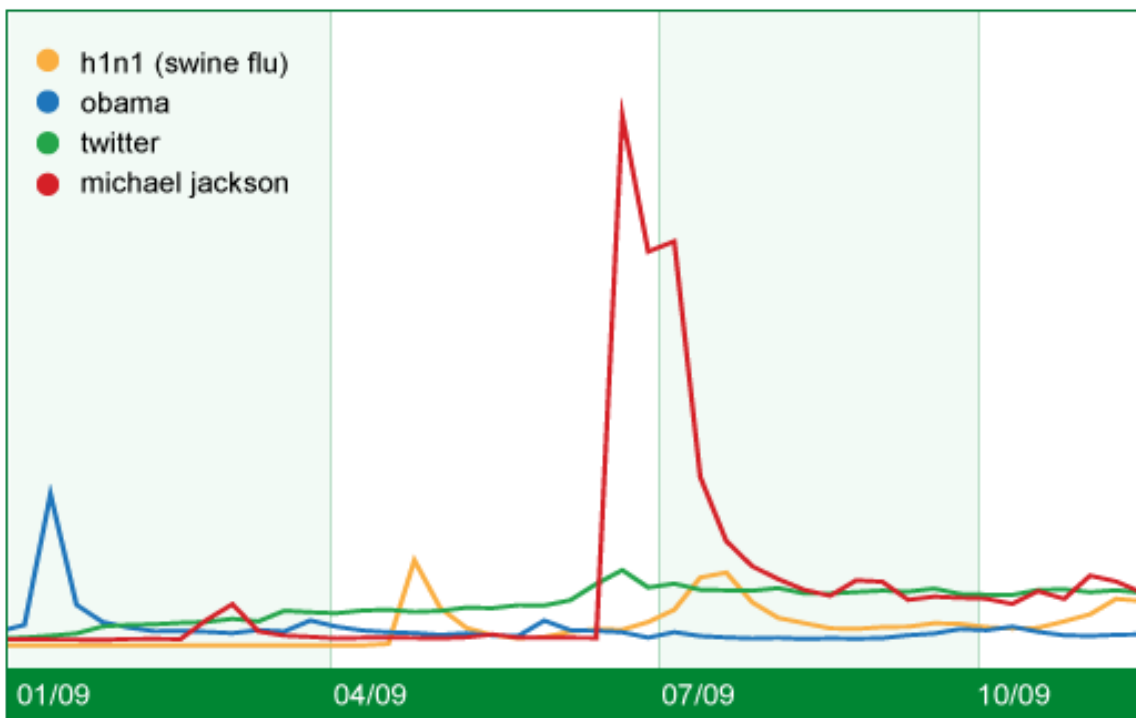


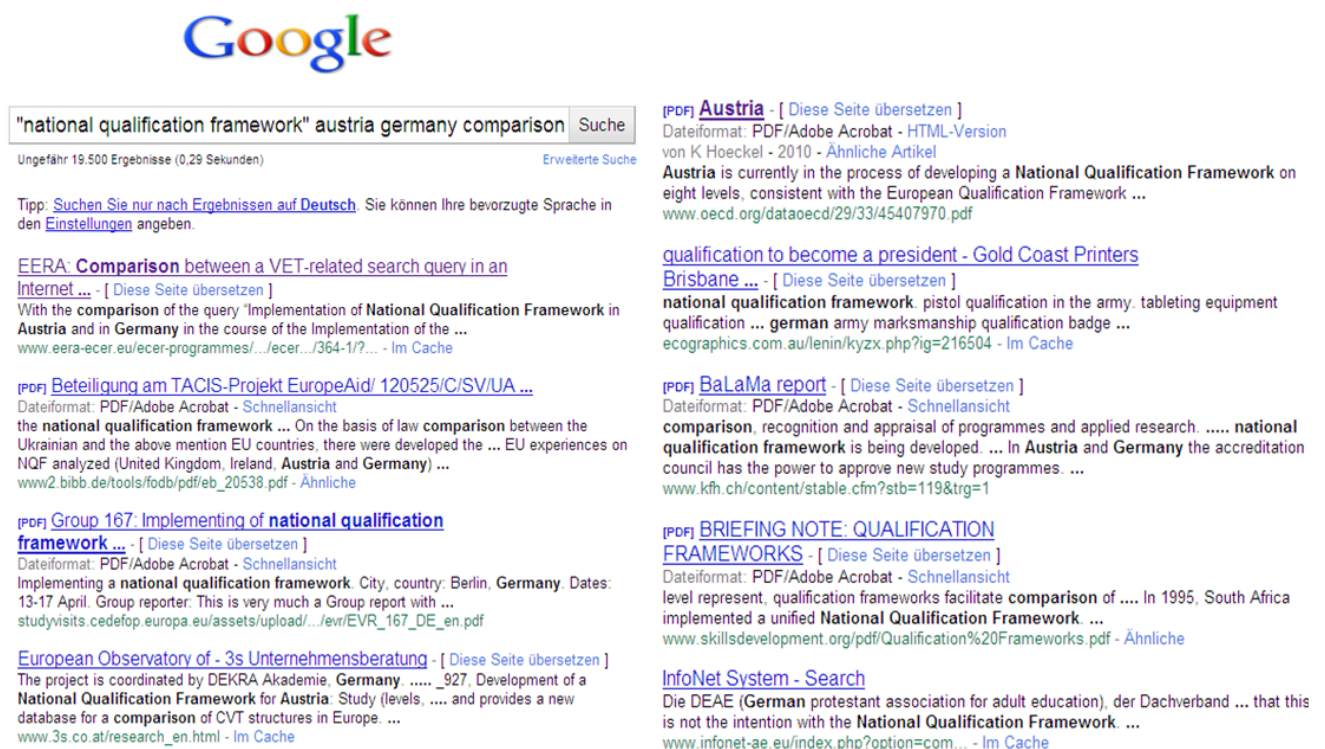
Fig. 2: Most popular searches on Google in the European Union in 2009<sup>10</sup>

<sup>9</sup> <http://www.google.com/intl/de/press/zeitgeist2009/regional.html#united-states> [6.12.2010]

<sup>10</sup> <http://www.google.com/intl/de/press/zeitgeist2009/regional.html#european-union> [6.12.2010]

## 2. Researching information on the Internet using search engines: the National Qualification Framework

Most people feel that they can find everything required via a powerful search engine such as Google. Once the information has been found and connected in a sensible, intellectual way, new knowledge will be created. At least this is the practice of handling information at the beginning of the 21<sup>st</sup> century, an era that might be characterised by keywords like ‘information overload’ or the ‘information explosion’. However, the unthinking use of search engines (a discussion on this topic was prevalent in the USA when Nicolas Carr published the essay “[Is Google making us Stoopid](#)”) is in contrast to the underestimated value of subject databases and intellectual indexing, especially since even basic queries in search engines often produce results perceived as “satisfactory” by the users. In our example, we are looking for subject-related information on the “*Implementation of the European Qualification Framework and the Implementation of the National Framework in Germany compared to Austria*”. As the screenshot reveals, the results of this Google search are at first sight quite satisfactory – not least because quite a lot of websites dealing with this subject are provided by governmental organisations.



Google

"national qualification framework" austria germany comparison Suche

Ungefähr 19.500 Ergebnisse (0,29 Sekunden) Erweiterte Suche

Tipp: Suchen Sie nur nach Ergebnissen auf Deutsch. Sie können Ihre bevorzugte Sprache in den Einstellungen angeben.

[EERA: Comparison between a VET-related search query in an Internet ...](#) - [ Diese Seite übersetzen ]  
With the comparison of the query "Implementation of National Qualification Framework in Austria and in Germany in the course of the Implementation of the ...  
[www.eera-ecer.eu/ecer-programmes/.../ecer.../364-1/?...](#) - Im Cache

[Beteiligung am TACIS-Projekt EuropeAid/ 120525/C/SV/UA ...](#)  
Dateiformat: PDF/Adobe Acrobat - Schnellansicht  
the national qualification framework ... On the basis of law comparison between the Ukrainian and the above mention EU countries, there were developed the ... EU experiences on NQF analyzed (United Kingdom, Ireland, Austria and Germany) ...  
[www2.bibb.de/tools/fodb/pdf/eb\\_20538.pdf](#) - Ähnliche

[Group 167: Implementing of national qualification framework ...](#) - [ Diese Seite übersetzen ]  
Dateiformat: PDF/Adobe Acrobat - Schnellansicht  
Implementing a national qualification framework. City, country: Berlin, Germany. Dates: 13-17 April. Group reporter: This is very much a Group report with ...  
[studyvisits.cedefop.europa.eu/assets/upload/.../evr/EVR\\_167\\_DE\\_en.pdf](#)

[European Observatory of - 3s Unternehmensberatung](#) - [ Diese Seite übersetzen ]  
The project is coordinated by DEKRA Akademie, Germany. .... 927. Development of a National Qualification Framework for Austria: Study (levels, .... and provides a new database for a comparison of CVT structures in Europe. ...  
[www.3s.co.at/research\\_en.html](#) - Im Cache

[Austria](#) - [ Diese Seite übersetzen ]  
Dateiformat: PDF/Adobe Acrobat - HTML-Version  
von K Hoeckel - 2010 - Ähnliche Artikel  
Austria is currently in the process of developing a National Qualification Framework on eight levels, consistent with the European Qualification Framework ...  
[www.oecd.org/dataoecd/29/33/45407970.pdf](#)

[qualification to become a president - Gold Coast Printers Brisbane ...](#) - [ Diese Seite übersetzen ]  
national qualification framework. pistol qualification in the army. tableting equipment qualification ... german army marksmanship qualification badge ...  
[ecographics.com.au/lenin/kyzx.php?ig=216504](#) - Im Cache

[BaLaMa report](#) - [ Diese Seite übersetzen ]  
Dateiformat: PDF/Adobe Acrobat - Schnellansicht  
comparison, recognition and appraisal of programmes and applied research. .... national qualification framework is being developed. ... In Austria and Germany the accreditation council has the power to approve new study programmes. ...  
[www.kfn.ch/content/stable.cfm?stb=119&trg=1](#)

[BRIEFING NOTE: QUALIFICATION FRAMEWORKS](#) - [ Diese Seite übersetzen ]  
Dateiformat: PDF/Adobe Acrobat - Schnellansicht  
level represent, qualification frameworks facilitate comparison of .... In 1995, South Africa implemented a unified National Qualification Framework. ...  
[www.skillsdevelopment.org/pdf/Qualification%20Frameworks.pdf](#) - Ähnliche

[InfoNet System - Search](#)  
Die DEAE (German protestant association for adult education), der Dachverband ... that this is not the intention with the National Qualification Framework. ...  
[www.infonet-ae.eu/index.php?option=com...](#) - Im Cache

Fig. 3: Search query using Google and the first-page results

However, using search engines might reveal some deficits when analysing the query results – particularly with regard to quality, seriousness, authenticity or subject-specific relevance:

- Scope, structure and quality of data available are mostly unknown.
- ‘Link topological ranking procedures’ need not guarantee sorting results according to relevance.
- Index spamming – as a process of altering a website so as to accord it one of the top places in the last of results – can distort a genuine ranking list.

- Synonyms and abbreviations are not implicated in the query because of no human/intellectual indexing.
- Content of specific databases is not necessarily searchable via search engines (“invisible web”).
- No sorting possibilities are provided.

### 3. Researching information on the Internet using databases and portals: the National Qualification Framework

There are several reasons why researching scientific or subject-specific information tends to result in high-quality results. There is a connection between subject indexing and good research references. The indexing instruments (monitored list of keywords, classification system, abstracts) enable a more precise description of documents, and thus enable them to be found more easily during the search process.

The terminologically monitored list of keywords – for instance offered by the German Literature Database for VET (Literaturdatenbank Berufliche Bildung, LDBB) – offers users the advantage that the semantic environment is always displayed alongside the search word and synonyms, quasi-synonyms and abbreviations can be looked for at the same time. A search using the keyword “National Qualifications Framework” implies a search for NQF and NQR, for example). In addition to this, cross references are displayed in the form of main headings/subheadings or related keywords, acting as a navigation system to guide users through the database (in this example, a cross-reference to “crediting of prior learning”, which in turn implies a search for ECTS and ECVET). In the full display of the documentation, all the publications of the author in question, all articles from the source listed, all documents relating to one of the indexed search words or all classification descriptions (notations) which have been allocated within the classification system can be accessed via a single click (see figure beneath).

Art/Inhalt	Zeitschriftenaufsatz	
Autor	Kuda, Eva Strauß, Jürgen	<b>Link to the Authors' Index</b>
Titel	Der europäische Qualifikationsrahmen : Chancen und Risiken der Arbeitnehmer und ihre berufliche Bildung	
Fußnoten	http://www.denk-doch-mal.de/dynasite.cfm?dsmid=85266 [Zugriff 29.02.2008]	
Sprache	Deutsch	
In	denk-doch-mal.de : Online-Magazin für Arbeit - Bildung - Gesellschaft - (2008), H. 1, [7 S.]	
Schlagwörter	EU-Bildungspolitik Berufsbildung europäische Integration europäischer Qualifikationsrahmen Berufskonzept Durchlässigkeit im Bildungssystem Outputorientierung Risikoabschätzung	<b>Link to the List of Keywords</b>
Klassifikation	I 1.2 Anrechnung im Ausland erworbener Leistungen & Abschlüsse S 2.3 Berufsbildungspolitik I 2.2 Europäisches Ausland S 3.5.4.1 Gewerkschaften	<b>Alignment to a VET-Knowledge Map</b>
Inhalt	Die deutsche Politik und mit ihr die deutschen Gewerkschaften sind auf die Herausforderungen der Europäisierung von Bildungspolitik bisher nur unzureichend vorbereitet. Der Europäische Qualifikationsrahmen (EQR) wird zusammen mit dem Leistungspunktesystem in Deutschland als Systemwechsel in der Berufsbildungspolitik interpretiert, analog zu dem bereits weit fortgeschrittenen Systemwechsel im Hochschulbereich. Gegenstand des Artikels ist die Diskussion um den EQF auf nationaler Ebene. Die Autoren wägen Chancen und Risiken der Einführung eines EQR gegeneinander ab, zeigen gesellschafts- und forschungspolitische Schwachstellen der deutschen Debatte zum Qualifikationsrahmen auf und weisen auf die Notwendigkeit einer erweiterten Perspektive bei der politischen Umsetzung des Qualifikationsrahmens hin. Vor allem gilt es, Möglichkeiten der sozialwissenschaftlichen Forschung zu nutzen, um Folgewirkungen des EQR besser abschätzen zu können. Die Folgewirkungen für Arbeit, Betrieb und Gesellschaft seien ebenso zu berücksichtigen. (BIBB-Doku)	
URL	Volltext "Der Europäische Qualifikationsrahmen ..."	<b>Link to Full Text</b>

Fig. 3: Display of a reference in the LDBB with different combination possibilities



Before achieving good results, it is necessary to write down a list of query terms and their semantic surroundings and then select useful information resources that correspond to the thematic scope of the search query. Unfortunately, this process seems quite difficult to handle because such subject-specific resources are often quite unknown or hard to find.

For our sample search there are special VET related information resources with quality checked information. Besides those mentioned above [LDBB](#) (the one and only database in Germany on all aspects of the thematic areas of VET and VET research), [ReferNet](#) and the [VET-Bib](#) offer information on VET and related issues.

VET-Bib is the European Literature database of CEDEFOP and comprises about 72,000 bibliographic references. The collection contains research reports, EU policy and legislative documents etc. from all over Europe. ReferNet is a structured and decentralised system for collecting data and information on VET and related issues. It permits the comparison of trends, developments and policies in the EU Member States as well as in Norway and Iceland.

## **Perspectives**

As a matter of fact, portals, databases, information and knowledge management systems may be termed as cornerstones on the way to information literacy, a vital competence in a society that is strongly influenced by the postulate of lifelong learning and a rapid development of information and communication technologies (ICT). ICT has opened up new ways of shaping knowledge processes, providing new possibilities of retrieving and structuring information and of making it available to stakeholders.

It is up to the information professionals to disseminate the outstanding possibilities of searching for information in quality-checked databases and portals on the one hand and on the other hand to impart a broad range of information literacy as a basic competence and precondition for effective learning in school and university as well as in the scientific community later on.

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