Utilization of Web Portals at Selected Universities: Comparative Study

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Abstract
The research team of Faculty of Informatics and Management, University Hradec Králové has been involved in the issue of utilization of web sources in tertiary education environment. The paper brings an extract from an extensive long-term investigation on utilization of web portals in university environment. In here presented findings come from the latest phase, from surveys which were conducted in five European universities with students with comparable field of studies and with comparable level of computer literacy. The survey explored students’ acceptance and breadth of web offer utilization in a wide sense of the its meaning; covering various kinds of web portals from standard generally utilized search engines to specific professionally designed portals, e.g. educational portals or collaboratively developed social software application Wikipedia. The aim is to find out how much time university students with similar specialization spend in selected Internet portals aside from professional or nonprofessional reasons and compare and discuss the gained findings.

Keywords
Communications Applications. Internet. Portal.

Introduction
The Internet as a general phenomenon influencing our professional and non-professional lives with its endless width of applications which are in perpetual process of change have attracted attention of their common users as well as researches trying to explore the Internet potential from various points of views, to determine its strengths and pitfalls, to show its beneficial contribution and possible limitations. (Šimonová, 2010)

Searching for information, watching news, ways of communication in virtual communities, boom of social nets, professional and interest forums, marketing on the Internet, Internet banking, shopping and last not least studying on the Internet is a common matter nowadays. Studying on the Internet can be more or less some kind of directed systematic learning in specific learning management systems, or it can be just natural free learning, all that fully corresponds to a natural human need to learn and explore new areas and so consequently calls for an elaborate research.

In this contribution is primarily explored students’ acceptance and breadth of web offer utilization in a wide sense of the its meaning; covering various kinds of web portals from standard generally utilized search engines to specific professionally designed portals, e.g. educational portals or collaboratively developed social software application Wikipedia.
Methodological frame

The methodological frame except giving definition to the key word of the study covers the following sections: background of the study, explanation of the study topic, stating the aims of the comparison study and description of its survey sample and a research tool.

Key word definition

There is a wide offer of definitions of the key word “Portals” due to the fact that each of them, as a rule, reflects specialization of their author and supporting the area of study, see more (Isaacs, 1999), (Jafari, 2003), (Li Xiao, 2005), (Plachý, 2007), (Munk, 2010) or (Malcolm, 2011).

But the core of the definition stays the same; portal as a gateway to other links and services or an introductory page for a specific area or topic:

- “An Internet site offering a directory of links to other sites (the free dictionary online)”
- Portals are designed to be gateways to the Internet. They may have a link to a search engine, a subject directory, and provide other services such as news, weather, entertainment information, stock market information, shopping, and other services. Many portal sites provide an option to customize the site according to the user's personal interest. Portals are sponsored by the major search engine and browser providers, and may include alliances with other major players on the Internet. (http://www.sldirectory.com/searchf/portals.html)
- ‘In simple terms, a portal is a web "supersite" with a collection of links to popular web services on the Internet, a kind of "doorway into the Internet. The site provides a variety of services including directories, online shopping, discussion groups, Web searching, channels (small windows within a page that are dynamically updated and determined by the user) and links to other sites.’ (University Utah, 2008).

When it comes to portal categories, the situation is similar. There is no universal portal categorization Collins (Collins, 2003), Malcolm (Malcolm, 2011), etc. except for the original, let’s say traditional division that has not changed up to now: the Horizontal and Vertical portals or General portals like Yahoo and Specialized, eg. CNN.

Study Background

The initial stage of an extensive long-term investigation on utilization of web sources in tertiary education environment started four years ago when the first survey on time spent in assorted kinds of portals from Search portals, via General, News, Educational, Language and Other portals in sense of both professional and leisure interest was run at the Faculty of Informatics and Management, University of Hradec Králové. At the initial stage of the research there were over two hundred portals analysed. On the basic of pilot findings a set of selected portals was created. The key criterion was width of utilization in population of web services users. Together with portal visits the width and frequency of utilized services was examined. At that time the case study was based on comparison of findings gained from accessible sample consisting of teachers and students of FIM (Faculty of Informatics and Management). Various kinds of portals were selected; respondents were to answer which of these portals they visited and how much time they spent in them. The other followed issue was width and frequency of used web applications. The aim of the study was to find out what time burden utilization of web portals and their services represent, see more (Černá, 2008), (Černá, 2009).
Study topic, goals and sub-goals of the study

In this study the sample of participants is made of university students from five European countries with similar field of studies and with comparable level of computer literacy. Likewise in the previous survey the core of the investigation lies in portal visits.

The aim is to find out how much time university students with similar specialization spend in selected internet portals aside from professional or nonprofessional reasons and compare and discuss the gained findings.

Special focus is devoted to Educational and Language portals with the aim to map situation in utilization of virtual environment in education and learn about websites facilitating their language studies. Last explored portal is a collaboratively developed social software application Wikipedia which is considered to be a current phenomenon of shared wisdom; favorite with students and generally cursed by academics Jaschic (Jaschic, 2007).

The selection of researched portals resulted in two sets of surveyed portals: a basic set and its shortlist. The main research tool enabling gathering data in this study is a questionnaire which contains the whole original set of portals encompassing Search Portals (comprising subsections Google, Yahoo and open section Other Portals - search engines), General Portals, News Portals, Educational Portals, Language Portals, Wikipedia and another open section Other Portals where we expected that specialization or hobbies of respondents might have got reflected to a certain extent. (Černá, 2008)

A shortlist of selected portals was done to highlight educational aspect of virtual environment: Google, Educational portals, Language Portals and Wikipedia.

Research instrument

A non-standardized questionnaire, ‘Web Portals and their Services’ serving as a research tool was created. This questionnaire was verified in a pre research. Questionnaire reliability ranged from 0.61 to 0.72. The questionnaire contains scaled items and open questions.

On the basis of the interviews which had preceded the final version of the questionnaire a few modifications had to be made. Especially professional terminology had caused misunderstanding within respondents. They found it difficult to choose the proper answer when they did not understand clearly the meaning of expressions like ‘horizontal or vertical portals’ they needed and asked for further explanation so that they could complete the questionnaire. Simplified portal categorization with typical examples of particular portals was set together with defined time periods. For example, Google and Yahoo represented Search Portals, people who use also some other search portal were given option to mention it in the part - Other search portals.

When the printed questionnaire was distributed to students by the researcher the respondents were informed that participation in this study was anonymous and that no personal identity information was collected in the survey. It took about 10 to 15 minutes to complete the survey.

The researcher collected all the questionnaires so the return rate was 100%. Then at foreign universities a short presentation was given of findings gained from the survey with our students which served as the door to further conducted discussion with respondents on other software applications like Facebook, experience with on-line dictionaries, preferred ways of on-line communication, playing games, pros and contras of studying in virtual environment, etc.
Research sample

Research sample consisted of 195 respondents; 92 men and 103 women. All respondents were university students (Czech, Spanish, Greek, Latvian and French) belonging to the age category 20-25 years old. (see Figure 1)

![Country](image)

**Figure 1: Research sample**

Figure 1 illustrates the ratio of respondents from particular countries. Data from foreign universities were collected during Erasmus Teacher Mobility Programmes when lectures on “Internet study resources” were given by the researchers. Students involved into the research were from the following universities: The Technological Institute of Piraeus (36 respondents), Technological Educational Institute of Larissa and Faculty (18 students) Riga International School of Economics and Business Administration (41 students), the Universidad Politécnica de Madrid (19 students), Université d’Orléans, Faculte des Sciences (26 students) and Czech Republic was represented by 54 students from the Faculty of Informatics, University of Hradec Králové. The gross proportion of men and women M/F participating in this project were following: Greek 1:2, Latvian 1:1, Spanish 3:1, French –only women, Czech 3:2. In the previous research on portals visit we followed a genre issue as well, the survey showed that factors like: age, work position or sex hadn’t played any influencing role in case of explored accessible sample consisting of students and teachers from the Faculty of Informatics and management, University of Hradec Králové, see more (Černá, 2008). The gender issue is mentioned marginally, it doesn’t belong to main concerns of this paper.

Research analysis and findings

Return rate of questionnaires was 100% due to the fact that the researchers distributed and collected them personally. Data were initially inserted into the spread-sheets and then graphs on frequency of portal visits were made. Graphs illustrating the individual findings are supplemented by commentary. These graphs show the answer to the stated primary question on time burden on the amount of time which students commonly spent weekly in selected portals regardless of reasons; whether they visit the websites intentionally on study or business purposes or just, for example, because of pure interest or boredom. Time spent weekly in particular portals is divided into five time categories: 5-30 minutes, Up to one hour, 1 - 5 hours, More than 5 hours, Never. During data processing one more category had to be added – ‘No answer’, because respondents sometimes omitted to mark an answer, when they didn’t select any of the proposed options. We might have assumed that not marking any of the categories corresponded to the category “Never” but we did not want the data to get biased.
Search portals

The first explored portal category were Search portals as most established robust portals of everyday use with sophisticated search engines. 'Google' was chosen as the most frequently used search engine at present and 'Yahoo' as its natural competitor, the third followed variable was an open category 'Other portals'.

![Search portals - general view](image)

![Time spent in Google](image)

The first graph on Search portals Figure 2 gives findings from the whole sample, regardless of respondents' university.

It is evident that 'Google' plays the main role as the most significant search engine, for plenty of respondents it serves as a home page, all respondents use it irrespectively of which country they come from; nobody omitted to answer the question and nobody marked time category Never.

On the other hand Yahoo 'dominates the bar 'Never'.

Following graphs illustrate the situation in detail, with particular universities.

The graph Figure 3 shows utilization of Google at individual universities. Nearly 60% of Czech respondents spend in this server stunning 1-5 hours weekly and 18% even more.
More than half of French students use this portal about one hour weekly. But there is a quite high frequency of Yahoo visits as will be shown later on. Moreover every fifth student browses Google more than five hours weekly.

Half of Spanish students use Google 1-5 hours weekly and astonishing one third even more. As for Latvian and Greek students the results achieve aligned values.

![Figure 4: Utilization of Yahoo and Other general search portals except Google](image)

Only 20% of respondents use Yahoo and 30% use Other search portals as can be seen in Figure 1 and 4. Students from Greece and France use it most frequently, on the other hand there were surprisingly only three Czech students visiting these websites weekly moreover all of them marked the shortest time category.

French students use Yahoo when they get prepared for French classes but when they get prepared for English classes they use Google so a clear influence of national culture and study focus can be identified in this case.

Utilization of Other portals by representatives from individual universities is quite balanced.

**Educational portals**

Among Educational portals were also included learning management systems like WebCT or Moodle or other similar systems. In some cases these portals can be represented by specific virtual university environment. Educational portals which were included into the research were portals known to respondents. Findings show the irrefutable potential of Educational portals and their plausibility by students. WebCT is used only by students from the Czech university; Moodle was mentioned by several students from France and Spain.

Findings relating to educational portals call for further elaboration; in the next stage of the research on Utilization of web sources it will be worth analyzing motivation and the reasons of high frequency of educational portal visits, whether students attend them on the basis of teacher’s instructions, whether it is their standard way of systematic studying or kind of additional studies and to what extent they fit their learning styles. (Šimonová, 2011)

Overall, the frequency of educational portals visit is high, see Figure 5. Only 14% of students from the whole sample don’t use them so the number of students who do not visit Educational portal websites is negligible. All Spanish regularly use them.
Numbers in various time ranges vary. As for Czech students the frequency of occurrence in particular time categories completely corresponds to the total view - to the average values of the whole sample:

- There is a high rate of short visits; one quarter of Czech, 30% of Greek and Spanish students, and about 20% of Latvian and French students devote to educational portals 5-30 minutes weekly.
- Every fifth Spanish, Greek and Latvian student spends there two to five hours.
- Except Greece, the most often ticked category is 'Up to one hour' weekly. It seems that requirements on students from the selected universities are either very similar or students are willing to devote similarly long time to study preparations.

**Language portals**

Language Portals might be taken as a subcategory of Educational portals. There is wide range of language portals, for example EGO4U, BBC Learning English, OneStopEnglish. They were given extra space in the questionnaire because of the language aspect, as we wanted to find out more not only on time span of portal visits but also on utilized language websites covering on-line dictionaries, as well.

As for Educational portals it is quite positive that frequency of their visit is so high, only 14% of students do not use them but when it comes to Language portals the situation is surprisingly much worse 43% do not use them to support or develop their language studies. 40% Czech and 37% Spanish 60% Greek, 32% Latvian and 47% French students directly wrote that they do not visit language portals or completely ignored answering this question showing this way no interest in this topic.

If there are portal visits they predominantly belong to short time categories, e.g 'Up to 30 minutes' category was marked by one quarter of Czech students and 38% of French students, as for the category 'Up to one hour', it was ticked by 20% Czech, 26% Spanish, 29% Latvian students. The only significant exception is Latvian students where 20% of them marked time category 'More than 5 hours'.

![Diagram of Educational portals usage](image-url)
Wikipedia

Last inhere described portal findings relate to Wikipedia generally warmly accepted source of information by students and rather sceptically accepted by academics. The survey revealed following deep discrepancies between individual universities. See Figure 6.

43% don’t use Wikipedia. This high percentage is significantly influenced by Latvians and Greeks; astonishing 80% of Greek and 83% of Latvian students don’t visit this portal.

All Spanish and French and Czech students (except three) use Wikipedia.

The most frequent category is 'Up to one hour'. A quarter of Czech students and even 32% of Spanish students spend in this kind of portal 2 to 5 hours weekly.

Wikipedia is favourite with Czech, Spanish and French students but they use it only as a source of information, out of the whole sample there were only 5 students who edited the application.

![Figure 6: Wikipedia](image)

Conclusion

The sample of inhere described investigation consist of students who are typical representatives of net generation who have lived all their lives surrounded by information technologies – that is why utilization of Internet and its services is completely natural to them.

The findings bring the answer to the primary stated question on time burden on the amount of time which students commonly spent weekly in selected portals regardless of reasons; whether they visit the websites intentionally on study or business purposes or just, for example, because of pure interest or boredom.

In spite of the fact that they spend hours in them as illustrated in the graphs they perceive that as natural – none out of all 195 respondents expressed any discomfort with the issue; they work in the environment they are familiar with and sources they find relevant, the question is whether the sources are really relevant and to what extent they are efficient. Findings prove students’ interest in educational portals.

Two promising topics for further discussion have arisen:
What lies behind a wide scale of strong interest to complete disinterest of students from various countries in selected portals?

Findings relating to Educational portals call for further elaboration; in the next stage of the research on Utilization of web sources it will be worth analyzing motivation and the reasons of high frequency of portal visits. This topic strongly links to success of web sites and might be developed in sense of usability study of web-sites.

We believe that the research results might provide readers with an up-to-date beneficial insight into the web portals. Inhere described survey represents a kind of evaluation of the success of Web portals and can serve as a starting point for the discussion on web-site usability, web portal satisfaction (Collins, 2003) and portal design including implementation of Semantic web technologies dealing with overcoming boundaries in web applications like data portability, semantic wiki or knowledge networking. Beside this technological issue we believe that this contribution will be also beneficial from the educational perspective showing the width of on-line potential which might be inspiring as well as ultimately limiting (Breslin, 2009).

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References


