

Language Portal Solutions from User's Perspective

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Abstract: - The issue of current situation in the field of language portals is described in several stages. In the introductory part the width of the problem is outlined where an aspect of education is highlighted. Theoretical insight into portals provides readers with a number of definitions and explanations of key expressions related to portal solutions; like portal, its services and characteristics. The main part with plentiful subsections deals with usability study on language educational portals. Likewise other case studies it follows the standard research pattern: methodological frame covers usability terms and techniques. The research on the portal usability is built on an empiric observation of ways how common users under common circumstances browse through web pages. Factors influencing user's behavior like intuitiveness, satisfaction and conventions are emphasized due to their significant role in user's move in the portal environment. Study itself is preceded by detail description of methodological course in language portal selection. Selection of portals was based on the width and quality of portal facilities and on findings gained within repetitive thematic discussions conducted during 2 years. Ten portals were finally selected: five national and five foreign language portals were tested. User testing was conducted with five participants. The outcome of the testing were reports on portal usability. One portal is described in detail in this contribution, final results and findings are summarized and visualized in graphs so as the complex situation can be seen. Conclusion brings outline of further utilization of gained findings within the research of current trends of educational portal solution development.

Key-Words: case-study, communication channel, internet, information, portal, portal services, usability testing.

1 Introduction

The portal issue can be discussed from various points of view: historical development, changes in conception and design, implemented applications or running processes. Beside the above mentioned views, portals can be also explored from the user's point of view where web usability and user satisfaction with given portals are of key importance.

Invasion of information and communication technologies hit nearly all areas of human activities. The Internet with its specific services represents up to now an unlimited space enabling publishing of current information, supporting new channels of communication, storage of all kinds of documents and their subsequent processing corresponding to the professional needs or just the needs of our interest.

Studying on the internet has become a well proven way of studying. Studying via internet is challenging, it can be adapted to students needs to suit different learning styles to fit different perception of different students [7].

Distinct characteristic feature of studying on the internet is 'interactivity' development of which can be traced back about two decades from rather poor beginnings sophisticated applications. E-learning is following the progress made in Web development technologies. In the beginning HTML and CGI were used to develop the first

e-learning systems which, however, suffered from low interactivity and poor content renewal inheriting the "static" characteristics of these first technologies [10]. Portals solutions with their interactive options represent valuable space for e-learning where effectiveness of online learning primarily depends on interactivity [1].

Portal technologies are going through time of upheaval in their development. Exponential increases in information and sources on the web require sophisticated portal solutions.

A large number of websites focused on language education have come into existence during the last decades. This matter of fact can be illustrated by the number of links which get displayed when the expression "language portal" is written into the search box of the two most frequently used search engines Google and Yahoo. On May 2009 Google brought 31,100,000 references and Yahoo even 212,000,000 references to the inquired expression.

Those who are interested in learning/teaching languages can, beside the standard language educational process, take advantage of language portals where they can practice, enlarge and improve their language competences via a wide scale of various web applications ranging from correspondence tasks, sending news to an e-mail or a mobile phone, on-line

communication to the intensive and systematic kind of education in e-courses [4], [6].

2 Theoretical Insight into Portals

The issue of portals might be introduced with a statement that portals are not created intentionally. Initially “just” websites are designed which can become portals commensurate with their success confirmed by frequency of visits, interest in placing advertisements and ability to meet competition with other websites.

2.1 Portal definition

There is a wide scale of portal definitions due to the fact that each of them, as a rule, reflects specialization of their author and area of study. Isaacs defines portals as “*an integral approach to the search of needed information via search engine*” [8].

Current authors enlarge the original main role of a web portal as an entirely information retriever. Web portals represent an approach to integrated applications in the area of internet technologies.

Roles in a portal, dynamic applications and authorised access into a portal are repeatedly emphasized as characteristics of key importance in an extensive book on internet portals designed for educational institutions [9]. Jafari’s definition of the internet portal is following: “*Dynamic web environment based on roles and specifically modified to fit selected groups of users of a given institution is known as the Internet portal*” [9].

For the needs of this study a simplified definition was developed:

“*Portal is a website providing a wide scale of services to its visitors where aggregation of information from various multiple sources is one of the essential missions*”.

2.2 Prerequisites of a successful portal

When it comes to prerequisites leading to a success of a newly created portal there are plenty of them but according to Collins there are two main characteristics:

- dynamically created content,
- relevant content in respect to time and accuracy.

When we write an address of a selected portal a website offering dynamically created content should get displayed.

The other prerequisite of a successful portal relates to the characteristics of information which is conveyed to the user; content of the information should be relevant, accurate and up-to-date [3].

2.3 Portal characteristics and applications

Beside standard asynchronous tools enabling communication and cooperation which are traditionally represented by e-mail and discussion forums of virtual groups a portal should comprise tools for direct online communication and localisation of individual members or groups, for example, Instant Messenger, ICQ or Skype.

From the point of view of personalisation and customisation following portal options should be obvious after authorisation: adding RSS and setting filter of automatic receiving of news or abolishing these services according to user’s interest. Possibility to set up authorities to share and view sources within given environment including personal information, discussions and files rank among other standard options. Monitoring and adaptation of a portal interface is not an exceptional matter at present; it has become quite common that users can adapt a color of a portal interface, set font size or chose areas of interest in selected sections on a website [2].

Portals should also comprise tools for process synchronisation and coordination support of various groups of users (for example teachers and students, customer centre and customers, etc.)

3 Language Educational Portals Usability Study

If a portal is to be successful it has to meet a lot of criteria including the essential needs and demands of potential users.

3.1 Usability

Usability testing of individual portal solutions is a tool introduced for investigation of user’s aspect.

Most users perceive a portal as a common website and not as a sophisticated machine constructed on complicated cohesive processes. Common user doesn’t have to think whether s/he is browsing through a portal or websites. First and foremost a common user perceives and evaluates good navigation and functional services which are offered. Web pages have to be intuitive, intelligible and self-explanatory if a user is to return to the portal [11]. Research on portal usability is built on empiric observation of ways how common users under common circumstances browse through web pages.

“Usability means that something works properly, that even a person with average (even bellow average) abilities and experience is able to use some thing ...” [11].

According to Nielsen usability is a quality characteristics which assesses simplicity or complexity

of use of the user's interface. Usability is specified by five key attributes which relate to:

- Facility to accomplish tasks by a user
- Speed of task accomplishment
- Memorability of the web environment; how users manage their move on websites when they return to them after some time
- Rate of mistakes and their significance
- Satisfaction with websites

Usability and utility are equally important:

“It matters little that something is easy if it's not what you want. It's also no good if the system can hypothetically do what you want, but you can't make it happen because the user interface is too difficult”. [12].

3.2 Factors influencing user's behavior

Intuitiveness, user's time and satisfaction with web portals, conventions, advertisement on web and last but not least navigation are issues traditionally accompanying usability field of study.

3.2.1 Intuitiveness

When websites are analyzed from a user's perspective one of the first researched areas is the area which focuses on intuitiveness. It has to be clear to users at first glance what the websites are about and how to use them and how browse them. Use of complicated expressions or terms seems rather questionable; they are used in effort to present themselves as highly technical or as a spice in effort to attract visitors by originality. Unclear links or buttons (where users do not know whether they are active or not, whether they are just a smart decoration) slow down the process of user's orientation and search on sites. Unfortunately it is a quite common problem with language portals.

The portal visitor has to know all the time where s/he is, where to start and what the most important thing on the site is. There are not many users searching for some information who have so much time that they could afford to victimize it for an uncertain result; whether the relevant information will be found or not. Portal designers should constantly have in mind that there is also strong competition in this field and that users have the option of choice.

3.2.2 Time and satisfaction

Time is another significant factor influencing user's choice. If a visitor feels that s/he is wasting time with some activity, s/he will not do it any more and will not return to these sites. Tightly linked to this fact is another

key area of usability research which is connected with user's satisfaction with a portal.

When users look for information they don't make an optimal selection but they make compromises, they mostly choose the first suitable option. A hybrid expression “satisficing” (mixture of satisfying and sufficing) has been introduced by Krug to name this technique [11].

General true is that websites are not read, they are just browsed, and only relevant pieces of news are searched for because there is just a little time [13].

3.2.3 Conventions

Websites are designed to be browsed and not to be read; the issue of conventions is narrowly linked to that fact.

Successful websites as well as a successful portal have to keep a visual hierarchy. Users have to recognize which parts on a site are linked to each other and in what relation they are. Utilization of introduced techniques and well proven ways and ideas generally called conventions ranks among essential criteria of successful sites. Conventions are useful; they help users because they do not have to experiment on how things work, conventions save user's time and energy and so ensure comfortable user-friendly web environment.

3.2.4 Navigation

If a user is to browse offered sites and return to them more or less regularly, the content of these sites has to be worked out and accessed in a relevant way. Graphic design of web sites determines the impression on the user and represents a significant motivation factor for a potential user. Simplicity and easy navigation are key factors of website design [5].

Jakob Nielsen divides users entering web into two groups [14]. Users trying to find needed information can either use a search box on the site (if this service is here) or they can search via references. If websites are designed in a transparent way users move by means of references. On the main page in the main menu, in the list of sections they choose the reference which is at that moment the most relevant. Users can get this way in the website hierarchy to lower to the more specific level. A problem is that in case of robust portals it is quite demanding to recognize when to stop the unsuccessful search, at which moment to stop wasting time and try another way.

So navigation plays a few fundamental roles. Firstly it has to constantly inform users on their position on the web and above all to help them to find required information.

Placing navigation signs and their design are predominantly given by introduced conventions. If

navigation signs for browsing the web are of standard design and on standard places they can save users time and energy as mentioned above in Convention section. Among basic navigation signs rank logo, section, subsection and tools. Logo is a symbol of sites and is placed as a top level in the portal hierarchy. Sections and subsections followed by site and items on the site form other layers of a portal architecture.

Sections as main portal content areas represent a primary navigation [11]. Names of sections should be the same anywhere in the portal, modified names of the sections or even completely different ones which can seem logical to the designer are for users misleading and confusing.

Special position in navigation is given to tools. Portals are equipped by a wide range of tools, but in accordance with the portal specialisation the set of tools differs accordingly. Tools can be categorized according to the purpose they were implemented for. Generally they are divided into tools which help users to use the portal (help, map of the server, shopping basket) and tools which bring information on the operator (about server, about us, contact). Among other common tools rank: discussion or forum, my pages, registration, search, news and dictionary. Tools are not considered to be a part of a navigation hierarchy but their role belongs to essential ones in portal construction.

3.3 User Testing of Web Sites

It is not possible to define a universal user. Theoretical concepts of how various mechanisms work and how users act rather differ from reality.

Two kinds of testing are generally conducted when web applications are tested by a user: group tests and usability tests commensurate with attraction of the web or functionality of the web are examined.

To find out customers' likes and needs group tests are run. By means of group tests it is possible to find out whether the idea of a web server makes sense, whether the offer is attractive or whether names of functions of operating elements are intelligible. Group tests are suitable for collecting users' opinions on a particular web feature. Group tests do not examine functionality of the whole web they do not claim to improve it. This kind of test is run in the form of discussion in which group of five to seven participants responds to stimuli and suggestions which are proposed to them.

When it comes to usability tests web server, prototype of the server or just separate websites are presented to individual evaluators. The evaluator is to find out the main objective of the web portal, value of offered functions and a way of portal organization, etc. The other part of the evaluator's assignment is to solve out a set of tasks or at least to try to solve them.

A number of authors incline to running tests only with three or four users for each round of tests. They as a rule stem from a study of Jacob Nielsen and Tom Landauer Why You Only Need to Test With 5 Users. All 100% of the usability problems in design can be found out by 15 users. Only five users can discover astonishing 85% problems which provide sufficient information and detailed insight into the researched websites. Conducting tests with more users is suitable when there are distinctively different groups of users or when we can expect completely different behaviour of these users. [15].

3.4 Usability Testing of Selected Language Portals

Out of two hundred language portals a set of ten language portals were selected for a usability study of language portals, five of them were national and the other half foreign ones:

- Angličtina.com (*Angličtina-English*)
- Angličtina na Internetu
- Dictionary.com
- E-academy.cz
- E-academy.sk
- English - test.net
- Merriam-Webster OnLine
- Onestopenglish
- The Free Dictionary
- Tutor.cz

3.4.1 Methodology of portal selection

Selection of a set of analyzed portals was done within repetitive thematic discussions at formal meetings at technical trainings, conferences and seminars as well as at less formal meetings at the faculty, institutions or companies where language classes took place.

Over thirty experts on language education and over seventy students participated in specialized professional interviews and discussions.

Among the experts there were teachers from primary, secondary and high schools. The teachers were from both private and state sectors.

As for the other group of participants, those were full-time students and students of life - long education attending language courses.

The only essential connecting link among all participants was their interest both professional and non-professional in electronic language materials on the Internet.

Over two hundred language portals were searched by the authors. Forty language portals were analyzed during thematic discussions and interviews. The short-list of

twenty portals came out of these discussions and interviews.

Selection of portals was based on:

- Theoretical preparation of the authors
- Practical experience of individual participants.

In order to be as objective as possible the following criteria about the selection of language portals were taken into consideration:

- Width of portal services
- Variety of portals in terms of sphere of action and content specialization
- Optimization in search on the Internet

The list of final twenty selected portals represented a special mosaic of portals of various characteristics. The wide variety of portals follows:

- The scope of selected portals was: local, national and international
- There were portals with various commercial focus: offer of language schools or courses and sale of language literature or educational software
- A special language portal based on television and radio broadcasting was filed into the list of searched portals, as well.
- Another significant group of portals were those ones which were used by both teachers and students due to their plentiful on line teaching/learning materials.
- Last important group consisted of on-line dictionaries.

Participants of the thematic discussion looked at the analysed portals predominantly as a source of information, inspiration and study materials. Surprisingly, content of the portal significantly outbalanced web-design of the portal. Quantity, variety and a way of elaboration of study materials in portal solutions played the key role during thematic discussions. Students highly appreciated elements of motivation during their studies: Word of the Day, Statement of the Day or Week, Crosswords, Enquiries, etc. Both students and teachers considered on-line dictionary to be an essential part of all language portals, it was obvious that dictionaries had to provide audio version of searched words. Full time students insisted on bilingual on-line dictionary but not students of life long studies. Teachers preferred monolingual dictionary. Discussion forum was a service which was demanded by teachers more than by students. Professional interest of teachers in particular topics can be the explanation of that situation. Moreover students use more frequently other communication tools in a virtual space like Skype, Messenger

Following last step in the selection of a final set of only ten language portals for the usability study was based on the analysis of facilitated portal services, both standard and specialized, occurring in the portals. Among followed portal services were for example: discussions, registration (optional or facultative), search field, inquiries, bilingual or nonlinguistic dictionaries, latest news, RSS channels, e-mail, etc [4]. Five national language portals with the highest occurrence of followed services were chosen and the same number of foreign language portals.

3.4.2 Methodology of usability testing by a user of this case study

Each of ten language portals was tested by five or six users. Among users there were always representatives of three groups:

- English language teacher
- Full-time student
- Student of life-long education

During usability testing each evaluator not only completed the tasks but also filled in the form Usability testing of language portals.

The research room was an office with a computer and the access to the Internet. There were only two people in the room: user – evaluator and investigator of the Language portal study conducting the usability tests. The most important piece of information was informing evaluators that web portal is not testing them and their computer literacy. They were assured that they cannot fail; if they do not accomplish some task it is not their fault. Some tasks even could not be solved but users were not warned that they were unsolvable. It was completely up to the user to consider situation; to consider how much time s/he is going to sacrifice to the task accomplishment.

If the portal was interesting and beneficial to users running usability tests, they didn't mind spending extra time on searching information or fulfilling given tasks which they found of special importance. It is quite common that portals are not transparent which was proved by usability testing of language portals, as well. If a user got lost s/he did not waste time on accomplishing tasks, they just left the chaotic sites. If a portal is designed in a comprehensive and transparent way, users soon find out whether searched item is there or not and do not waste time with a useless search.

As for time spent on accomplishing tasks, users were not limited at all, they only recorded time on fulfilling particular tasks. Whether they accomplished the task or not was not important at that stage.

For further analysis tasks were divided into two main categories:

- Unsolvable task
- Solvable task with subcategories:
 - Accomplished
 - Failed.

Just the task where user was able to show the way to the task solution by copying the web-address into the appropriate box in the form was considered to be an accomplished task. Various ways leading to task solutions by various users came down at the stage of final evaluation of usability testing.

General view of a portal and its functions was the first researched area in the usability test. Following two questions dealt with this issue:

- What is the main mission of the portal?
- What services does the portal offer?

Users were given no help; they were to respond in a spontaneous way. The objective of this part was to find out whether users are able at first sight recognize what kind of portal is being tested. (Note: At a pilot stage users were given as a help an offer of options but proposed answers largely influenced them).

The second part of usability testing of language portals consisted of a set of concrete specialized tasks surveying user's move in the portal. The first four tasks were designed as interactive and corresponded to possibilities of portal personalization and customization:

- To get registered
- To get enrolled into the e-course
- To add RSS channel
- To apply for sending news

The rest of tasks were specialized; they reflected specialized language portal orientation:

- To find a language school where an exam of language competences of the level B2 can be done (according to European Reference Frame).

Selection of this specific task corresponds to the geopolitical position of our country. Due to the fact that we belong to the European Union, necessity of certification of language competences is evident and inevitable. Information on language examinations of various levels is highly desirable and should be placed in language portals.

- To find free study materials (free e-lessons, free grammar exercises, etc.)

Language portal is a place where most visitors expect to find heaps of study materials on developing various language competences (reading, enlarging vocabulary, practicing grammar, etc). If this issue is missing it means a significant decrease in value of the language portal.

- To order a language textbook Headway - intermediate language level

Headway textbooks have been used in most language schools as well as secondary schools in the Czech Republic for a decade. It is quite natural that potential users – customers will search a link in the language portal where they could buy the textbook.

- To find an expression in a dictionary (for example “collateral”)

A dictionary belongs to standard services of language portals. More demanding expression for translation was chosen intentionally. During usability testing is revealed not only presence or absence of this service but also level of its quality.

- To find an audio text

Work with an audio text is an attractive and welcome enlargement of possibilities to practise language competences, in this case listening skills.

- To find a contact

Possibility to find a contact person belongs to standard facilities of most portals. Finding a contact person enables users to get involved in a portal run in an interactive way, to respond to stimuli and get feedback.

When users finished the stage of solving tasks they got a deeper insight into the tested portal, at that moment users were asked to fulfil the same two questions which were in the first part of testing (what the mission and functions of the portal are).

The final part of usability testing was focused on user satisfaction with an analyzed portal; whether users could move easily in the portal environment, whether they liked the graphic design and whether they were going to return to that portal. Satisfaction with the portal was expressed both in words as well as in a quantitative way on a satisfaction scale going from -5 points to +5 points, 0 represented a neutral attitude.

3.4.3 Results and findings

Standard outcomes of user testing of websites are final reports comprising verbal and quantitative results and finding. In this case study ten reports were written as the outcome of the testing of ten national and foreign language portals.

Not all reports will be presented in this contribution. Only one foreign tested portal will be shown in detail. Final results and findings will be summarized and visualized in graphs so as the complex situation could be seen.

Overall tabs (see tab. 1) were created for keeping all data of elaborated results gained from the forms which had been completed by users testing language portals. Total time which was spent by users on a given task was recorded into a particular cell of the tab.

The Free Dictionary	Solvable task		Unsolvable
	accomplished	failed	
6 users, 6 solvable tasks			
To get registered	0	0	9,5
To get enrolled to an e-course	0	0	11,5
To add RSS channel	9	0	0
To ask for sending news	7,5	1	0
To find a language school	0	0	10
To find a study material	1,5	10	0
To order a Headway textbook	0	0	12,5
To find an expression in a dictionary	6	0	0
To find an audio text	11,5	8	0
To find a contact	20	0	0

Total time 55,5 min 19 min 43,5 min

Tab 1 – Time spent on doing individual tasks in The Free Dictionary portal

As can be seen in the tab 1, time spent on four unsolvable tasks was about seven minutes which represented average time on solution of this kind of tasks.

Four users faced the task 'to find study material' difficult and did not complete it. All these users were students while both teachers found solution nearly immediately.

The other problem was 'to find an audio text' which is visualized on the following tab 2. (Abbreviations: V – teacher, SD Full-time student, CV Student of life-long education)

Name	Solvable task		Unsolvable
	accomplished	failed	
V Jana*	10		
V Jim	0,5		
SD Zdeněk*		5	
CV Věra*	1		
SD Pavel		1	
CV Pavla		2	
Total	11,5	8	0

Tab 2 – Time spent on finding an audio text in The Free Dictionary portal

Finding an audio text was rather demanding, wide time span can be seen. Only half of the users were successful, moreover one of them spent on accomplishing the task astonishing ten minutes.

The data were quantitatively processed; special focus was given on evaluation of the rate of successfully solved tasks including time aspect and satisfaction assessment. Each report comprised a pie chart showing the rate of users' success in solvable tasks (see fig. 1)

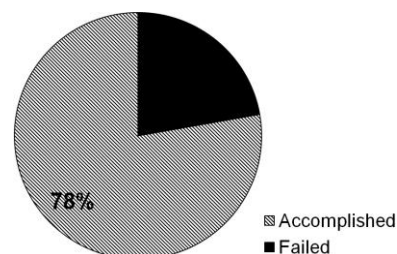


Fig. 1 – Rate of users' success in solvable tasks in The Free Dictionary portal

Slightly over three quarters of users successfully completed the tasks. Problems they had faced were described verbally and quantitatively above. Surprisingly these difficulties did not get reflected into the satisfaction evaluation, at all.

The rate of satisfaction was worked out into a graph for each portal, as well the rate of users' success. The following graph depicts user satisfaction with The Free Dictionary portal. None of the evaluators got to negative numbers.

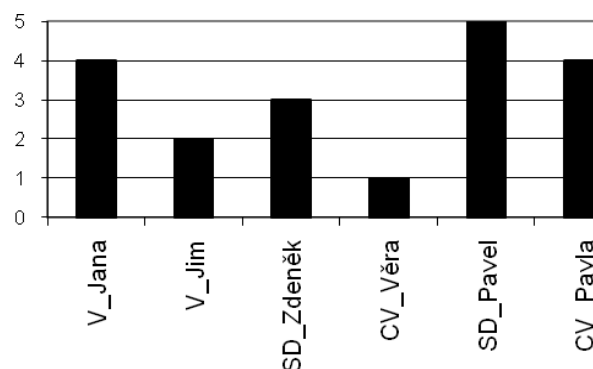


Fig. 2 – Rate of satisfaction with the portal The Free Dictionary

Written evaluations of all users of the portal solution were analyzed, as well.

High user satisfaction with the portal The Free Dictionary arises from a width of portal facilities and from the fact that plenty of services or options provided by this portal correspond to a wide extent with concrete specialised needs of users.

The following features were positively assessed:

- Search (resent search and search by several search engines)

- Tools supporting social bookmarks like del.icio.us, My Yahoo, etc. enabling content sharing
- Options of further tools of customization were revealed only by two users but were greatly appreciated
- Various motivating elements: quizzes, horoscopes, word of the day, news of the day, quotation of the day, etc. (most of these motivating elements were in the form of RSS channels)
- Marked visited sites

The general report on the Free Dictionary portal might be concluded by two quotations written into the form on usability testing by a full time student and a teacher:

“From the graphic point of view-this is nothing special, but number of sophisticated applications make this portal unquestionably special” (full time student)

“As far as looking up words, go this sites fulfills its purpose. The extra links keep me here longer than a simple dictionary would” (Teacher)

One of the objectives of usability testing was to follow what time burden solving of assigned tasks in selected portals represented for users. As it has already been mentioned above, all user’s move in the portal, their work on solvable and unsolvable tasks including time spent on their completion were during the whole usability testing monitored and recorded in a systematic way.

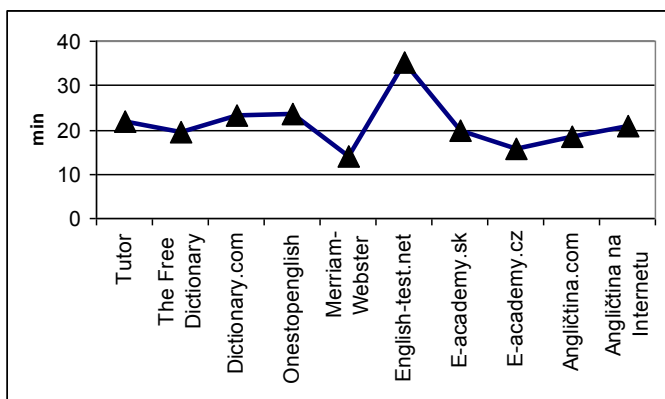


Fig. 3 – Average time spent by a user in the portal

Graph 3 illustrates average time spent by each user in each tested portal. It can be clearly seen that English-test.net portal was time most demanding, the shortest time users spent in the Merriam Webster OnLine portal which was followed by Eacademy.cz. As for the other portals no distinctive differences can be seen in this time category.

Plain quantitative data themselves without qualitative comment show only length of stay in the portal but give no information on functionality of the portal or on satisfaction with it. A long time in the portal can indicate a bad navigation in the portal but on the other side it can also predicate of an interest in this portal. So it was naturally necessary to add a qualitative evaluation into the final report on usability testing and to add other quantitative characteristics like time spent on individual solvable and unsolvable tasks.

Rate of time burden indicates navigation and portal functionality. The more time a user spends on completing a solvable task or on searching for solution of an unsolvable task the more evident signal it is that there are mistakes in websites design.

It might be assumed that users will spend more time on solvable tasks because firstly they have to locate them in the portal and then they can move to the next step and solve them. Unsolvable tasks shouldn’t be so much time consuming. In a correctly designed portal a user is supposed to find out soon that the task has no solution because the desired functionality is not implemented into the portal.

But graph 4 shows completely different findings. Users spent in most cases more time on completion unsolvable tasks, only portals Tutor and Angličtina na Internetu* (*English on the Internet) reach comparable values in both researched categories.

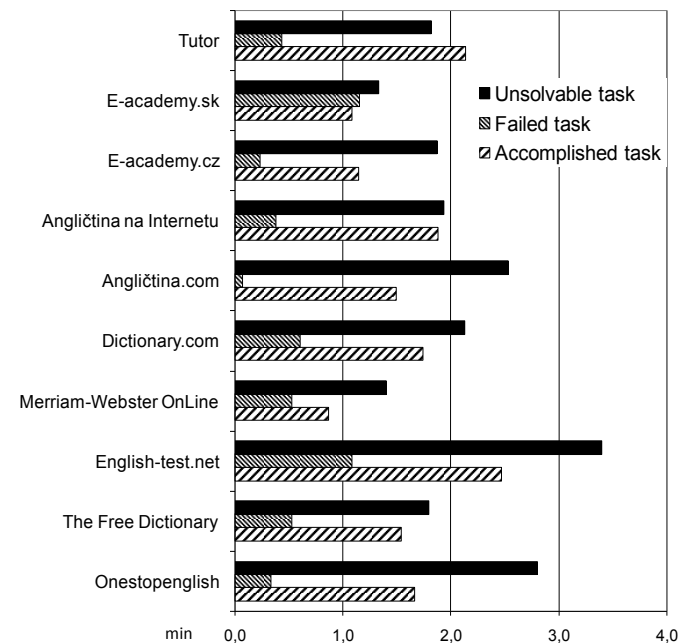


Fig.4 – Average time spent by a user on completion of one task

Users spent least time in unsolvable tasks in portals Merriam Webster OnLine and E-academy.sk; reasons for such a short time in them were incomparably different.

It is not possible to make conclusions exclusively just on the basis of quantitative results. Qualitative assessment examines reasons for user behaviour, rate of time burden is only one of indicators, nevertheless important from user's perspective, showing whether the portal is designed correctly or incorrectly. As an example, an E-academy.sk portal can be given which was completely unsuccessful with users. Users spent relatively little time in monitored 'accomplished solvable tasks' and 'unsolvable tasks' categories but in the category of 'failed solvable tasks' they got stuck for the longest time of all portals. The fact that users spent such little time on unsolvable tasks was not a good functional E-academy.sk portal solution but users' unwillingness to stay in this portal any longer which got revealed by means of qualitative assessment.

On the other hand a Merriam Webster OnLine portal was very well designed, it was transparent with a good navigation system so users spent little time on both solvable and unsolvable tasks.

Another research area was to find out to what extent users' success in accomplishing tasks corresponds with users' satisfaction with the tested portal.

Comparison of the rate of users' success in accomplishing tasks and their satisfaction with particular portal solutions is visualized in the graph 5.

Users' success belongs among main criteria of portal functionality. E-academy.sk. portal achieved the worst results in the surveyed sample of portals. This portal can be characterized by the lowest rate of success and satisfaction as can be seen in the graph 5.

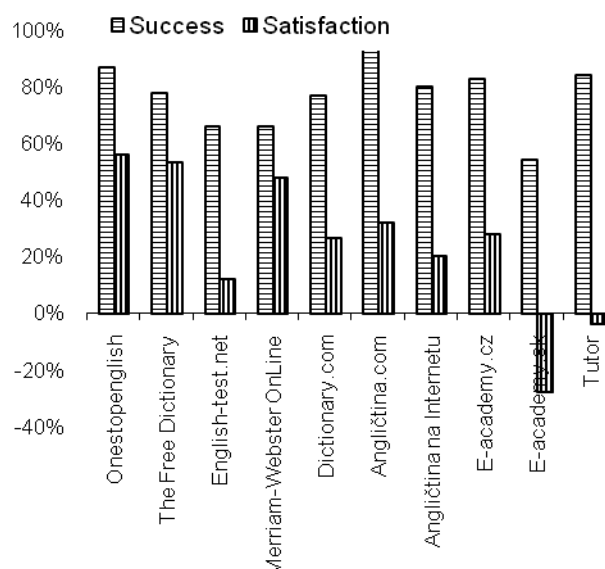


Fig 5 - Comparison of the rate of users' success in accomplishing tasks and their satisfaction with particular portal solutions

In case of three portals rate of success fully corresponds with the rate of satisfaction; Onestopenglish, The Free Dictionary and Merriam Webster Online show high rate of both success and satisfaction.

When it comes to the rest of portals, connection between success in accomplishing tasks and users' satisfaction is not evincible, for example, the rate of success in a Tutor portal reaches astonishing 84% but the rate of satisfaction is the second lowest.

Influence of a time burden when completing tasks on users' satisfaction and on defining of portal solution functionality was the last surveyed area this issue has already been partly discussed earlier.

Portal functionality can be illustrated in graph 4.

- The length of the high stripe shows average time spent on unsolvable tasks of a chosen portal, meaning the portal is well designed if users soon find out that the task is not possible to solve.
- The shorter the high stripe is the better portal design is. Users do not waste time on search of not existing applications.
- The middle stripe illustrates time spent by users on solving tasks which are solvable but users did not succeed in. The shorter middle column is the better.
- The length of the third stripe, the low one in each portal, shows average time spent by a user on an unsolvable task. The shorter, the better, navigation is well designed, users do not have to waste time on a search of not existing applications. The longer the low stripe is the more demanding the portal is for users; navigation is rather confusing and functions are less effective. This environment needs analysis of problematic applications and further modifications leading to improvement in functionality.

4 Conclusion

Ten final reports were elaborated to ten selected portals within the study on usability testing. Selection of portals was based on the width and quality of their facilities.

Furthermore the gained findings can be used within research of current trends of portal solutions development which are:

- Integration and interactive trends
- Cooperation and social web support
- Accessibility and adaptability trends

Implementation of applications supporting development of social webs into language portals can be presumed together with the integration trend. In this case this is the question of enlargement of offered portal services in support of following tools like wiki, blog, social bookmarks in del.icio.us, Digg, Furl, MyYahoo!,

which change the way how people discover and use the Internet. The named tools strengthen interactivity and enable users to share, store, select, evaluate, comment any link, websites, articles or blogs.

New generation portals reaffirm features of cooperation and measurement of a community activity in portals they use.

The third significant trend in the development of portal solutions is an old-new trend of accessibility. Potential of a portal can get expanded considerably if the aspect of accessibility is taken into consideration from the first moment of a portal design; the portal can be open to people with various mental or physical disability so it can address much wider scale of users.

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