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8. Grid of analysis for partners' analysis

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Forum Democrit (Bulgaria)

Task 3.1 Setup of methodology and grid analysis for partners' analysis

Deliverable 8. Grid of analysis for partners's analysis

The overall objectives of the WP3. "In depth and critical analysis of scientific websites" are:

- to evaluate critically the websites selected in the WP2. "Mapping of current situation";
- to identify the best practices of the selected websites regarding the dissemination of images of science and scientists and its impact.

In order to reach the objectives, the analysis will be approached in two ways:

- first it will consist of a critical analysis led by the partners (task 3.2) based on a specific methodology and grid of analysis (task 3.1)
- second it will consist of a critical analysis issued from the test groups (task 3.4) based on another specific methodology and grid of analysis (task 3.3).

The methodology and the grid of analysis for the project partners which are presented hereby was prepared on the basis of the WP2 deliverables.

Thus, the categorisation of the features of a popular scientific website (PSW) is mostly based on the representative scientific researches identified in the "Bibliography of similar study" (Deliverable n1), and more particularly Weigold and Treise (2004), Livingstone and Bober (2007), Frank and Noble (2007), Johnson (1996), Clough, Marlow, and Sanderson (2006), Dmitriyev and Sarapuu (2003), Baram-Tsabari et al (2006), Sullivan et al (2000), Macedo-Rouet (2003), Doss (2002), Huang (2004), Hanna et al. (1998), Pata, Pedaste and Sarapuu (2007), Tremayne & Dunwoody (2001), Aschbacher (2003).

The final result was possible due to the intense and fruitful co-operation between all project partners during the second meeting of the project and via email discussions and voting procedure afterwards. The task leader proposed a draft grid with 171 features and "*suggested that partners go through the grid against a website and feedback whether the questions are useful, every partner to reduce/select the questions whether relevant or not*" (minutes of the second meeting). This resulted in a grid with 112 features, two kinds of scales for partners' judgment (5-point-scale or yes/no depending on the type of question) and remarks to give to justify and explain the judgments.

The questions will be answered by the project partners with the aim of identifying remarkable and innovative practices among 60 websites, in accordance with a qualitative methodology.

To ensure that they all understand and judge the features the same way, they will test the grid beforehand on a common website (out off the 60 selected websites) - i.e. look at it and fill in the grid and then compare their judgments and see how they diverge and converge - and set up a work document with common criteria and precise definitions.

The grid will serve as a basis to build a new grid of questions for young people - to be used in the focus groups- so that the project partners can compare the two visions (adults and young people).

CONTENT

CONTENT								
	Identity		Scale					Remarks
1	URL ¹	The website has easy-to-remember URL (e.g. sciteen.org, teenstein.net, etc.)	excellent	highly satisfactory	satisfactory	Unsatisfactory	non-existent / N/A	
2	First look	User is able to quickly determine the basic content of the website	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
3	Purpose	The purpose of the website and the target audience are clearly indicated on the home page or 'about us' page	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
4	Localisation ²	The website provide information that is localized as much as possible at the national level	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
5	Internationalization ³	The website offers a multilanguage option	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

¹ Weigold, M.F. and Treise, D. (2004). Attracting teen surfers to science Websites. *Public Understanding of Science*, 13 (3), 229 – 248.

² Clough, P., Marlow, J. & Sanderson, M. (2006). Designing Multilingual Information Access to Tate Online. *Proceedings of the Workshop on New Directions in Multilingual Information Acces*, 69-72, ACM-SIGIR 2006, Seattle, Washington, USA.

³ Dmitriyev, V. & Sarapuu, T. (2003). *Usage of educational multimedia by Estonian Mathematics and Science teachers*. e-Learning in Science and Environmental Education. Proceedings of the International Conference. October 1 – 4, 2003, Tartu, Estonia.

Credibility			Scale					Remarks
6	Editor's competences	The editor/editors are experts in science and/or use scientific advice	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
7		The editor/editors are experts in science communication and/or journalism	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
8	Contact with editorial board	You can easily contact the editors or authors of the website			Y	N	N/A	
9	Authorship	You can easily find out more about the author (CV or personal website), as well as contact information (e-mail, phone, fax, or mail) so that to verify or clarify information			Y	N	N/A	
10	Bias	The sponsor of the site is clearly identified	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
11	Currency (Frequency of updates)	The science news of website are properly updated			Y	N	N/A	
12		The content is clearly dated			Y	N	N/A	
13		Copyright date or date website was established is easy to determine	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
14	References	Additional resource links are included			Y	N	N/A	
15	Privacy ⁴	There is Privacy Policy or "Terms of			Y	N	N/A	

⁴ Livingstone, S. & Bober, M. (2007). UK Children Go Online: Surveying the Experiences of Young People and their Parents. <http://www.children-go-online.net>.

		Use” statement						
	Information		Scale					Remarks
16	Completeness	The content appears to be complete (e.g. no 'under construction' signs)			Y	N	N/A	
17	Information structure	The content of this website is well organized	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
18		The news items are published on a salient place on the website, with a link to the news item associated with the news headline, and with a clear abstract of news content ⁵	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
19		There are headings and subheadings on the page which are attractive and helpful	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
20	Information design	The text is specially designed in order to facilitate reading process and to maintain user's attention and positive attitude (e.g. via bolded/highlighted key words; bulleted lists; short paragraphs; a lot of hyperlinks, etc.)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	<i>remarks</i>
21	Grammar and spelling	Information is useful for the target audience.	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

⁵ Ibid.

22		The target audience can easily understand the information on the website ⁶	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
23		Grammar and spelling are correct			Y	N	N/A	
	Relevance		Scale					Remarks
24	Gender	The content is separated into gender specific sections (e.g. 'girls only' or 'boys only' sections) ⁷			Y	N	N/A	
25	Age	The content is separated into age specific sections (e.g. 'kids', 'teen' or 'adults' sections) ⁸			Y	N	N/A	
26	Literacy level of text	The text is written in the simplest and most familiar words with target audience in mind ⁹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
27	Link appropriateness	The content of linked sites is worthwhile and appropriate to target audience's needs/purposes	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
28	Entertaining style ¹⁰	Author's style is entertaining	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent /	

⁶ Johnson, C.C. (1996). World-Wide Web Sites for the Dissemination of Science to the Public: A Classification into Three Types. *Science Communication* 18, 80-87.

⁷ Frank, L.S. & Noble, G. (2007). Here's an idea: ask the users! Young peoples views on navigation, design, and content of a health information website. *Journal of Child Health Care* 11 (4), 287-297.

⁸ Ibid.

⁹ Johnson, C.C. (1996).

¹⁰ Weigold, M.F. and Treise, D. (2004).

							N/A	
29	Use of cultural icons ¹¹	The authors/editors often and appropriately use names and pictures of science fiction / movies /cartoons heros or other celebrities			Y	N	N/A	
30	Image - text relation	Most of the textual content is supplemented by pictures	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
31		The pictures enhance the textual information value so that to foster open-minded and breezy reading	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
32	Video content	The website is video content-rich	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
33	Audio content	The website is audio content-rich	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
34	Multimedia - text relation	The textual content is supplemented by multimedia content (graphic, animation, audio/video file, etc.)			Y	N	N/A	
35		The multimedia content (graphic, animation, audio/video file, etc.) enhances the textual information value so that to foster open-minded and breezy reading	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
	School Homework Demands		Scale					Remarks
36	School	There is a way to	excellent	highly	satisfactory	unsatisfactory	non-existent /	

¹¹ Ibid.

	Projects ¹²	contact a person for help with school project / homework		satisfactory		factory	N/A	
37	Colaboration with Schools ¹³	There are clear evidences on the website that editors/authors work with schools			Y	N	N/A	
38	Relation to school science curricula ¹⁴	The websites appear to have been designed from the ground-up to specifically complement a standardized science curriculum	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

VISUAL APPEAL

	Design		Scale					Remarks
39	First look	Overall first impression: the website is aesthetically appealing. Well-balanced use of graphics and colour. Appropriate to target group preferences ¹⁵	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
40		The overall presentation cannot be labeled 'cheesy' or	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

¹² Ibid. See also Baram-Tsabari, A., Sethi, R.J., Bry, L. & Yarden, A. (2006). Science Learning in Everyday Life. Using questions sent to an Ask-A-Scientist site to identify children's interests in science. *Science Education*, 90 (6), 1050-1072.

¹³ Weigold, M.F. and Treise, D. (2004).

¹⁴ Ibid.

¹⁵ Ibid.

		'dull', but 'funky' and 'cool' ¹⁶						
41	Graphic Design	The website has a simple text design with enough contrast between background and text, with well-readable text			Y	N	N/A	
42		There are not any flashing, scrolling, or otherwise visually distracting graphic displays	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
43	Images	The illustrations cannot be labeled 'too adult and boring', neither 'child-like and patronising' ¹⁷	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
44		There are plenty of eye-catching photographs, pictures and graphics	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
45		Non-distractive animated elements exist on the website ¹⁸ (excluding advertising)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
46		The image resolution is taken into account for correct visualization (not pixelated images with an appropriate size)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
47	Printed media resemblance	The website's pages look exactly like printed media pages			Y	N	N/A	

¹⁶ Livingstone, S. & Bober, M. (2007).

¹⁷ Ibid.

¹⁸ Sullivan, T., Norris, C., Peet, M. & Soloway, E. (2000). When kids use the Web: A naturalistic comparison of children's navigation behaviour and subjective preferences on two WWW Sites. *Proceedings of the 6th Annual Conference on Human Factors and the Web.*

		(e.g. Newspaper or magazine). There is no any value added by Internet features.						
48	Main Layout	The front page is on one page . The internal pages are not inordinately long.	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

USABILITY

Navigation		Scale					Remarks
49	Ease of navigation ¹⁹	User is able to move around within the website with ease	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A
50		The website offers concise grouping of the content material	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A
51		Informative labeling of all navigation elements ²⁰	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A
52	Entertaining navigation	It has a funky design ²¹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A
53	Elements in menu	The number of elements and terms per element does not produce memory overload	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A

¹⁹ Macedo-Rouet, M., Rouet, J.-F., Epstein, I. & Fayard, P. (2003). Effects on Online Reading on Popular Science Comprehension. *Science Communication*, 25 (2), 99-128. See also Doss, G. (2002). Designing effective web navigation. Towson University. Centre for Applied Information Technology.

²⁰ Doss, G. (2002).

²¹ Sullivan, T., Norris, C., Peet, M. & Soloway, E. (2000). See also Huang, H.E. (2004). The impact of context on children performance in solving everyday mathematical problems with real-world settings. *Journal of Research in Childhood Education* 18 (4), 278-292.

54		The website has highly comprehensible and highly visible logo ²²			Y	N	N/A	
55	Visibility	The totality of the elements in the navigation area are visible without requiring any interaction from the user (no pop-up, no drop-down)			Y	N	N/A	
56	Site map ²³	There is a static and clearly organised summary of website organization by showing all categories			Y	N	N/A	
57		The homepage can always be reached from any navigation level			Y	N	N/A	
58	Orientation ²⁴	There are elements that allow the user to know exactly where he/she is in the website and how to move back (breadcrumb trails) ²⁵			Y	N	N/A	

²² Hanna, L., Ridsen, K., Czerwinsky, M. & Alexander, K.J. (1998). The role of usability research in designing children's computer products.

²³ Sullivan, T., Norris, C., Peet, M. & Soloway, E. (2000). See also Doss, G. (2002).

²⁴ Sullivan, T., Norris, C., Peet, M. & Soloway, E. (2000).

²⁵ Doss, G. (2002).

59	The links clearly indicate where they lead to, using an appropriate title so that the user can predict the system response to his/her action				Y	N	N/A		
60	Most important information appears at or near top of screen , or has links at or near top of screen	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A			
61	The necessary information can be found easily from the main homepage of the website	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A			
62	The page title appear in the top window bar				Y	N	N/A		
63	The page title accurately describes content or location in website structure	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A			
64	The website does not impair user's ability to return to previously visited pages (For example, the browser's " Back " button is grayed out) ²⁶				Y	N	N/A		
	Technological	Scale					Remarks		

²⁶ Sullivan, T., Norris, C., Peet, M. & Soloway, E. (2000).

65	Time for download	The website load quickly and easily ²⁷			Y	N	N/A	
66	Browser compatibility	The website is equally effective with a variety of browsers	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
67	Alt text - graphics	Alternative text page is offered when heavy graphics or frames are used	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
68	Alt text - images	Image links and image maps have a text alternative			Y	N	N/A	
69	Images	The images are informatively labeled	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
	Functionality		Scale					Remarks
70	Search	Information is easy to find (no more than three clicks, for example)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
71		The textbox used to search terms on the website is easily accessible from any place of the website			Y	N	N/A	
72	Links	Lists of links are well organized, visible and annotated or explanatory	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
73	Print	There is a printer-friendly version	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
	Accessibility		Scale					Remarks

²⁷ Doss, G. (2002).

²⁸ Ibid.

74		The website is W3C standard priority 1 compliant for vision-impaired users	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
75	Disability access ²⁸	There is an option to modify background and text colour			Y	N	N/A	
76		The website is built without frames			Y	N	N/A	
77	Hypertext format	The flash animation used is not accompanied by small text, and should not be manipulated in order to be fully visible ²⁹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
78	Format support	The website does not require Flash, Shockwave, or any other 'plug-ins' for full functionality ³⁰	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
79	Payment	There is a fee or cost for use of a portion of the website which is a fair charge for unique information	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
INTERACTIVITY								
	Functionalities		Scale					Remarks
80	Value-adding interactivity	This website provides interactivity that increases its value	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
81	User-generated content	There are technical facilities for users to contribute to the website's content ³¹			Y	N	N/A	

²⁹ Macedo-Rouet, M., Rouet, J.-F., Epstein, I. & Fayard, P. (2003).

³⁰ Doss, G. (2002).

³¹ Livingstone, S. & Bober, M. (2007).

82	Communicating with scientists ³²	The website offers effective communication with scientists	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
83	Explained functionality	The function of interactive tools is clear ³³			Y	N	N/A	
84	Navigation ³⁴	There are attractive and effective animated navigation tools			Y	N	N/A	
85		There are click-through modules	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
86	Active user participation	The website offers interactive game/s to its users ³⁵	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
87		The website offers online survey or opinion polls ³⁶	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
88		The website offers quizzes ³⁷	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
89		The website offers their users to			Y	N	N/A	

³² Ibid.

³³ Pata, K., Pedaste, M. & Sarapuu, T. (2007). The formation of learner's semiosphere by authentic inquiry with an integrated learning object "Young Scientist". *Computers & Education* 49 (4), 1357-1377.

³⁴ Tremayne, M. & Dunwoody, S. (2001). Interactivity, Information processing, and learning on the World Wide Web. *Science Communication* 23 (2), 111-134.

³⁵ Aschbacher, P. (2003). *Gender Differences in the Perception and Use of an Informal Science Learning Website*. Grant funded by National Science Foundation, PGE 0086338. Arlington, VA. See also Livingstone, S. & Bober, M. (2007).

³⁶ Livingstone, S. & Bober, M. (2007).

³⁷ Ibid.

		send/publish their feedback ³⁸						
90	Social exchange	The website offers web forum	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
91		The website offers message board ³⁹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
92		The website offers instant messaging opportunities ⁴⁰	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
93		The website enables discussion groups formation	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
94		The website offers chat room ⁴¹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
95		The website requests user's profile for receiving membership to certain subgroups (e.g. virtual communities, discussion groups, subscribers to given services, etc.) ⁴²			Y	N	N/A	
96		The website enables link sharing between users	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
97	Alternative presentation format	Users can easily download content from the website ⁴³	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Weigold, M.F. and Treise, D. (2004). See also Livingstone, S. & Bober, M. (2007).

⁴² Livingstone, S. & Bober, M. (2007).

⁴³ Ibid.

98	Usage of cartoon avatars ⁴⁴	The website offers cartoon avatars for safer and funnier virtual social interaction	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
99	Online communities	The website enables forming of web-based extension to their social circles ⁴⁵	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
100	Virtual communities	The website stimulates formation of virtual communities (communicating via email, phone, newsletters, instant messages, etc.) ⁴⁶	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
101	Registration	The website provide content without the need to log in or register ⁴⁷			Y	N	N/A	
102		If registration is required for any part of the website, the benefits of registration are clearly explained	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
103	FAQ	There is a 'frequently asked question' page/s on the website			Y	N	N/A	
	Relevance		Scale					Remarks
104	Social media	The website is Social Media Optimized (SMO) targeting young	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

⁴⁴ Aschbacher, P. (2003).

⁴⁵ Ibid. See also Livingstone, S. & Bober, M. (2007).

⁴⁶ Livingstone, S. & Bober, M. (2007).

⁴⁷ Ibid.

		people						
105	Virtual reality	The website develops Internet-based virtual world (e.g. SciLands or Virtual World Campus in Second Life)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
106	Newsletter	The website offers Newsletter ⁴⁸	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
107	Streaming	The website offers streaming	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
108	Podcasting	The website offers high-quality podcasts	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
109	Syndication feeds	The website offers web feeds (RSS, Atom, etc.)	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
110	Blogging	The website offers weblog/s	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
111	Wiki	The website offers wiki/s	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	
112	Customizability	The website can be well customized based upon preferences of individual users ⁴⁹	excellent	highly satisfactory	satisfactory	unsatisfactory	non-existent / N/A	

⁴⁸ Ibid.

⁴⁹ Weigold, M.F. and Treise, D. (2004).