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Methods of psychological assessment of the effectiveness of educational resources online

Currently accumulated a large experience in the use of information technology in education and research, including the development of educational online resources. The factors that determine the effectiveness of an educational online resource in psychological terms, include the following: the information content, the degree of attention, emotional effect, ease of storage, communication effectiveness, external appearance, and others.

Criteria for evaluation of Internet resources may be different, vary depending on the goal. We dwell on the following criteria:

- 1) *The main ideas and information content.*
- 2) *The presentation material.*
- 3) *Working with the cognitive processes of users.*
- 4) *Working with the audience site.*
- 5) *The exterior of the web site (design).*
- 6) *The site structure and navigation functions.*
- 7) *The effectiveness of the technology.*
- 8) *For information about the author (s) of the project.*

To make it easier to identify indicators of each of the criteria we use the **method of auxiliary issues** (maintenance issues can be varied).

Criterion 1. The main ideas and information content.

To evaluate an educational web site on this criterion, it is necessary to answer the following questions:

- What is the primary purpose of the site?
- What type of information (incentive or a statement) is used?
- How fully disclosed and justified the main ideas?
- Are there any conclusions on each of the sections?
- How do the verbal and non-verbal information?
- The images on the site relevant to the content?
- Are the principles of scientific and accessibility in presenting the information?
- Reflected whether the application of the material?
- As far as the material presented in the interest of students and age features?

- After reading the information presented on the site, there is a desire to get acquainted with the subject deeper and wider?
- After browsing the site to see whether the desire to tell others about it?

Criterion 2. The presentation material.

To help the site to assess this criterion can offer the following questions:

- Clear whether the material is presented? Briefly? Generalized?
- As structured information? Is it logical to set out the material?
- In presenting the information used large legible font?
- Is it easy to read the text?
- How competently provides information (grammar, terminology used, the syntax)?
- The headlines reflect the basic idea of the site?
- Connected thematically and information all the pages to the master page?
- Traced to the site style for the entire document?
- Are there links to other sources of information on relevant topics?
- As far as the material is presented correctly?
- Represented the full information on copyright protection of the quoted text, links and images? What kinds of psychological influence (persuasion, suggestion, information etc.) used on the site when presenting information?

Criterion 3. Working with the cognitive processes of users.

To evaluate an educational web site on this criterion, it is necessary to answer the following questions:

- What techniques are used to attract the attention of students and what is the extent of their effectiveness?
- Does the design of the site pages psychological laws of perception?
- What techniques are used to ensure ease of memorization of the material?
- How effective are they?
- What techniques are used to connect to user's mental mechanisms?
- The site sets out a strategy for solving problems in the finished product or the information encourages visitors to independent thinking: analysis, comparison, interpretation, evaluation, and so on?
- What techniques are used to connect the user's imagination?

Criterion 4. Working with the audience site.

To help the site to assess this criterion can offer the following questions:

- As far as the content meets the performance target audience of the site?
- Is clear and whether the material is in the age group for which it was designed?
- How are individual and personal qualities of people of different personality types?
- Posted to online customer support (built-in help, frequently asked questions)?

- Does the site's information feedback?
- Is there an online system of communication between its users?

Criterion 5. The exterior of the web site (design).

To evaluate the site for this criterion will help to answer the following questions:

- Home page of the site is the original design?
- Whether at once when you open the first page is determined by the main idea and purpose of the site?
- Does the optical center of the main page?
- Are the content and form of presentation?
- Headings and illustrations are attracted originality?
- As background is combined with text and graphic elements?
- What is the quality of the graphics?
- Does the image and/or animation to understand the content of the page?
- The effects, graphics, sounds complement the information provided?
- Are all the screen space is used efficiently and in accordance with the order?
- How are visual areas in the distribution of material?
- Does the site design requirements of aesthetics?
- What is the overall impression is of an emotional viewing the site?
- There is a unity of all components of the web site?

Criterion 6. The site structure and navigation functions.

To help the site to assess this criterion can offer the following questions:

- How many pages are in the site?
- What structure (tree-like – hierarchical or linear – sequential) has a website?
- How clear and obvious organizational structure of your site?
- Can you see the navigation of the site immediately when opened?
- Viewing a relationship and sequence of loading pages?
- Can you see how to navigate within the pages, and from page to page?
- Is it easy to determine whether there is link building?

Criterion 7. The effectiveness of the technology.

This criterion is not strictly psychological, but the technologies often play a major role in ensuring the effectiveness of the perception of the material. To evaluate the site by this criterion, it is necessary to answer the following questions:

- Quickly if the page is loaded?
- That loads faster – text or graphics?
- Website is viewed in all browsers and whether this information?
- If the site is made with the use of frames, it facilitates and enhances the perception of information or not?

Criterion 8. For information about the author (s) of the project.

To help the site to assess this criterion can offer the following questions:

- Who is the author of the site?

- As the author's identity is revealed (the position of the teacher) in the materials and design of the site?
- What techniques are used by the author of self-Site?
- How effective are they?
- Is there contact information for the site author (teacher)?

There are other methods used to assess the content, design and performance of the site. For example, the **method of qualitative characteristics of components of the site** involves preparation of detailed in-depth assessments of the educational online resource to determine its compliance with the laws of psychological placement of electronic information. In this case, the evaluation criteria presented in the form of points of the plan, the disclosure of each of which is the analysis of the content of the site. For example:

Plan features	Site characteristics
1. The purpose of the site.	The main purpose of the site is ...
2. The completeness of disclosure and justification of the basic ideas of the site.	The basic idea of the site is fully disclosed, thoroughly grounded, logically laid out.
3. The ratio of verbal and non-verbal information.	Verbal and non-verbal information uniformly correlated. As verbal information presented texts, announcements etc. Of the non-verbal information uses illustrations, graphs, charts, and other images on the site attractive, interesting, and relevant to the content.
... etc.	... etc.

Scaling method involves assessing the site on a dedicated criteria and indicators, using rating scales. In this case, each indicator is assigned a score, in the above example – is 1, 2 or 3.

Each assessment indicates a certain level of quality of a particular element site. For example, three points suggest that all elements of the site fully meet the selected indicator, 2 points are placed in the event that items are generally responsible measure, but need to be improved; 1 mark shall be made in case the requirement is not met, the elements of the site does not meet the the desired parameter.

№	Criteria	Indicators	Rating on a scale		
			1	2	3
1	The main ideas and information content.	The main objective is clearly defined.			
		The basic idea is fully disclosed.			
		Information is reliable.			
		Reasoned conclusions.			

		Use incentive type of information.			
		Used ascertaining type of information.			
		Verbal and non-verbal information uniformly correlated.			
		Images correspond to the content.			
		The information has practical significance.			
		Reflect the application of the material.			
		The content and presentation style of leading to familiarize with the topic deeper and wider.			
		After viewing the site there is a desire to communicate it to others.			
2	The presentation material (techniques, methods of presentation, shape, style, literacy etc.).	The material is presented clearly.			
		The material is presented briefly.			
		Summarizes the main points.			
		The information is structured.			
		The material is presented consistently and logically.			
		Use a large legible font.			
		The text is easy to read.			
		The material is presented correctly.			
		The material is presented correctly.			
		The headlines reflect the basic idea.			
		All pages linked thematically.			
		Style of the site can be traced for the entire document.			
		There are links to other sources of information on the topic.			
		In presenting the information is used to inform.			
		In presenting the information is used persuasion.			

		In presenting the information is used suggestion.			
3	Working with the cognitive processes of users (attention, perception, memory, thinking etc.).	The commonly used methods are effective for attracting attention.			
		Techniques used to ensure efficient perception of information, are effective.			
		Techniques used to ensure ease of memorization of the material to be effective.			
		Techniques used to connect the user's mental mechanisms are effective.			
		Problem-solving strategy is proposed as a finished product.			
		Information is pushing people to self-reflection.			
		The techniques used to connect the user's imagination to be effective.			
4	Working with the audience site (registration contingent motives queries of visitors, the organization of communication etc.).	The content meets the performance target audience of the site.			
		The material complies with the psychological characteristics and understand the age group for which it was designed.			
		In presenting the recorded features people of different personality types.			
		The site has a user support.			
		The site contains information about the feedback.			
		The site created a system of communication between users.			
5	Appearance of the site (design).	When you open the first page easily determined the main idea and purpose of the site.			
		On the pages of a primary optical center.			
		Presentation of the material corresponds to its content.			

		Headings and illustrations are original.			
		Background combined with text and graphic elements.			
		High-quality graphics.			
		Images help to better understand the content.			
		Screen space is used efficiently and in accordance with the purpose.			
		Placing materials accounted for the visual zone.			
		Making your site is beautiful, aesthetically pleasing.			
		From browsing the site remains favorable emotional experience.			
		On the site there is the unity of all its components.			
6	The site structure and navigation functions.	's Short (10 pages). Website has a hierarchical structure.			
		The organizational structure of the site is clearly built.			
		Viewing the relationship and sequence of loading pages.			
		Navigation of the site is visible immediately when opened.			
		Navigation is visible both inside pages, and from page to page.			
		The presence of links is easily determined.			
7	The effectiveness of the technology.	Pages load quickly.			
		Graphics loads quickly.			
		Effects are used well.			
8	For information about the author (s) of the project.	There is a positive picture of the author site.			
		There is information about the author of the site and contact information.			
		Techniques of self-presentation used by the author to be effective.			

		There is evidence of the author's personal attitude to this Site.			
		Author's identity is revealed in the website design.			
9	... etc.	... etc.			
In total:					

The maximum number of points that can be dialed by the system based on the proposed criteria for evaluating the site – 207.

Having assessed your own website according to these criteria can be one of the following conclusions:

- more than 138 points – the site as a whole was a success and there at a high level and are harmoniously sustained all of the components;
- at least 138 points – the site needs work on several criteria, with the required consultation of certain specialists, additional study of the site's audience, etc.

The **method of expert estimates** suggest that the educational online resource on the specific criteria evaluated somewhat unrelated people. The resulting data is analyzed from them, and then made generalizations and conclusions.

There are also other methods of evaluation design and functionality of the site: **checklists, modeling, method of focus groups, heuristic evaluations** etc.

Abstract

The paper showed that accumulated a large experience in the use of information technology in education and research, including the development of educational online resources.

Key words: information technology, educational online resources, methods of psychological assessment.