*Colloquium*

**A rubric for evaluating Web-Based Learning Environments**

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Recently, we witness a wide and fast technological development among the Arab schools in Israel. This development has raised rapidly the number of educational Web sites built by educators in the schools and pre-service teachers in the teacher training colleges. Several colleges offer courses that apply technologies to construct educational Web sites based on the pedagogical model of **Web-Based Learning Environment (WBLE).** This model of educational Web sites attempts to wrap together knowledge in a specific content area and technological features in pursuit of learning goals.

Many WBLEs were launched recently, but unfortunately only few of them are worth using. Therefore, educators should be sure that "*the educational Web sites being used as part of their classroom instruction are appropriate and effective in their intended outcomes and goals*" (Furner and Daigle, 2004: p. 61).

*"While the literature on evaluating educational Web sites is extensive, the vast majority of this has been summative in nature, delivering criteria that instructors and students can use to decide whether or not to use or ignore the Web site as a source of information"* (Greenhow, Dexter and Riedel, 2006: p. 22). However, several methods of evaluating Web sites were presented in the latest literature: writing essays, establishing think aloud protocol, using a checklist of questions based on criteria or a heuristic list, submitting Web-based survey, analyzing Web site traffic. Nevertheless, these tools of evaluation provide the teacher with a general impression about the effectiveness of the educational Web site, but do not pinpoint professionally and objectively the weaknesses in order to start a process of improvement. Unfortunately, "*Much less has been written on formative tools to evaluating educational Web sites that provide information to designers in their planning and development of a Web site*" (Greenhow et al., 2006: p. 22).

A formative evaluation tool that was introduced recently to evaluate students' performance is the "rubric" (scoring guide). It is a clear and easy to use table that helps teachers evaluate the work of their students and assists students to appraise their work and identify the expected level of performance they are obligated to reach (Boston, 2002; Crawford, 2001). This tool is used to evaluate Web-quests tasks, but it is not popular yet in the field of evaluating Web sites in general and educational Web sites in specific. We suggest that the rubric may be a useful tool for this purpose. A rubric goes beyond the summative evaluation tools since it does not only specify the desirable features one would want to see in an effective WBLE, but it characterizes these features and details the levels of applying them in the WBLE. A rubric can specify the best/worst expected quality of each criterion in the pedagogical design of a WBLE, which makes the evaluation more objective and formative.

We developed a formative evaluation tool – Rubric – to help pre and in-service teachers evaluate the quality, pedagogical design and the potential of the WBLE they refer their students to them. It can also help designers through the planning and construction process, by providing an outline that guides them and set in front of them the required components and the expected quality levels that guarantee a successful and effective WBLE.

To generate a useful and practical rubric, we looked in the recent research for the most objective and popular criteria in the domain of evaluating educational Web sites. The proposed rubric contains four main criteria: **Usability, Content, Educational Value,** and **Vividness**. We also added to each main criterion several appropriate sub-criteria to cover various aspects of it. Then we determined the weak, median, and excellent quality level for each criterion. The rubric is being examined in a field research, but we present here the criteria and sub-criteria used to build the rubric.

*Table 1: Usability criterion*

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| Sub-criterion | Characterization |
| Purpose | The purpose, benefit and importance of the WBLE should be presented clearly. |
| Homepage | The homepage should include a well-labeled, clearly defined table of contents. |
| Navigation | Users need to know where they are, where they have been, and where to go next. |
| Design | Web pages have to be neat, simple and not overstuffed, and background shouldn't interfere with text. |
| Enjoyment | Multimedia and humor are recommended, but should be relevant, clear, appropriate to the subject matter, and shouldn't be heavy in a way that slows down the presentation of the Web pages. |
| Readability | Users should be able to read the content of the Web pages easily, by proper use of text, sounds and images. |

*Table 2: Content criterion*

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| --- | --- |
| Sub-criterion | Characterization |
| Authority | Information in the WBLE should rely on authentic organizations and dependable resources in the field of the presented material. |
| Accuracy | Information should be accurate and based on factual knowledge and professional thinking. |
| Relevance | The information provided ought to focus on the main topic of the WBLE, and shouldn't include irrelevant or marginal data. |
| Sufficiency | The amount of information in the WBLE should be sufficient but not excessive. |
| Appropriateness | The information should be presented in an appropriate method and suitable level of difficulty to the target users. |

*Table 3: Educational value criterion*

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| Sub-criterion | Characterization |
| Learning Activities | WBLE should provide learning activities that expose the users to new information and encourage them to construct new knowledge and educational substance. |
| Activity plan | Each learning activity should be accompanied with a clear and suitable activity plan. |
| Resources | The activities should include well prepared content presented in various ways, as well as references to additional resources on the Web. |
| Communication | Users should be able to interact with the designer of the WBLE and with their peers through different communication tools (email, chat, forums). |
| Feedback | Users' performance and outcome of each activity should be tracked and evaluated through a mechanic or human feedback. |
| Rubric | Each activity ought to include a rubric to evaluate the users' performance. |
| Help tools | WBLE ought to include assistant tools that help the users solve problems (technical, contextual, didactical) that they might face in the process of performing the activities. |

*Table 4: Vividness criterion*

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| Sub-criterion | Characterization |
| Links | WBLE should direct users to other Web pages: in other sites or in the site itself. These links should always be active, adequate and enriching. |
| Updating | WBLE designers should update the information, content and links of the WBLE continuously. |

**References**

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