

Evaluation of Adaptive Modules

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Empirical studies presented in [Specht 1998, Eklund 1998, Eklund 2000] have studied the use of adaptive hypermedia in education and presented contradictory results. Effectiveness of hypertext learning itself depends on many factors such as previous proficiency in the domain, the complexity of the domain and also the learner's motivation. All the citations argue that it is easy to get lost in the maze of hyperlinks in an online course and the only conclusive statement about adaptive link annotations is that there is no "clear link between adaptivity and an improvement in learning."

We want to assess how adaptive modules as a whole impact pedagogy and we propose to use a number of methods to do so.

Using Adaptive Modules as a supplement to current methods

These modules are suggested to be used as a supplement to current teaching methods. Relying totally on such a module may not be desirable.

Significance of current student GPA

We want to study whether prior student standing (GPA) has a relationship with performance on the post-test presented at the completion of the adaptive module. This is however of little significance since students with better standing are more likely to be using the adaptive system more often.

Programming assignment quality

The adaptive module currently offered is an Introduction-to-Testing course and comparing student submissions of test cases for programming assignments (using Web-CAT) with historical submission data can provide an indication if students' test cases are improving.

Final Exam questions

We will try to examine if questions appearing on exams that resemble those appearing on the adaptive modules have a better response rate.

Time spent on the module

Collecting data about the amount of time spent online using the system can help. Advanced students may spend relatively lesser amount of time and if those students spending a longer amount of time obtain comparable grades the usefulness of the module can be ascertained.

Subjective student survey

Conducting a student survey and asking open ended questions about how students felt about the adaptive module can also help us gather data.

Possible questions:

- Do you think you were able to learn with this program? What is your impression?
- Was the orientation on the text pages feasible? Can the elements on a page be used intuitively? What should be improved?
- In case you wanted to achieve a specific effect (e.g., evaluation, navigation), was it possible to achieve it directly or was the manipulation of the interface too difficult?
- Was the interaction stable and reliable?
- Was the reaction of the server fast enough to work interactively via Internet?
- Would you recommend learning with this program?
- What was your previous experience in this topic?
- What are the Pros of this learning program?
- What are the Cons of this learning program? What should be improved?
- What should be added to this program?
- What is unnecessary or even annoying?