Digital Library Educational Module Development and Field-Testing Results from Virginia Tech

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INTRODUCTION & BACKGROUND

DL curriculum framework development based on:

- Computing Curricula 2001 by ACM and IEEE-CS
- 5S Framework (Societies, Scenarios, Spaces, Structures, Streams)
- Empirical studies of the DL syllabi and literature

Currently, we are:

- Developing modules for the framework
- Conducting field-tests and analyses

METHODS

Four graduate student teams at VT developed modules and participated in the module field-tests in fall 2008.

Module 1b
- **Developed by the project team**
- **Expert reviewed**
- **Taught by the instructor**

Module 3b, 4b, 5a, 5b, 6a, 6b, 6d, 9c
- **Developed by the project team**
- **Expert reviewed**
- **Taught by class teams**

Module 2c, 5d, 7g, 8b
- **Developed by class teams**
- **Taught by class teams**

National Science Foundation WHERE DISCOVERIES BEGIN

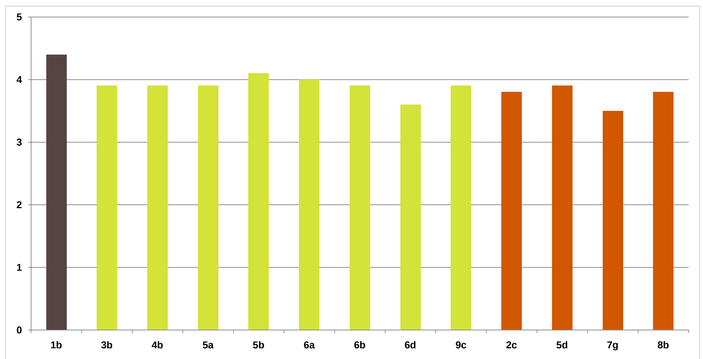
This project builds upon a collaboration between Virginia Tech and the University of North Carolina, Chapel Hill, funded by the National Science Foundation through grants NSF IIS-0535057 (to VA Tech) and IIS-0535060 (to UNC-CH).

STUDENT RATINGS

- Students rated each module, immediately after its completion
- "Overall, considering its content, design, and structure, this module was effective"
- 1=strongly disagree, 5=strongly agree
- For other survey questions and detail data: http://tinyurl.com/vt-result

Figure 1. (a) Module ratings
(b) List of modules

a



b

1b: History of DLs and library automation
3b: Digitization
4b: Metadata
5a: Architecture overviews
5b: Application Software
6a: Information Needs
6b: Online information seeking and search strategy
6d: Interaction design, usability assessment
9c: DL evaluation, user studies
2c: File formats, transformation, migration
5d: Protocols
7g: Personalization
8b: Web archiving

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STUDENT COMMENTS

- Group discussion at the end of semester
- Cumulative summary of experiences
- Importance of good resources and scope decision identified
- Learned much about their module content during development

Table 1. Class team comments on module development

Success factors	• Keep meeting schedules • Frequent group communication • Existing modules as guidelines • Multiple reviews for content organization • Support from the instructor (e.g., scope) • Good reference books and papers • Exhaustive literature search
Challenges	• Finding good resources • Creating the scope, structure • Decision on topics to or not to include • Unfamiliar topics
Suggestions for future developers	• Use of time: start early • Collaborate from day one • Find as many references to support topics • Given structure of the body of knowledge is not always the best way to present the module → think about better ways to present module • Hold each other accountable • Think yourself as a designer/implementer

CONCLUSIONS

- Module development was a good teaching/learning activity
- Guidance in scope decision and access to resources would be essential in the process
- Upon reviewed by experts, collaboratively created modules will be used in the field