

Elements of Effective Web-Based Projects: Implications for Teaching and Learning

Cross-disciplinary areas of the above related to each other or other areas

Technology, Internet, Web Pages

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Introduction

Since the adoption of technologies that use web-based resources and electronic communications environments, educators have been quick to embrace the ubiquitous Internet. Their reasons for turning to the Internet are many, but educators generally have a keen desire to improve their effectiveness in teaching. Therefore, when they employ the Net, educators proceed with the underlying conviction that they feel this setting will provide opportunities that will change and enhance the learning milieu. There are many projects and collaborative assignments in which educators have engaged their students that extend far beyond their classroom walls.

Purpose of the Paper

This paper examines some of the initiatives that have been launched as a result of the development of communications vehicles that have been made possible solely because of the proliferation of the Internet. Many projects, like MayaQuest, Web66, NASA Quest and, of course, The Interactive Frog Dissection have been very successful in providing rich learning experiences for students and some of these projects continue to grow incrementally even today. This paper will survey the successful and not-so-successful projects that involve students from diverse geographical and cultural settings. It will also provide explanations, based on theoretical foundations, for the successes the failures and the elements that combine to establish a pedagogically sound web environment.

Theoretical Framework/Related Literature

The framework for this paper is based on the literature that studies the effectiveness of virtual learning environments compared with the traditional face-to-face instructional milieu. The results of these studies suggest that students need to be self-directed, self-regulating, and self-disciplined for virtual instruction to be effective (Gladieux & Swail, 1999; Phipps & Merisotis, 1999; Windschitl, 1998). Alternatively, extrinsic controls and directions must be extremely well defined in order to provide explicit directions and controls. In short, an instructor cannot assume that students are engaged in Internet-based sessions. Instead, the instructor should check with individuals prior to, during, and after each session. Although this is a huge investment of time for the instructor, it is probably necessary to offset the potential of students being “lost” or of just wasting time in class.

Four categories are being developed for this study to provide a framework for predicting student engagement relative to online activity. The hypothesis is that those in category 1 will participate because they can and they want to, and they will reap benefits regardless of the instructor. Those in category 2 will probably find others (instructor or classmates) who will help them overcome technical problems, and they can be expected to participate when they become technologically capable. By contrast, those in category 3 may participate if there is enough extrinsic motivation to entice them to, but may avoid the activities in favour of computer entertainment. The greatest difficulty is with the students who fall into category 4. They are likely to avoid the computer and, consequently, miss out on all online learning opportunities.

Methodology of the Study

Classroom teachers who are currently or who have participated in Internet-based projects will be surveyed. A questionnaire will be developed that seeks the answers to several questions.

1. Who, within your staff, is creating and implementing web-based projects in education?
2. How do you determine what web-based projects will be supported in your classroom//school/board/?
3. What systems, technologies, support structures, policies, and procedures are in place or being developed to support this mode of learning?
4. Why are boards/schools/teachers entering into web based projects?
5. Have you or your staff or your board ever developed an Internet based project?
 - a. If Yes,

How are these web-based materials designed and implemented within your classrooms or schools or board?
6. What are staff members' perceptions of, or concerns about, this type of project?
7. What elements define a successful Internet based learning experience?

Contributions to Research and Practice

A review of the literature yielded a small number of studies that examine the effectiveness of online learning projects and the integration of Internet-based and traditional delivery systems in one course. In most cases, these two media were seen to be comparative rather than complementary. That is, instructors chose one or the other

and then compared results. This paper examines the reasons why many Internet based projects are successful or why they fail and may provide useful data for informing current and future instructional design and teaching with Internet based projects.

USE OF INTERACTIVE INTERNET SITES BY EDUCATORS

DATE: _____

Please CIRCLE the Appropriate response for the next 7 questions.

1. **Role:** Teacher Candidate, Teacher, Division/Subject Head, V.P.,
Principal, Superintendent, Other _____

2. **Division:** Primary/Junior Junior/Intermediate Intermediate/Senior

3. Male Female

4. **Years Teaching:** 0-5, 6-10, 11-15, 16-20, 21-25, 26+

5. **Years using a computer:** 0-1, 1-3, 3-5, 5+

6. **Time using the Internet personally:**

0-6 mths, 6mths-12mths, 1yr-3yr, 3yr+

7. **Time using the Internet with students:**

0-6 mths, 6mths-12mths, 1yr-3yr, 3yr+

8. **Please list your favourite Internet Site(s) for your personal use (Name(s) and/or**

URL(s)) _____

9. If you listed more than one, please choose & **list the one site that you prefer and visit**

most, (Name and/or URL) _____

10. **How long have you been using this site?**

0-6 mths, 6mths-12mths, 1yr-3yr, 3yr+

11. For the following, **please rate the site that you named in question #9** for each of the

following categories from 1 to 5

1=Poor, 2=Could be better, 3=Not applicable, 4=Better than most, 5=Excellent

a. Visual Appearance 1 2 3 4 5

- | | | | | | |
|----------------------------|---|---|---|---|---|
| b. Ease of Use | 1 | 2 | 3 | 4 | 5 |
| c. Accuracy of Information | 1 | 2 | 3 | 4 | 5 |
| d. Information is complete | 1 | 2 | 3 | 4 | 5 |
| e. Site is 'Safe' | 1 | 2 | 3 | 4 | 5 |

f. What is/are the main reason(s) that you continue to use this site?

12. **Please list** your favourite Internet Site(s) for your students' use (Name(s) and/or

URL(s)) _____

13. If you listed more than one, please choose & **list the one site that you prefer and visit**

most, (Name and/or URL) _____

14. **How long** have you been using this site?

0-6 mths, 6mths-12mths, 1yr-3yr, 3yr+

15. For the following, **please rate the site that you named in question #13** for each of the following categories from 1 to 5

1=Poor, 2=Could be better, 3=Not applicable, 4=Better than most, 5=Excellent

- | | | | | | |
|----------------------------|---|---|---|---|---|
| a. Visual Appearance | 1 | 2 | 3 | 4 | 5 |
| b. Ease of Use | 1 | 2 | 3 | 4 | 5 |
| c. Accuracy of Information | 1 | 2 | 3 | 4 | 5 |
| d. Information is complete | 1 | 2 | 3 | 4 | 5 |
| e. Site is 'Safe' | 1 | 2 | 3 | 4 | 5 |

f. What is/are the main reason(s) that you continue to use this site?

16. Are you encouraged to use information technology and web sites to enhance student learning or for professional development?

Yes No

17. Please circle the resource(s) that is/are available for your access if you want to develop web sites or other teaching/learning material associated with information technology:

hardware, software, experts, policies, procedures,
money, release time, other(please list)

18. Why do you believe that boards/schools/teachers are entering into web based projects? Because;

a. The technology is the current rage.

Agree No Opinion Disagree

b. The technology is an effective way to enhance some curriculum.

Agree No Opinion Disagree

c. The resources found on the Internet can provide a variety of learning structures that are not readily available in many of the more 'traditional' ways.

Agree No Opinion Disagree

d. Government is advocating for the use of technology in our classrooms.

Agree No Opinion Disagree

e. Business and other agencies are advocating for the use of technology in our classrooms.

Agree No Opinion Disagree

f. Other reasons why you believe that boards/schools/teachers are entering into web based projects:

19. Have you or your staff or your board ever developed an Internet based project?

Yes No

If Yes, please answer **a** through **d**

a. Was the design based on an existing site or model?

Yes No

If Yes, please name the site or model.

b. Individuals design and are responsible for their own materials.

Yes No

c. There are resources that can be used to help develop these materials.

Yes No

d. Help with the technology and design of web sites, for example, is easy to obtain.

Yes No

20. Given the time, expertise and resources, I would like to develop my own Internet based project.

Yes No

21. What are staff members' perceptions of, or concerns about, this type of project?

22. What elements define a successful Internet based learning experience?

Hi Folks,

I am the chair of pre-service at Brock University, Faculty of Education, in St. Catharines, Ontario. Starting in January 2003 I will be taking a six-month sabbatical and have described one of my research interests based on your very successful past, present and future, I'm sure. A piece of my sabbatical description is included. "... There are many projects and collaborative assignments in which educators have engaged their students that extend far beyond their classroom walls. During this sabbatical I will examine initiatives that have been launched as a result of the development of communications vehicles that have been made possible solely because of the proliferation of the Internet. Many projects, like MayaQuest, Web66, NASA Quest and, of course, The Interactive Frog Dissection have been very successful in providing rich learning experiences for students and some of these projects continue to grow incrementally even today. I will survey the successful and not-so-successful projects that involve students from diverse geographical and cultural settings. The final analysis will provide explanations, based on theoretical foundations, for the successes the failures and the elements that combine to establish a pedagogically sound web environment." It would be very helpful for this research if you would be willing to provide me with some of the statistics that you likely gather from your various projects and sites. Of course, I would be delighted to share my findings with you. Please let me know if you would be willing to provide me with some of these basic statistics.

Sincerely,

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