

The Clipper Project: A Critical Analysis

Jason A. Wood

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Abstract

The first semester of activity of the Clipper Project has begun. This project is designed to bring high school prospectives into the same virtual classroom as college students. This essay describes the potential effects of such a program and suggestions for improvement.

Introduction

A year ago, Gregory C. Farrington, Lehigh's president, announced his vision for bringing together technology in education during his inaugural speech. He likened the traditional classroom to a luxury steamship, Queen Mary. Lehigh's initiative named Clipper in reflection of the 1930 event when the first transcontinental commercial aircraft, the Pam Am Clipper, flew over the Queen Mary, marking the beginning of the end of the steamship era.[1] Traditional classrooms will not disappear and will have their place as steamships do today, but they will be largely replaced by online instruction.

The Clipper Project brings together high school early decision students and college students together interactively on the Internet to take part in courses. This system allows students to take care of their core requirements in a much more personalized and self driven format than before possible. They no longer need to sit through hour long lectures in a room filled with 85 students, they can sit in front of a computer at home watch clips of the lecture supplemented with online notes and readings.

The Program

The program is broken down into two distinct parts, application and research. The goals of the program match these dual purposes, by applying technology to learning and acquiring quantitative and qualitative results of the benefits of this new style of education.

Online courses

By Spring 2002, five introductory courses will be available to incoming students to take during the spring term of their high school senior year. The courses offered are Calculus I, Economics I, Chemistry I, Engineering I, and English I.[2] They are typically the classes that see the largest enrollment among first year students at Lehigh University. More importantly they lay the foundation for many of the advanced courses students study later in college. The success or failure academically of this program, therefore, could have serious effects on a student's education.

Each of the courses offered online provide an experience that aims to simulate that of an on campus environment. They provide video clips of the lectures and demonstrations, including lecture notes with rich Macromedia Flash content. Reading and homework assignments along with online quizzes are also provided. In order to promote the type of collaboration found in college residential halls, digital white board enabled chat rooms and discussion forums are also available for students, teach assistants, and professors to work together to solve difficult problems.

Research Initiatives

The Clipper Project was founded by a \$670,000 Andrew W. Mellon Foundation research grant.[1] One of the main purposes of the Clipper Project is to evaluate the costs and benefits of providing introductory level college courses online and online education in general. In order to conduct this research program evaluations are an integral part of the program for all of its participants.[3] These evaluations provide qualitative results on the effectiveness of the program. Coupled with the progress reports of students, they will provide a complete picture of the effects of online learning on student social and academic growth.

In order to make the results more meaningful the project has created three student groups. The first is the traditional, Queen Mary style, classroom. Students will be asked in these traditional non-web based versions of the class to fill out similar surveys and their academic progress will

also be tracked. The second class of students will be those who will be participating both online and in the traditional classroom. These students use the same chat and forum facilities, media rich lecture notes, and recorded lectures as the incoming students, but will also be able to attend lectures. The third class will be those students only participating online. Through comparison testing between these three groups the Clipper Project aims to provide a fresh and much needed look at the effectiveness of online education and its effects on students.

Personal Reflections

The Clipper Project has intrigued me because it is tipping the traditional classroom to the front and bringing students, professors, and technology together in a way that can only have a huge impact on the way we as students learn. The traditional classroom separates the expert from the pupils and does not fully use the new tools that are provided by computers and the Internet. I think that by bringing students and professors closer through technology a more productive and enhanced learning experience will result for everyone involved. Professors will gain fresh ideas from their students to bring to their field of study and students will benefit from a more involved experience with their professors.

Another advantage is the information is captured for replay. Often it is easy to miss something the first time, especially in a classroom of 50 or more students. Having lectures available as video on the Internet as well as interactive lecture notes should provide reinforcement of course material not previously possible.

If higher educational institutions are willing to consider the results of the Clipper Project as real and worthwhile, there will be fundamental changes in the way information is taught. It would be foolish for higher educational institutions not to harvest thousands of bright minds and integrate them into the research initiatives of the institution. Educational technology will allow levels of interaction between students and professors, previously reserved for the graduate level. It will also open up educational opportunities for more students, since being physically present will become less necessary.

Recommendations

I have two major concerns with the Clipper Project as it now stands. First, it benefits only a few students who are selected into the program. The program could benefit many other students and enhance other courses than the five the program covers. Second, the project is too conservative in its efforts. With the technology that is available it should be possible to increase the speed at which these technologies are adopted. By using a ramp up approach over a five year period, introducing new courses and new technologies will result in outdated research and tools by the time the program is finished. Lehigh should leverage all the currently available technology as soon as possible with the willingness to bring new technology into the program as it is available, rather than planning to bring in today's technology in five years when it is likely to be replaced with something better.

Once the technology has been purchased, the tools should be made available to all university faculty to use with their classes. There will likely be a network effect as professors spread the word of the benefits of these tools. Also student demand for these resources in all their classes will increase. The fifty or so students each year who come in used to learning from Internet based courses and being able to chat directly with professors and teaching assistants and benefit from online lecture notes will want the same services for the rest of their classes. If the technologies are available and easy to use and widely demanded, a natural adoption of these technologies will occur.

Conclusion

The Clipper Project is one of many initiatives around the world to bring technology and education together. It is no small concept and the changes are likely to be profound. I want to see the students of tomorrow not have to sit through boring hour long lectures, but instead be actively involved in research and applications of course material taught online with professors and professionals. Talking heads will hopefully be a thing of the past and instead technology should enable heads to be brought together to benefit society in ways that will be realized if the Clipper becomes the educational standard.

For more information on Clipper, visit the clipper web site <http://www.clipper.lehigh.edu/>.

References

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