

Online Science Education: A Cheaper Option for Colleges?

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With the rise of online education, cost is often mentioned as one of the prime motivations to switch from a traditional classroom setting to an online environment. There are, however, numerous costs that come in to play in order for online science education to run smoothly. Being aware of some of the most commonly overlooked costs can help administrators determine how online science education will affect their institution's profitability.

Comparing costs

When comparing the cost of an online science education versus a traditional one, we can easily spot several major differences. The first and most obvious is the lack of a need for a building. Not having to buy or rent a building and not needing money to heat, cool, and maintain it offers a major reduction in expenses. Here are two other major differences to consider:

- With teaching science, there are additional costs that come with running and maintaining a lab. Extra security is required, the cleaning staff need to be specially trained, and space is necessary for storage and preparation areas—all of which result in a much higher insurance cost compared to lecture classes. None of this is needed when teaching an online lab course.
- There are day-to-day costs to be considered when comparing traditional versus online science education. In the lab, glassware will be broken, chemicals and consumables need to be purchased, and water purification systems must be installed and maintained. These are all costs that are not included in online education.

Do these savings result in much lower cost for the college and the student when the college makes the switch to online education? The answer to this question is not as clear as one might think. In the end, the cost of an online science education is comparable to a traditional one for a student.¹ For example, a recent study showed that the overall

cost per student who passes a course is around \$99 for an online course and \$105 per student for a traditional course.² So when there is no need for building and facilities, where does the cost come from?

Technology and faculty

Online courses rely heavily on technology. A well-run online course needs to have the servers in place to run complex platforms that enable students to get the best experience possible. Often there is a need for chat rooms, video interfaces, and storage space to upload student work.³ All this requires:

- Hardware—it needs to be located in a climate-controlled building free from electronic interference and with a backup generator in case of power failure. It also needs well-trained staff to maintain it in optimal working order. Anytime there is a computer issue, students will notice. A bad experience can result in students being unwilling to take another online class, which hurts the retention rating needed for accreditation.
- Software—when schools are just starting with online education they need to develop or purchase a good Learning Management System (LMS), allowing faculty to upload videos, audio, and assignments. At the same time, the LMS needs to be flexible enough to allow simultaneous access by many students. Faculty and support staff need initial and ongoing training to use the system effectively.

Finally, designing a well-thought-out online course is more difficult than prepping for a classroom course. When something does not work or is unclear in a classroom, the instructor is there to explain and correct. That is not the case in an online class. Most online classes actually take up more instructor time than do traditional ones.⁴ Much of this is due to the need to provide individual feedback and assessments, which is easier done in a traditional class.

Conclusion

Depending on the physical location of your institution, online science education might be a cheaper alternative to traditional education. Inner-city locations are expensive and an online education facility might be cheaper to run, while in more rural areas the opposite might be true. An increase in student enrollment from outside the traditional recruiting area might increase your institution's revenue flow. Thus, although at first glance it appears that an online science education costs as much as a traditional one, in the end the investment in a solid online program could offset the cost and make your institution more profitable.

Notes

1. "The Cost of Online College Courses: Closer to Traditional School Fees Than Many Expect," Success Degrees, accessed December 8, 2015, <http://www.successdegrees.com/costofonlinecollegecourses.html>; "Why Online Courses Cost More," Affordable Online Colleges, accessed December 8, 2015, <http://www.affordable-online-colleges.net/online-courses-cost/>.
2. "Comparing the Cost-Effectiveness of Online versus Traditional Classroom Cost per Student Pass Rates," Online Learning™ Consortium, accessed December 8, 2015, <http://olc.onlinelearningconsortium.org/effective-practices/comparing-cost-effectiveness-online-versus-traditional-classroom-cost-student-pa>.
3. "U.S. News Data: Online Education Isn't Always Cheap," U.S. News & World Report Education, accessed December 8, 2015, <http://www.usnews.com/education/online-education/articles/2013/08/28/us-news-data-online-education-isnt-always-cheap>.
4. See note 2 above.

About the Author

Eddy van Hunnik started as a Distance Learning Specialist in 2014. Before Carolina, and most recently, he taught as an adjunct instructor at several colleges in Boston. He has worked as an educator for Medicare and the Affordable Care Act (ACA), and he developed and managed medical programs at Gibbs College. He holds a PhD in Biochemistry from the University of Amsterdam. He currently teaches courses online.

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