Lesson Overview
In this lesson, students compare the benefits of a college education (which is primarily increased earning capacity) with the costs of borrowing to pay for that education. By using information about median income for people who have achieved different levels of education and chosen occupations, students determine how long it will take to repay college loans and the amount of annual income required to make those loan payments. Ultimately, they determine whether or not borrowing to finance an education is worth it.

Lesson Introduction
The generalization is true: people with college educations typically earn more income than those with less education. But, a college education is costly—forgone income for four years, living expenses, and tuition. Add a few dollars for books and transportation, and you’ve made a major investment in your future. If you borrow money to finance your education, you might graduate with a lot of debt. This lesson looks at the costs and benefits of a college education, specifically, the accumulated debt from borrowing and the increased income your education enables you to earn.

Not earning a high school diploma is very expensive. In 2011, on average, people who did not finish high school earned a median income of $23,452 per year. That is about $10,000 a year less than the median income of a high school graduate. High school drop-outs have about a fifty percent greater chance of being unemployed and far more go to prison than high school graduates. Clearly, an investment in completing high school is a good one.

What about college? According to the U.S. Bureau of Labor Statistics (BLS), in the U.S., people with associate’s (two-year) degrees earn about $40,000 and those with bachelor’s degrees have a median income of almost $55,000. Education does pay.¹ Remember, these are median incomes. The BLS defines median income as “the amount which divides the income distribution into two equal groups, half having income above that amount, and half having income below that amount.” Some earn much less and some earn far more.

Income is only one factor in the evaluation of the overall benefit of a college education. The other side is the cost. The University of Cincinnati estimates that the total cost for a full-time undergraduate student in 2012-2013 will be almost $28,000.² Someone who graduates from high school but chooses not to go to college could be expected to work 40 hours a week for the thirty-six weeks of the school year (does not include summer). Without any wage or cost increases over four years, a student will spend $112,000 on college expenses ($28,000 x 4) and forgo $92,000 in income ($23,000 x 4), for a total four-year cost of $204,000. The driving question… is the benefit of a college education worth the cost (debt)?

Lesson Objectives

The student will:

1. Generalize about the relationship between educational attainment and income potential.
2. Determine the costs to attend the University of Cincinnati for four years.
3. Determine the starting average annual starting salaries for selected college majors.
4. Determine the cost of repaying federal college loans.

Key Concepts

- Costs
- Opportunity cost
- Benefits
- Income
- Debt

Lesson Materials

Handout 1: Enquirer Article
Handout/Visual 2: Education Pays
Handout/Visual 3: College Costs
Handout/Visual 4: Starting Salaries for Selected College Majors, 2011-2012
Handout/Visual 5: How Much Debt Can You Repay?

Lesson Preparation

Make copies of Handout 1: Enquirer Article, for each student.
Make copies or prepare transparencies of Handout/Visuals 1-4.

http://www.census.gov/hhes/socdemo/education/about/index.html

Access and practice calculations with the FinAid! Student Loan Debt Calculator, http://www.finaid.org/calculators/undergradadvisor.phtml
Lesson Procedures

1. Introduce the question: Borrowing money to go to college – is it worth it? Generate some student discussion about the possible costs and benefits of going to college and borrowing, in general. Focus the discussion on the costs (bad things) and benefits (good things) about the decision to go to college.

   Distribute copies of Handout 1: Enquirer Article. Students should read the Cincinnati Enquirer article about student loan debt, by Dr. Julia Heath.

   Ask the students for their initial reactions to the article. Discuss how the article introduces the costs and benefits of financing a college education.

2. Define the concept of benefits as a monetary or non-monetary gain received because of an action taken or a decision made. Benefits can be money/income or non-monetary, such as prestige, personal well-being, recognition, etc.

   Define the concept of costs in two ways.

   1) An amount that must be paid or spent to buy or obtain something (in dollars.)

   2) The effort, loss or sacrifice necessary to achieve or obtain something (not as easily measured in dollars or an opportunity cost.)

   Clarify the concept of opportunity cost as the value of the second-best alternative that must be given up when scarce resources are used for one purpose instead of another. For instance, if you only have enough money for one and you choose an apple, you can’t have an orange. The orange is what you give-up – your opportunity cost. If you choose to go to college full-time, you give-up the opportunity to work full-time. Working is your opportunity cost.

   Explain that in this lesson, the students will look at the benefits and costs of obtaining a college education by borrowing money to pay for tuition, housing, books, etc.

3. Project or distribute copies of Handout/Visual 2: Education Pays. Explain that first; you should look at the benefits of obtaining a college degree. Explain the handout. In the center are the several levels of educational attainment. To the right are the median weekly incomes for each educational level. On the left are the average unemployment rates for each educational level in 2011.

   *Median: The numerical value separating the higher half of a sample from the lower half. Among the group of values 1, 6, 9, 14, 20, 26, and 27, the value 14 is the median. It is the middle value. Note: The median is not the average.*
Ask the students to generalize about the relationship of educational attainment to income. The relationship is positive – the more education, the higher the income. Remind students that this is a generalization and there will be exceptions, such as pro athletes, entrepreneurs, entertainers, people who are very lucky or highly skilled in some other way.

Note: You may have to define the educational levels and types of college degrees. For more information, go to: http://www.census.gov/hhes/socdemo/education/about/index.html.

Students should be able to articulate the general relationship between educational attainment and income. You can also discuss the left side – the average unemployment rates. Those with more education are typically less likely to become unemployed.

4. Ask students to brainstorm a list of the costs of going to college. Tuition, fees, room and board, books and supplies, transportation, healthcare, entertainment, recreation, etc. Be creative and list as many types of “costs” as possible. Don’t forget the costs of having fun.

Project or distribute copies of Handout/Visual 3: College Costs. This is the estimate cost to attend the University of Cincinnati to earn a bachelor’s degree in four years. Other college choices will cost more or less, depending on many factors. For more general information about college costs, go to: http://collegecost.ed.gov/. You can sort by type of school and tuition level.


5. Most students pay for their college education with some combination of their own funds (savings, parents’ money, gifts), scholarships, and student loans. For example:

To attend the University of Cincinnati for four years and live on campus, you will need $27,948 per year or a total of almost $112,000. Distribute or project Handout/Visual 3: College Costs. Explain that this page summarizes the estimated cost to attend the University of Cincinnati. To keep the example simple, assume that the annual cost will remain the same for four years. Of course, the cost will actually increase a little each year.

Use this example for students. Ask: How much might you owe for college loans after four years? Assume these percentages for the example:

| Total cost (4 years) | 100% | $112,000 |
| Savings and Income  | 40%  | $44,800  |
| Scholarships       | 20%  | $22,400  |
| Loans (debt)       | 40%  | $44,800  |
On the board or a chart pack, copy the information below. Students should be able to determine how much they will owe after four years.

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
<th>$112,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost (4 years):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savings and Income:</td>
<td>40%</td>
<td>_______</td>
</tr>
<tr>
<td>Scholarships:</td>
<td>20%</td>
<td>_______</td>
</tr>
<tr>
<td>Loans (debt):</td>
<td>40%</td>
<td>_______</td>
</tr>
</tbody>
</table>

For more information about the costs to attend other colleges and universities, see the College Costs Website, http://collegecost.ed.gov/. For specific cost information for different colleges, go to their websites.

6. After completing step 4, students should assume they will owe $44,800 for their college loans after graduating. Explain that, in addition, college loans will begin to accumulate interest charges after graduation. Ask: What is the next step? How will they earn the income to repay the debt from the college loans?

This is a good time to further explain the concepts of “debt” and “interest.”

Define **debt** as money owed to someone else. It is also the state or condition of owing money (being in debt.) Debt can be individual, corporate or government debt. In the context of this lesson, debt is the amount owed for college loans.

Define **interest** as money paid regularly, at a particular rate, as payment for the use of borrowed money. The interest payment is in addition to the amount (principle) borrowed. In the context of this lesson, interest is the cost of borrowing through college loans.

Project or distribute copies of Handout/Visual 4: Starting Salaries for Selected College Majors, 2011-2012. An option is to go to the Pay Scale Inc. website to look at a longer list of potential college majors. (http://www.payscale.com/best-colleges/degrees.asp) Remember, these are averages and actual incomes for recent graduates may vary greatly due to a variety of factors.

Review the starting and mid-career incomes for various college majors. This is an opportunity for students to ask questions about the majors or to do some research on their own.

Remind the students that the general guideline is to not owe more than a year’s salary and that a person’s college loan payments should not be more than 10 percent of their salary.
7. Project or distribute copies of Handout/Visual 5: How Much Debt Can You Repay? This page provides sample data about the amount of income required to comfortably repay college loans, assuming loan payments no larger than 10% of annual income.

Explain: According to these guidelines, you will have to earn about $60,000 ($5,000 per month gross pay) in your first year to be able to begin comfortably repaying your $44,800 student loan debt. If you do not earn at least $60,000 annually, you will have to give-up some other expenses when you begin to work.

Ask students what they might give-up if they had to pay off their students loans. How might it affect their lifestyles after college if their loan payments are $500 per month?

Lesson Conclusion

Restate the conclusion of Handout/Visual 5, How Much Debt Can You Repay?, “With a 6.8% interest rate and a balance of $44,800, your payments will be $515.56 per month for a total repayment of $61,867 over ten years.”

Ask the students to revisit Handout/Visual 2, Education Pays. Ask: What is the most important thing you should consider when deciding to borrow to finance your college education? Students should conclude that the benefits (future income) should outweigh the cost of borrowing (repaying the loan.)

Lesson Assessment

Use Handout 5: Student Loan Decision-Making Checklist, as a review of the lesson and for students to summarize the main ideas from the lesson. Students should be able to articulate their understanding of the decision about borrowing to finance a college education?

[Students should be able to generally identify at least two benefits and two costs of a college education, including the effects of accumulating college loan debt.]
Education pays in higher earnings and lower unemployment rates. The levels of educational attainment are listed in the center column, from a high school drop-out to a doctoral degree. Median weekly earnings* for each group in 2011 are listed on the right side. The average 2011 unemployment rates for each group are listed on the left side.

**Note:** This data is for persons age 25 and over, full-time wage and salary workers.


*The median is the amount which divides a series of numbers into two equal groups, with half more than that amount, and half less than that amount. In the series $1, $4, $9, $17, $29, $43, and $55 - $17 is the median.*
College Costs  
University of Cincinnati  
Estimated Tuition, Housing, Food, and Incidental Expenses 2012-2013

The projected 2012-2013 University of Cincinnati total cost for a full-time undergraduate student living in a residence hall is $27,948.

Estimated student expenses for 2012-2013 are:

- Full-time Undergraduate Tuition: $10,784
- College Program Fees\(^1\): $125 to 300
- Residence Hall with Meal Plan\(^1\): $10,170 to $11,494
- Student Health Insurance\(^1\): $1,588
- Books and Supplies\(^2\): $1,540
- Transportation\(^2\): $532 to $1,086
- Personal Expenses\(^2\): $3,960 to $6,936

\(^1\) UC Financial Aid estimates for 2012-2013  
\(^2\) Average estimates for 2012-2013

Comments from the UC Financial Aid website: “The cost of attending UC consists of direct and indirect costs. Direct costs on your quarterly bill are tuition (instructional, general, technology, campus life, and program fees), room and board (for students residing on campus), and health insurance (if insurance coverage is not documented). Attending college also includes indirect costs. Items such as books and supplies, transportation and parking, personal expenses, and off-campus rent are part of your budget though they will not be billed by the university.”

“In addition to the direct fees detailed above, we recommend you budget $1,540 for books and supplies, $532 to $1086 for transportation, and between $3,960 and $6,936 for personal expenses per academic year. The total amount we budget for an on-campus, full-time undergraduate, Ohio resident is $27,948.”

Source: [http://financialaid.uc.edu/fees/costs13.html](http://financialaid.uc.edu/fees/costs13.html)

Note: Annual out-of-state tuition for 2012-2013 is $25,816.
<table>
<thead>
<tr>
<th>Major</th>
<th>Starting Median Pay</th>
<th>Mid-Career Median Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering</td>
<td>$64,500</td>
<td>$109,000</td>
</tr>
<tr>
<td>Computer Science</td>
<td>$56,600</td>
<td>$97,900</td>
</tr>
<tr>
<td>Economics</td>
<td>$47,300</td>
<td>$94,700</td>
</tr>
<tr>
<td>Construction Management</td>
<td>$50,200</td>
<td>$85,200</td>
</tr>
<tr>
<td>International Business</td>
<td>$41,600</td>
<td>$83,700</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>$47,900</td>
<td>$83,100</td>
</tr>
<tr>
<td>Political Science</td>
<td>$39,900</td>
<td>$80,100</td>
</tr>
<tr>
<td>American Studies</td>
<td>$43,400</td>
<td>$78,600</td>
</tr>
<tr>
<td>Information Technology (IT)</td>
<td>$48,300</td>
<td>$78,500</td>
</tr>
<tr>
<td>Urban Planning</td>
<td>$41,500</td>
<td>$78,000</td>
</tr>
<tr>
<td>Marketing &amp; Communications</td>
<td>$38,200</td>
<td>$73,500</td>
</tr>
<tr>
<td>Fashion Design</td>
<td>$36,300</td>
<td>$72,400</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>$40,200</td>
<td>$71,200</td>
</tr>
<tr>
<td>Business</td>
<td>$41,000</td>
<td>$70,500</td>
</tr>
<tr>
<td>Nursing</td>
<td>$52,700</td>
<td>$69,300</td>
</tr>
<tr>
<td>Communications</td>
<td>$38,000</td>
<td>$66,900</td>
</tr>
<tr>
<td>Sports Management</td>
<td>$35,400</td>
<td>$65,100</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>$37,800</td>
<td>$63,200</td>
</tr>
<tr>
<td>Health Care Administration</td>
<td>$36,700</td>
<td>$60,900</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>$35,300</td>
<td>$58,900</td>
</tr>
<tr>
<td>Education</td>
<td>$36,800</td>
<td>$54,700</td>
</tr>
<tr>
<td>Multimedia and Web Design</td>
<td>$40,400</td>
<td>$53,900</td>
</tr>
<tr>
<td>Athletic Training</td>
<td>$34,600</td>
<td>$50,200</td>
</tr>
<tr>
<td>Culinary Arts</td>
<td>$29,900</td>
<td>$46,800</td>
</tr>
<tr>
<td>Social Work</td>
<td>$32,200</td>
<td>$44,300</td>
</tr>
</tbody>
</table>

* Mid-career is 15 years of work experience.

This chart is based on the PayScale, Inc., Salary Survey data for full-time employees in the United States who possess a Bachelor’s degree and no higher degrees and have majored in the subjects listed above. Salary is the sum of compensation from base salary, bonuses, profit sharing, commissions, and overtime, if applicable. Salary does not include equity (stock) compensation.

How Much Debt Can You Repay?

How much income is required to pay-off a college loan? It depends on how much you owe and the interest rate. For this example, your college loan will have an interest rate of 6.8%.

<table>
<thead>
<tr>
<th>If you owe:</th>
<th>Minimum annual income requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $5,000</td>
<td>$6,905</td>
</tr>
<tr>
<td>$5,000 to $9,999</td>
<td>$13,810</td>
</tr>
<tr>
<td>$10,000 to $24,999</td>
<td>$33,143</td>
</tr>
<tr>
<td>$46,000</td>
<td>$63,525</td>
</tr>
</tbody>
</table>

The standard student loan repayment schedule is 120 months (10 years).

With a 6.8% interest rate and a balance of $44,800, your payments will be $515.56 per month for a total repayment of $61,867 over ten years.*

Can you afford $515.56 per month on your starting salary?


You can calculate the repayment schedule for any student loan balance using the Start Here, Go Further: Federal Student Aid loan calculator.
Student Loan Decision-Making Checklist

Check-off each item you completed in the College Loan Debt: Is It Worth It? Lesson.

- Have you explored the relationship between levels of educational attainment and income?
- Have you explored the costs of a four-year college education?
- Have you explored the starting income you can anticipate with a bachelor’s degree in the college major of your choice?
- Have you learned how to determine what it will cost to repay a college loan?

Your thoughts? What decision will you have to make about borrowing to finance your college education?

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