Introduction

These days, it’s nearly impossible to open a newspaper without encountering more bad news about the rising costs of college and student loan debt. Colleges and universities often counter arguments that higher education costs so much by claiming that it is worth so much, but is it? And is all college education worth the same to all students?

The decisions of where to go to college and how to pay for it are very likely the biggest financial decisions your students will have to make up to this point in their lives, and will have consequences for the rest of their lives. Therefore, these questions present a salient opportunity to introduce themes of financial literacy that might otherwise seem hopelessly abstract and distant, such as the terms of loans, different types of savings accounts, and how to weigh the costs and benefits of a major decision, especially when some of those costs and benefits are uncertain.

1 http://www.mercurynews.com/education/ci_25307144/rising-college-costs-poorer-families-bear-greatest-burden
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Real-life problems rarely come with all of the information needed to find a solution spelled out. Sometimes the biggest challenge is recognizing that there is even a problem to be solved. Although prepackaged problems help develop specific strategies and skills, students also need to learn how to tackle “messy” problems—those problems that are not nearly so clear-cut or obvious. Deciding which college to attend is just such a dilemma because the first and most important decision is deciding how to decide.

In this case, 14-year-old Tom faces a difficult set of decisions: where should he attend college; is a small, private college worth the greater expense than a large, public university; and how should he pay for college? These decisions are complicated by many layers of uncertainty—he doesn’t know for sure which college will be a better fit for him, or how much financial aid he will get, or how much things will change over the next 4 years. Right now, his top two choices are to attend Ohio State University, with a net cost of $13,500, or Xavier, with a net cost of $19,500.

- Is it all about cost and a comparison of sticker prices?
- What about the likelihood of financial aid?
- Is school size a factor?
- What about the college’s prestige?
- Is geographic location a factor?

Dilemma

When, if ever, should someone like Tom, a 14-year-old in a middle-class family with three other children and little discretionary money, set his sights on a small private college, rather than the less expensive state university?

- Should the teenager take on an after-school job to save towards college when he or she turns 16?
- Should the family insist that the child attend a less expensive community college for 2 years and then transfer to a 4-year program?
- Should the family consider borrowing as a way of financing Tom’s education?
- Based on the net costs of the two colleges, can the family even afford the more expensive choice?
What Students Will Learn

This case engages students in a decision that they will face themselves in the near future, or may even be grappling with at the moment. The case presents students not just with important content and information that will help them make better decisions about where to attend college and how to pay for it, but also with problem-solving skills that will equip them with analytical tools to handle uncertainty in many situations.

Problem-Solving Skills

- To conceptualize and engage with a hypothetical case study as a true problem, not one that fits neatly into, and illustrates, a preordained solution
- To analyze a dilemma from multiple points of view (Tom, parents, siblings)
- To analyze a dilemma in terms of the choices presented as well as those not presented (community college, working for a “gap” year, . . .)
- To systematically weigh the costs and benefits of a complex decision, when some of those costs and benefits are uncertain
- To incorporate and critique multiple sources of information, including technical and financial information, to solve a problem

Related Financial Literacy Concepts

**Benefits of credit/borrowing to invest in the future:** Borrowing money to pay for college is generally regarded as an investment and a decision that should be evaluated differently than borrowing to pay for something like a luxury automobile.

**College savings plans (e.g., 529 plan):** Many states and educational institutions offer special savings plans with tax benefits to encourage families to engage in private saving for college. These plans should be carefully reviewed to fully understand the terms, any associated fees, and the likely return on the plan.

**Interest rates (APR):** The interest rate is the cost of borrowing money to compensate the lender for the time the money is used and for the risk; borrowers pay interest on loans, and savers receive interest. The annual percentage rate, or APR, is the interest rate paid on a loan expressed as a yearly percentage.

**Net cost:** Although the sticker prices of the colleges under consideration are widely different, a strict cost comparison cannot be made until the family determines the net cost at each college—that is, the cost after extra expenses (travel to a more distant campus, for example) have been added in, and probable financial aid subtracted.
**Opportunity costs:** Opportunity cost is the value of goods or services measured in terms of what had to be sacrificed (the next best alternative) in order to obtain the item or service. If Tom takes an after-school job, he will give up the opportunity to participate in any afterschool activities, which, in addition to their intrinsic educational value, can help him get into a competitive college and receive more scholarship aid.

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**In the Classroom . . .**

1. **HOMEWORK**

Assign the case study for homework. Tell students that in order to be completely familiar with the facts of the case they should read it twice: once to get an overview of the case and then a second time to make note of the facts that seem most important. As they read a second time, students should make a list of the key issues or questions in the case and bring the list to class, prepared to discuss.

2. **AS A WHOLE CLASS**

**Agree on a detailed understanding of the facts.** As an entire class, first ask students to recap what they consider to be the key facts of the case so everyone has a shared understanding.

**What do you notice?** Encourage students to raise important questions, but steer them away from jumping to solutions before they have had a chance to fully examine all of the issues at hand and do more research on how they might help Tom. Remind them that their role is to help Tom and his family, so caution them against making value judgments about him or rushing to conclusions.

**Identify the dilemma.** Show students a sample dilemma map on a different topic from “Using the Quick Start Guides.” Walk them through how a dilemma map visualizes a range of options that “branch out” with each leading to further options. Once students understand how the map works, begin drawing a map for this case, without showing them the model map for this case yet. After agreeing on some of the major issues in the case, tell students that a major part of their group work will be to agree on how to map the decisions embedded in the dilemma.
SMALL-GROUP DISCUSSION: PART 1

Break students into groups of about 4–6 based on grouping strategies you normally use. Orally or on the board, give them directions to do the following as a group:

1. First, consider what questions need to be answered in order to complete a decision map for Tom and help him and his family resolve the dilemma. Make a list of what they need to know and where they can find the information.

   Examples of questions that could be answered with information from the resources include:

   - What are the benefits of attending college?
   - What is the range of college options?
   - What is a 529 plan? What are the other options for saving for college?
   - What resources exist to help pay for college?
   - What are the pros and cons of the various options for paying for college?

2. Scan the list of resources to determine which ones would be most valuable to answer the questions the group has and give them more information to understand the decisions that need to be made.

PAIRED RESEARCH

Students should now be divided into pairs. Each pair should receive a small set of the resources deemed valuable in the previous section. Students will then examine each resource so they can first come to their own understanding and then confer with a partner to come to a shared understanding.

For each resource, students should identify relevant information and evidence that answers their questions. They should also consider the credibility of the information and of the resource itself, examining the source of the information, any potential sources of bias, and how well the resource defends the information it provides.

Suggested adaptation: The resources vary in difficulty with regard to reading level. For students who are reading below grade level or whose first language is not English, teachers may wish to preview all of the resources and assign particular resources to individual students in advance. For students with information processing
challenges, teachers may wish to give examples of the types of questions students can answer with each resource to guide their reading and limit the number of cognitive tasks students need to complete simultaneously.

5 SMALL-GROUP DISCUSSION: PART 2

After they have had some time to examine the resources, students should come back together and share what they’ve learned and how it answers their questions. They should also note what questions remain and what further questions arise from the new information.

Students can use the organizer provided at the end of this guide to keep track of the financial figures in the case. A sample with some data from the case already filled in is included below. As an adaptation of this case, teachers may wish to model filling in part or all of the organizer for students.

Example of completed organizer:

<table>
<thead>
<tr>
<th>School</th>
<th>Sticker Costs</th>
<th>Aid</th>
<th>Probable Net Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tuition and Fees</td>
<td>Room and Board</td>
<td>Other Costs</td>
</tr>
<tr>
<td>Ohio State</td>
<td>10,037</td>
<td>10,392</td>
<td>4,000</td>
</tr>
<tr>
<td>Xavier</td>
<td>33,000</td>
<td>10,520</td>
<td>4,000</td>
</tr>
<tr>
<td>Difference</td>
<td>22,963</td>
<td>128</td>
<td>0</td>
</tr>
</tbody>
</table>

The group should then discuss the conclusions they can draw from the cost data and the questions they still have. Groups may note that, in particular, the level of institutional aid is highly uncertain and based on speculation on Tom’s part. They may also note that the differences in net costs are much lower than the differences in “sticker” costs, but an additional $6,000 per year is still a lot of money, so two important questions remain—would Xavier be a better choice that justifies that additional expense, and can Tom and his family even afford an additional $24,000 over 4 years?

The group should then revisit their dilemma map and determine if they wish to add or change anything, now that they have additional information from the resources.
As groups begin to dig into the case, listen for signs that students are beginning to approach the case with a structured, problem-solving approach. Such signs may include:

- Inventorying what is known and unknown about the case
- Specifying the main questions/problems/dilemmas in the case
- Creating a set of criteria by which to evaluate options
- Investigating suggested resources and determining what information can be gleaned from each

If groups very quickly converge on one solution, you may wish to challenge their thinking by introducing some of the “Complicating Factors” listed on the next page. These factors reflect research on college costs and benefits and add complexity to the case, which belies simple solutions.

6 WHOLE-CLASS SHARE-OUT AND DEBRIEF

Groups will now share their maps and recommendations to Tom and his family with the entire class. As they present, the class should discuss what the groups have in common, what is different, and why. Additional discussion questions include:

- What is known and unknown in this case?
- How does uncertainty affect the decision-making process?
- Does the perspective matter? Does your advice to Tom differ from your advice to his parents?
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Complicating Factors

- College savings plans carry fees and are subject to market fluctuation.
- Only 15% of students who begin community college complete a 4-year program within 6 years.4
- Students near the top of the distribution of academic achievement but the bottom of the income distribution are less likely to complete college than those near the bottom of the academic achievement distribution but at the top of the income distribution.5
- The average net cost of a private nonprofit college is about $20,000, which is about 57% of the sticker price. Although the sticker price has risen rapidly, the net price, adjusted for inflation, has remained relatively stable for about 10 years.6

4 http://content.nwacc.edu/publicrelations/CostContainment/NSC_Signature_Report_4.pdf
5 http://www.epi.org/publication/webfeatures_snapshots_20051012/

Extensions

1. Once students have come up with a reasonably defensible plan for Tom, challenge them to consider how their plan might change for other students. What if:

- Tom was not a slightly above-average student, as in the case, but rather was an academic superstar, maintaining a 4.0 average with all AP classes? In this scenario Tom lives with his single mother and four siblings and they barely manage to get by on his mother’s full-time, minimum wage salary of $15,000 per year, plus approximately $9,000 in various forms of public assistance.

- Tom was a slightly below-average student, maintaining a low C average, whose family made a middle-class income, but Tom was one of the best trombone players in the county?

- Challenge students to come up with their own scenarios that would change the decision for Tom. The key is not the scenario itself, but how it would change the decision-making framework.
2. Introduce students to some recent research on behavioral economics, including the cognitive overload introduced by an overwhelming number of choices. Ask students how this relates to the case, as well as their own experiences in, for example, applying for college and for financial aid. Challenge students to propose changes to the college admissions and financial aid process (including the FAFSA) that might lead to better decisions and better matches between students and colleges. Ask students to also consider what kinds of information about colleges are most useful to students and families when making these decisions, what they think of President Obama’s proposals to provide more information about colleges to families, and how they might modify those proposals. Some suggested resources for these extensions are:


- An introduction to some of the ways our own cognitive biases can lead us astray in decision making: http://www2.gsu.edu/~dscthw/x130/Heuristics-biases.html
Completed Dilemma Map

Net Price of College

How should I save for college?
- 529 Plan
- In-state
- Out of state

Where should I attend college?
- Private
- Public
- Live on-campus
- Commute
- 4-year
- 2-year
  - Enter job market
  - Transfer to 4-year

How should I pay for college?
- Student job
- Savings
- Parental support
- Loans
### Organizer

<table>
<thead>
<tr>
<th>School</th>
<th>Ohio State</th>
<th>Xavier</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
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<td><strong>Sticker Costs</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Other Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Institutional Aid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions and Comments About Aid</td>
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<td></td>
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</tbody>
</table>

**Questions and Comments About Costs**

**Questions and Comments About Aid**

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