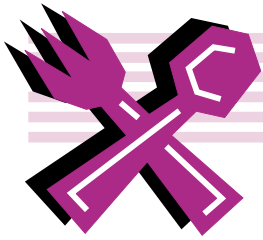




The High School Food Court





The High School Food Court

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John Mergendoller, Ph.D.
Executive Director

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The High School Food Court

Problem Statement



How can we, as the Student Council, allocate the food concessions in the new Food Court so that the Student Council gains revenue and serves the needs of the competing constituencies?

★ Introduction

Using the problem based learning approach, students will explore how the forces underlying demand and costs (supply) result in the production of specific goods and services, which may not satisfy the desires of all groups.

★ Placement in Curriculum

This unit is designed to teach students about demand and costs. Prior to undertaking this problem, students should be familiar with the concepts that were learned in **Running in Place** and **The Great Awakening**. A complete listing of content standards and concepts associated with each unit can be found in Appendix I of the **Introduction**. Please refer to this table to determine the concepts that students should be familiar with before undertaking this problem.

★ Concepts Taught

*The curriculum was designed to teach the following concepts:
(see definitions, Appendix III)*

- Competing Needs
- Costs (of Production)
- Demand
- Demand Schedule
- Economic Profit
- Equilibrium Price
- Equilibrium Quantity
- Opportunity Costs
- Profit
- Scarcity
- Total Cost
- Total Revenue
- Tradeoff

Teachers can also demonstrate the following concepts using this lesson:

- Demand Curve
- Direct Costs
- Elasticity
- Fixed Costs
- Indirect Costs
- Law of Demand
- Law of Supply
- Supply
- Supply Curve
- Supply Schedule
- Variable Costs

★ Objectives

Students will:

- Recognize that scarce resources dictate that not all goods and services that individuals want will be produced in a market-driven economy
- Recognize that the costs of production sometimes exceed the price that individuals are willing and able to pay for the good
- Recognize that economic profit is the key to production of goods and services in a market-oriented economy
- Identify the factors that underlie demand
- Identify the factors that underlie the cost of production (or supply)
- Demonstrate an understanding of unit concepts
- Realize that the definition of what is fair is normative and subject to much debate

★ Content Standards

In a market-based economy the allocation of resources by profit maximization will generate the most efficient use of resources but some groups or individuals will be unhappy with the goods and services that are produced. This content, which is central to **The High School Food Court Problem**, addresses the following *Voluntary National Content Standards in Economics*:

Standard	Economic Concept	
1	Scarcity	✓
2	Opportunity Cost	✓
3	Market Systems (allocation of goods & services)	✓
4	Economic Incentives (prices, wages, profits, taxes, etc.)	✓
5	Free Trade & Voluntary Exchange	
6	Specialization & Free Trade	
7	Market Economies	✓
8	Supply & Demand	✓
9	Effects of Competition	★
10	Economic Institutions	
11	Money	
12	Interest Rates	
13	Income & Productivity	
14	Entrepreneurship	
15	Investment	
16	Public Policy Alternatives	★
17	Public Policy Costs	✓
18	Gross Domestic Product	
19	Unemployment & Inflation	
20	Fiscal & Monetary Policy	

Note: Standards are based upon the *Voluntary National Content Standards in Economics*, which were developed by the National Council on Economic Education in partnership with the National Association of Economic Educators, the Foundation for Teaching Economics, and the American Economic Association's Committee on Economic Education.

✓ = a standard that is met with this curriculum

★ = a standard that could be met with this curriculum

★ Time Required

1 week (5 days)

★ Lesson Description

Students are instructed to select the five restaurants that will operate in the new Food Court at the high school. Twelve restaurants have applied for the right to operate, but only seven of them are able to earn a profit. Because more restaurants want space in the Food Court than can be accommodated, students must understand the process of allocation and apply the principles of demand and costs to determine which restaurants are suitable for operation. In the first stage of the problem, students will identify the seven profit-generating restaurants by comparing demand and cost schedules for each restaurant's main product. Then the students will break up into groups, each of which represents a segment of the Student Council. Each group must select five of the restaurants they believe should operate in the Food Court. The Student Council is allowed to receive 20 percent of each restaurant's profit but is subject to interest group pressure for specific restaurants. The groups will be forced to wrestle with allocations that would arise from both market and political pressures. A visual presentation with posters and graphs will be made to the School Board by each group and will serve as the evaluation portion of the problem.

★ Resource Materials

Resources are distributed to the students at different points in the problem and are discussed in the *Research and Resources* portion of this manual. See the *Sequence of the Unit* for one example.

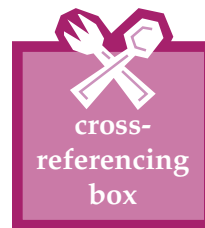
Resource Materials Include:

- **Instructions from the Principal to the Student Council**
- **A description of each of the restaurants (Restaurant Bidders)**
- **Demand and cost information**
 - **Table 1: Demand for Entrees at Oak Grove High School**
 - **Table 2: Cost Data**
 - **Table 3: (Computed) Total Revenue**
 - **Table 4: (Computed) Total Costs**
 - **Table 5: (Computed) Daily Profit**
- **Audio phone messages and written transcripts of individuals lobbying the Student Council**
 - **from the Principal to the Student Council**
 - **from Rita Price, Executive Director of Grove Area School-to-Work Program**
 - **from Edith Cash, PTA President**
 - **from the Galloping Gourmets Club**
 - **from Vital Vegetarians**
 - **from Ms. Loer, School Counselor**
 - **from the Principal regarding Ms. Stravinsky**
- **Memo from Eric Wong, Secretary of the School Board**
- **Classroom economics textbook**
- **Questions for three individuals from the community and the teacher who represent School Board members (audience questions)**
- **Five minute timer**



★ The Sequence of the Unit

Because problem based learning is grounded in students' constructing knowledge from real-world applications, the sequence of learning will differ in each class. As a result, it is virtually impossible to describe the exact unfolding of this problem even though it has been tested on several occasions. What follows is an example of the sequence of the problem during one class. We have used this particular sequence in our *Procedures* section. The phrases highlighted below are cross-referenced in the boxes for easier detection.

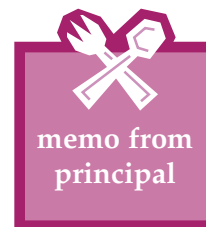


- Discuss the **memo from principal** with the whole class
- Develop the **initial problem statement** with the whole class
- Develop the **initial list of know and need to know** with the whole class
- Have students make **initial problem log entry**
- Discuss **restaurant bidders list** with the whole class
- **Revise the list of know and need to know** with the whole class
- Have students make **second problem log entry**
- **Revise the problem statement** with the whole class
- Discuss information from the **tables** (financial analyst in district office provided) with the whole class
- Undertake **benchmark lesson** on demand and cost curves in class (optional)
- Optional: Assign **homework** on table computations (can do in class or integrate with spreadsheet)
- Have students make **third problem log entry**
- **Revise the problem statement** with the whole class
- **Revise the list of know and need to know** with the whole class
- Listen to **audio tape** (stop after each caller and discuss what information is gained through listening)
- Have students make **final problem log entry**
- **Final know/problem statement**
- **Memo from Eric Wong**
- Break students into **groups** of Student Council members to pick restaurants
- Undertake **benchmark lesson** on determinants of demand (optional)
- Students give **presentations** with questions from School Board
- Collect and give feedback on **visuals** and speech
- Use **rubric** (Appendix VI) to grade speeches
- **Wrap-up and debrief** with the whole class

★ Procedure

Entry Point

Students are given a copy of a memo from the high school principal to the Student Council. This memo explicitly tells students that they, as the Student Council, are to select the restaurants that will serve food in the Food Court in the new student center. [Students are likely to ask what the students did for food before the Food Court opened. One potential scenario is that temporary food vendors (like lunch trucks) served food until the Food Court opened. The idea is that the Food Court begins from ground zero].



Students are directed to select five of the twelve restaurants that have made an application to serve food. They must first determine the profit that each restaurant will make and then make selections based on the needs of the diverse student body.

SEE ENTRY DOCUMENT, APPENDIX I

Framing of the Problem

Once the entry document is discussed, students draft a tentative problem statement. Students should be prompted to start this process by filling specific information into the general problem statement form:

How can we, as ?, do ?, so that ?



The initial problem statement may be far from the problem statement that we presented at the beginning of this lesson. This is expected. It is hoped that the problem statement will evolve as students gain more insight and knowledge of the problem and its underlying issues. Remember, the problem is intentionally ill-defined so students must grapple with economic issues and concepts. It is this continual struggle from which knowledge is built. The initial statement may look something like:

How can we, as the Student Council, choose five restaurants based on an established criteria, so that the needs of the students are met, the Student Council gets money, and restaurants maximize profits?

Note: Should we now try to integrate economics into this problem statement? It is not critical at this point, but if the class can get there, go with it.

Remember, for now, it is fine to keep the problem statement ill-defined. The problem statement will become more refined as the lesson unfolds.

Knowledge Inventory (Know/Need to Know)

After reading the memo from the high school principal and constructing the problem statement, students must assess what they know in order to answer the question. This can be done as a class by identifying all the information that the entry document provides. The know/need to know inventory will differ for each class because students are struggling with identifying the knowledge that they have and with defining the body of knowledge that they do not have.



As part of this process, students should also be coached to identify information that they need to know in order to provide a solution to the problem statement. Without a doubt, students will suggest things that they need to know that, in reality, they do not need to know. Now is not the time to filter these questions out of the process. Rather, allow students to see their irrelevance once additional information is discovered.

An example of the type of items that might appear on the initial know/need to know list follows. *Remember that every class will produce a different list and that every idea should be put on the board.* Sometimes seemingly strange ideas that come from a know/need to know discussion result in some of the more creative approaches to the problem's solution.

Examples of Initial Know/Need to Know

What do we know?

- There are twelve restaurants
- There are five spaces available
- Dr. C is principal
- We are the Student Council
- Food Court is in the new student center
- We get 20% profits from restaurants
- School Board sets parameters
- Student Council must justify selection to School Board
- Speech to School Board in one week
- Can spend money from profit any way we want in accordance with by-laws
- Must take into account interests of student body
- School Board is supportive—voted unanimously
- Which restaurants are profitable is the first thing to be determined
- School Board must vote on the proposal
- No profit means no money for Student Council
- Rationale for picking restaurants must be grounded in economic thinking
- More revenue means more events
- No set up fees for restaurants exist
- Campus is closed, students must eat on campus
- Selection of restaurants is for four years

What do we need to know?

- What are the interests of student body?
- Which restaurants make a profit and how much?
- What foods do restaurants have?
- Can we afford/select a restaurant that isn't profitable if it meets needs?
- How much money does Student Council need?
- What percentage of the total Student Council budget is this?
- How big is the school?
- What are student demographics?
- How big is the student body?
- Can students work in the restaurants?
- Is the information on costs of restaurants available?
- What is "oversight"?

The Problem Log

Throughout the problem, each student will keep a problem log that helps the student and teacher follow the construction of the student's knowledge. The log should be checked periodically by the teacher to ensure that students stay focused on the economics underlying the discussion about which restaurants come into the Food Court. This requires an understanding by the students of what components determine a firm's profit—demand, costs, and revenue.

The problem log can be introduced after initial problem statement has been developed and after the class does the initial know/need to know series. At this point the students should be asked to start their problem log by brainstorming what they believe to be the major issues.

► **Potential Question to Ask:** What do you think are the most important issues the Student Council must consider?



Research and Resources

ALL RESOURCES ARE LOCATED IN APPENDIX IV

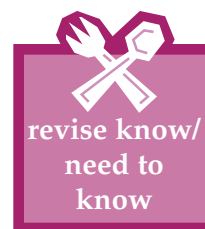
The first resource that students are given is the Restaurant Bidders List. This list can be discussed by the class as a whole to determine what information can be gained from the restaurant descriptions. Remember that you want to eliminate as much of the need to know list as soon as possible, so use the Restaurant Bidders List to get some of this information. Students can quickly jot down pluses and minuses about each restaurant and thereby determine what they've learned and what they still need to know (e.g. healthy, low cost, food looks good). For example, they might list that they now know which restaurants are bidding but they still need to know:

- prices and costs (menu vs. price)
- where open
- space concerns
- ethnic background—demographics
- school lunch program participation
- how big is school
- food service style—serve in time constraints
- profit projections

The problem log should be used after the Restaurant Bidders List is discussed. Students can write down the perceived positives and negatives about each restaurant for future reference.

► **Potential Question to Ask:** What are the positive and negative features of each restaurant?

Students may or may not wish to revise their problem statement at this point.



Now, students should be given Table 1, the demand schedule of each of the restaurants, and Table 2, a schedule of each restaurant's costs, including both fixed costs and the factor by which variable costs increase. This information comes from the finance department of the district office. The teacher should spend time with the students on these tables and show them how to interpret the numbers.



Table 1 is the *demand schedule* for each restaurant's mainstay entree. Price is located in the first column of the table and the amount that students will purchase at each restaurant at each price is located in the remaining columns. Students should note that demand varies with students' "taste" for food. This is illustrated by selecting a price and comparing levels of demand. For example, at a price of 5 cents (.05), we see that only 10 kids will eat borsch but 500 kids will eat chicken. You should also note that the law of demand holds. For each restaurant, as price falls, more will be purchased. Numbers in Table 1 will be used to compute total revenue in Table 3 and to determine the quantity sold (at each price) in Table 4.

The Benchmark Lesson on Demand in Appendix II shows how Table 1 can be used to teach about demand. This table (and others) can also be used to illustrate how students can make and interpret graphs. This is shown in the Benchmark Lesson on Graphs, which is located in Appendix II.



► **Potential Hurdle:** Students sometimes do not see that "will be purchased" and "quantity demanded" are equivalent phrases. That is, the demand curve, which tells how much of a good *will* be purchased at each price, reflects the *quantity demanded* at each price. Potential confusion may arise unless students fully understand that quantity demanded means ability and willingness to purchase a good at a given price.

Table 2 shows the costs associated with making each entree for each restaurant. It illustrates the concepts of *fixed costs* and *variable costs*. Numbers in this table will be used to compute total costs (Table 4). Fixed costs are shown for each restaurant in the section labeled "stall and equipment rental." These costs do not vary with output. They are the same for all restaurants except the Home Economics Kitchen, which receives a subsidy from the Department of Agriculture in the form of free stall and equipment rental. Table 2 should be used to show how costs might differ among firms.

Variable costs are shown for each restaurant in the section labeled "labor and ingredient costs." These costs vary with output. They also differ for each firm. Labor costs depend upon the quality of the labor (e.g. the "nationally known chefs" at Fleur de Lys cost more than students in the Wildcat's Den) and the amount of time spent in preparation (e.g. preparing salads at Sally's Salads is more time intensive than opening canned potatoes at the Home Economics Kitchen). Ingredient costs vary with quality.

Table 2 should be used to illustrate the relatively wide variation in costs. For example, the Home Economics Kitchen can operate at very low costs (and hence prices) while Fleur de Lys has extremely high costs and, as a result, will only operate if sufficient demand exists at relatively high prices. The Benchmark Lesson on Costs and Supply in Appendix II illustrates how Tables 2 and 4 can be used to teach about production costs and quantity supplied.

► **Potential Hurdle:** Students often want to make a supply schedule from the cost figures provided in Table 2. It is imperative to distinguish between a firm's cost curves and an industry's supply curve. Firms make production decisions based on their (marginal) cost curves. While students are not asked specifically to compute marginal costs in this problem, they will, in Table 5, be shown that firms establish (equilibrium) price and quantity sold at the point of profit maximization. Industry supply is something different. Assuming constant cost industries, the industry supply curve is simply a summation of the individual firm's supply curves, as is the case for industry demand. However, in this problem, we only have firm level data and we know that the products sold are not identical. As a result, we cannot sum supply or demand information across firms. For example, because Fleur de Lys and Taco Villa sell different products, we cannot sum cost or demand information to get market supply or demand curves. *It is but a short step to illustrate this potential with the information provided.*

Tables 3-5 are to be computed by the students. This can be done in one of several ways. Computations for select restaurants can be done in class with the remaining computations done as homework by groups or individual students. Alternatively, several examples can be done in class with the remaining answers given to the students, or students can be given the formulas and told to break up into groups to complete the computations. Dividing the work among groups will assure that figures for each restaurant will be computed.



Note: The tables in Appendix IV contain the computed answers. Tables without answers are provided in Appendix II so that they can be given to students as worksheets.

Table 3 has students compute daily Total Revenue using the information in Table 1. Multiply price times the number sold at each price for each restaurant. Students should compute the *total revenue* brought in at each price for some restaurants using this formula:

$$\text{Total Revenue} = \text{Price} \times \text{Quantity (sold)}.$$

For example, the total revenue at Taco Villa for 35 tacos at a price of \$3.00 is \$105.

$$\$105 = 35 \times 3$$

Table 3 can be used to illustrate the nature of the total revenue function. Total revenue will always rise, reach a maximum (at the point where price elasticity equals one—optional), and then fall. Students often think that total revenue can be increased forever by selling more goods. This table illustrates that this is not so.

Table 4 has students compute total costs. Students should compute the *total costs* borne at each price for some of the restaurants using the formula below:

$$\text{Total Cost} = \text{Stall Rental} + \text{Equipment Rental} + (\text{labor cost} \times \text{amount sold}) + (\text{ingredient cost} \times \text{amount sold})$$

The stall rental, equipment rental, labor cost, and ingredient costs are obtained from the *Cost Data* table (Table 2). The amount sold at each price is obtained from the *Demand for Entrees* table (Table 1). For example, the total cost for tacos at a price of \$3 is \$44.

$$\$44.00 = \$25 + \$5 + (\$.2 \times 35) + (\$.2 \times 35)$$

Once costs are computed at each price for each restaurant, students should recognize that fixed costs (\$30) occur for each restaurant (except the Home Economics Kitchen) even when nothing is being made.

► **Potential Hurdle:** It is important to note that fixed costs are borne even when the restaurant is not selling any food. This is easily illustrated by the fact that restaurants (and people!) must pay rent, even if nothing is sold, because they have a lease.

Table 5 shows how much daily profit each restaurant will make at each price. Students should compute the daily *profit* obtained at each price for some of the restaurants using the formula below:

$$\text{Profit} = \text{Total Revenue} - \text{Total Cost}$$

where Total Revenue is obtained from Table 3 and Total Cost is obtained from Table 4. For example, the daily profit for tacos at a price of \$3 is \$61.

$$\$61 = \$105 - \$44$$

Losses (negative profits) result when costs exceed revenue at a given price.

Once profits are computed at each price for each restaurant, students should recognize that the profit function increases and then decreases. Price is set at the point at which profits are maximized. The Benchmark Lesson on profit in Appendix II shows how this table can be used to illustrate profit functions.

Perhaps the most important use of the log in this lesson is as a check for the students' understanding of the tables. After each table is presented or discussed, students should be asked to note any difficulty that they have with the computations and concepts. It is important that teachers check logs at this stage to address problems. Students should note how they think the information contained in the tables might be used to help determine which restaurants should operate in the Food Court.

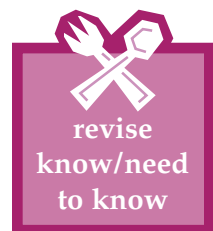


► **Potential Questions to Ask:** What problems, if any, did you have with the computations and concepts presented in the tables? How can you use the information contained in the tables to help choose the restaurants that will operate in the Food Court?

Once students have computed each restaurant's profit they should revise the problem statement and know/need to know. At this point, students should discuss factors other than profit that might be used to determine which restaurants should operate in the Food Court. They might suggest that the following factors are important:



- | | |
|-----------------------|--|
| ■ nutritional value | ■ ability to pay |
| ■ options | ■ speed of service |
| ■ variety | ■ method of payment |
| ■ appearance | ■ community involvement/social consciousness |
| ■ taste | ■ chain versus local |
| ■ cleanliness | ■ quality |
| ■ complimentary items | |



Once students have begun the discussion of potential restaurants operating in the Food Court, they will be provided with the final set of resources—an audio tape of individuals who are lobbying for specific types of restaurants. Each person should be heard separately with the teacher stopping the tape to discuss what is learned from each “lobbyist.” Students could be prompted to listen for information that answers the initial question, “What is each person’s motivation for calling the principal?” Students should hear that:



- **Rita is promoting the Wildcat’s Den so that students will be provided with career opportunities (25% of the students will benefit).**
- **Edith is promoting healthy foods and does not like fast food franchises.**
- **The Galloping Gourmets are interested in taste and quality. Money is not an issue for these students and their parents actively contribute to the Booster’s Club.**
- **The Vital Vegetarians are interested in the environment, animal rights, macrobiotics and natural foods. They are boycotting Taco Villa and the Hunan Wok because of their destruction of the environment.**
- **Ms. Loer is concerned about the price of food in the Food Court. Since the campus is closed, about 25% of the students may have difficulty affording lunches.**
- **Ms. Stravinsky, who has donated a lot of money to the school, owns the Borsch Palace. She suggests that she will consider donating money for the construction of the swimming pool and tennis court.**

These tapes should illustrate the idea of competing needs among different groups of students. Issues raised on these tapes may divert focus away from economic and toward political concerns. While it is important that students realize that non economic concerns often govern the distribution outcome (i.e. who gets the food), they should not lose sight of the profit motive. Should this happen, remind students that they get 20% of the profit earned from the restaurants that operate successfully in the Food Court and nothing for restaurants operating at a loss.

The problem log can be used after the students hear the audio tapes. Students can record in their problem logs the requests of different constituents and how they think this information might influence their selection of restaurants.



► **Potential Questions to Ask:** What are the various constituency groups asking for? How will this information influence your selection of restaurants? How does this information alter your economic reasoning about restaurants that should operate in the Food Court?

At this point, the know and problem statement should be revisited for the final time. Students should be told that they will not receive any additional information on the “need to know” list.



By now all of the research resources have been distributed. Students will receive one last memo from Eric Wong, Secretary of the Board, with instructions for their presentation. This memo also gives students background information on the Board members who will be asking questions during the presentations.



Students are now broken into groups to decide upon potential solutions to the problem. Students should be divided into groups of 3 or 4. Each group represents the Student Council. These are the groups that will examine the resources to select and justify the restaurants that will operate in the Food Court. This justification will serve as the basis for the oral presentation before the Board.



► **Potential Hurdle:** Two remaining concerns may exist: 1) students don't know the demographics of the student body, or; 2) they don't know last year's Student Council budget. As a coach, you should help students see that they do not need this information. The demand schedule in Table 1 outlines the "tastes and preferences" of the student body. This information tells what will be purchased. Students also do not need to know last year's Student Council budget. Instead, they should be coached to see that decision making should be grounded in the potential money that they could bring in from the Food Court (\$22,645.80) and that reductions from that figure, without regard for last year's budget, represent tradeoffs that must be made.

Teachable Moments, Dialogues, and Background Information

problem based learning is most effective with continual dialogue between the teacher (as a coach) and students. When students are left to discover knowledge or problem solutions on their own, without teacher coaching or use of problem logs, students may flounder or stray off track. To prevent this, teachers must actively direct students toward the curriculum goals with probing questions in class discussions, by circulating and listening to discussions in group work, and by evaluating the problem log with meaningful, useful comments.



Because problem based learning is grounded in constructivist learning, several "teachable moments" will arise when students readily see a need to know a particular economic concept or theory. During these moments, teachers can use several techniques to teach concepts or theories. For this purpose, we have included benchmark lessons so that more traditional lectures can be used to provide information on more difficult subject matter. Alternatively, a more Socratic method could be used where the teacher coaches and probes students toward knowledge of theories with the aid of textbook reading.

In this lesson we have included information in the following areas for potential benchmark lessons on demand, costs, profit, graphs, and homework tables.

demand

- general overview
- changes in quantity demanded
- changes in demand

costs and supply

- general overview of costs
- supply

general overview of profit

graphs and their meanings

blank tables for homework computations

- total revenue
- daily costs
- daily profit

BACKGROUND INFORMATION FOR BENCHMARK LESSONS IS LOCATED IN APPENDIX II

Exit From the Problem

Students, in their groups, are asked to prepare a presentation for the School Board. In this presentation, students must indicate the restaurants that they have chosen and justify their selection. They are required to have visuals (e.g. graphs, charts) and adhere to a strict five minute time limit. Remember that part of the skill building in this lesson is to prepare a concise presentation within the strict time limits and that School Boards often cut people off in mid sentence. Visuals should be turned in to the teacher before the presentation so that errors can be shown to students and corrected. Teachers should stress that *all* members of the group must be prepared to make the presentation or to answer questions. One way to ensure this is to randomly select, at the time of the presentations, the member of the group who will make the presentation.

After the presentation, community members who are playing assigned roles, and the teacher as the School Board president, will question students regarding their decisions. While community members will, no doubt, emphasize non economic criteria of selection, it is the teacher's role to stress the economic (i.e. highest profit) considerations. To keep the presentations and questions focused, the Board members should be limited to three questions each.

A rubric is provided in Appendix VI to guide the teacher's assessment of the presentations. This rubric can also be used to guide students in meeting the expectations of the assignment.

When assessing students, remember that problem based learning is most effective when the students are placed in real life situations. As a consequence, if



students begin to alter the authenticity of the situation, the learning environment can easily be reduced to fun and games. This negates much of the validity of the technique and knowledge gained from the unit. To prevent this digression, it must be stressed that data and theories used in all work must be accurate and reflect knowledge gathered from available resources. In other words, students cannot make up data and scenarios. They cannot give bogus answers to real situations.

Students must be coached to see that “I don’t know” is a legitimate answer to a question. This makes the classroom authentic. When presented with a problem outside of the classroom, there is always more information available, but time to seek out resources is limited. This is one of the lessons that problem based learning teaches. To enable students to gain this insight, they must learn to say that they do not have the data to give an appropriate, accurate answer. In other words, there are limited answers because data are limited. *Students cannot make up answers. They must use the information that is provided.*

Wrap-up and Debriefing

It is critical that the wrap-up and debriefing section of the unit not be ignored. This is the part of the unit in which students, as a class, are given feedback on both process and content. *It is imperative that incorrect knowledge or statements be corrected at this point in the problem.* How the debriefing is conducted is less important than the fact that it is conducted.



Process Debriefing

It is important that students have a chance to discuss how they felt about the process. This could be done with a series of questions. For example:

- **How do you think you did?**
- **Is there anything that you think you left out?**
- **Is it difficult when there is not one right answer to the problem?**
- **How does it feel to go through the problem without specific direction?**

These questions could be used to help guide the students toward a discussion about how the process helped them learn about economics.

Content Debriefing

Recognizing competing needs and tradeoffs is an integral part of this problem. As such, it is important that students see that the economic (i.e. market based) solution is the one in which the restaurants with the highest profit are selected. Students also need to see that this criteria may leave some students with limited alternatives (e.g. vegetarians can only get salads, and students cannot get trained without the Wildcat’s Den or Home Economics Kitchen). The competing needs of students, which arise out of scarcity in resources, means balancing economic versus non economic concerns. However, this balancing comes at a cost. The Student Council gets less money if they select restaurants that are not the highest profit makers and, as a result, must trade off some events for meeting student needs (opportunity costs).

Care should also be taken to ensure that students are comfortable with the economic determinants of profit. For example, demand is based on ability and willingness to pay, costs vary across firms, and profit levels could vary with changing student populations.



Do's and Don'ts

In reading through this problem, changes come to mind. In this section, we highlight changes that have worked and changes that have not worked. Please do not try the ideas that have failed, even though the temptation is great!

Ideas to try

The presentation to the School Board, which is the evaluation portion of the unit, provides a good opportunity to integrate this unit with a senior project.

The names of the restaurants may not appeal to your students. Feel free to change the restaurant names, however, be advised that the listing of restaurant bidders must then be changed and the audio tape may not reflect your new choice of restaurant titles.

If all of your students have a school e-mail account, you may choose to send the transcript of the audio tape (Appendix IV) as e-mail, in which case, you could change restaurant names.

Ideas not to try

The data provided in the tables cannot be changed without a tremendous amount of work. The demand schedule for each restaurant is carefully constructed to reflect revenue functions that are well behaved. Similarly, the cost schedules are carefully constructed to reflect well-behaved cost functions. Together the demand and cost tables reflect well-behaved profit functions and provide a good mix of profitable and unprofitable restaurants. While it is tempting to have students collect their own data on student preferences at their high school, this would produce numbers that might not illustrate tradeoffs or numbers that would not show well-behaved functions. Consequently, it might be difficult to illustrate economic concepts.



Appendix I:

Entry Document

OAK GROVE CITY HIGH SCHOOL

Home of the Wildcats

Dr. Stanley Campbell, Principal

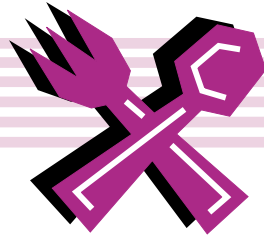
TO: Student Council, Oak Grove City High School via Bart Stravinsky, Student Council President

FROM: Dr. Stanley Campbell, Principal, Oak Grove City High School

REGARDING: Food Court in the New Student Center

As you know, the School Board unanimously voted last night to allow the Student Council to select the restaurants for the Food Court that will be housed in our new student center. We advertised widely throughout the city inviting restaurants to apply for a space in the Food Court. Twelve restaurants have applied for space. Unfortunately, we have space for only five restaurants. The School Board has set the following parameters to help you make your decision as to which five restaurants should be allowed space in the Food Court.

- 1) Restaurants will share a percentage of their profits from food sold at the Food Court with the Student Council. The Student Council will be allowed to spend this money in any way they see fit subject to the guidelines set by the Student Council by-laws. Since this revenue is the only money the Student Council has in its budget, your first task might be to determine which restaurants will yield the most profit. The more revenue you generate from the Food Court, the more clubs, student activities, and social events you can afford to fund.
- 2) Each of the twelve restaurants has agreed to pay the Student Council 20% of its profits for space in the Food Court. Should the restaurant not make a profit, no money will be paid to the Student Council. The less money paid to the Student Council, the more you will have to cancel, or charge fees, for events you sponsor.
- 3) There will be no set-up fees for the restaurants and each restaurant requires the same space allocation.
- 4) You are free to use whatever criteria you wish to select the five restaurants that will ultimately operate in our Food Court. However, keep in mind that you are, as members of the Student Council, representatives of all the interests in the school. You need to take into account the needs of all the students when making your restaurant selections. This is particularly important since we have a closed campus and students must buy their lunch at our Food Court.
- 5) The President of our Board is an economist. So, remember that regardless of your decision, the rationale must be grounded in sound economic thinking.
- 6) Your selection will be in effect for four years as each restaurant you choose will be given a four year contract.
- 7) You must justify your selections to the School Board at its meeting in one week.
- 8) The School Board will vote on whether to approve your recommendation. They must reach a consensus on your recommendation, which means that the Board members must all agree that the plan is acceptable. Their vote will be based upon how compelling your presentation is. You must be able to justify your choice of restaurants based upon whether they meet the needs of students and are profitable. If the School Board does not accept your proposal and its justification, they will ask you to return the following week with a revised proposal. Your visual presentation, with posters and graphs, must be given to the Board's secretary two days before the meeting for its inclusion in the meeting agenda.



Appendix II: Background Information for Benchmark Lessons

DEMAND

Table 1, which shows and the comparison of the demand curves for different restaurants, can be used to illustrate movement along the demand curve, shifts in curves, and computations of elasticity. For example, you could:

- Draw a **demand schedule** for all (or selected) restaurants from Table 1. (See discussion below). Discuss the relationship between price and *quantity demanded* that occurs as one moves up and down an individual curve.
- Discuss **changes in demand** that might occur with differing student demographics. (See description below). For example, if the student body is “rich,” the demand for Fleur de Lys or the Roastery might be greater. The demand for Taco Villa might be reduced should students discover that the cornmeal in taco shells is carcinogenic.
- Compute **elasticities**. This will show students how consumers respond to price changes at each initial price. This should be done only for advanced students or classes. Simply pick two prices and associated quantities for a particular restaurant and plug into the following formula for an arc elasticity:

$$\frac{\frac{Q_1 - Q_2}{(Q_1 + Q_2) / 2}}{\frac{P_1 - P_2}{(P_1 + P_2) / 2}}$$

where:

P_1 = the first price selected

P_2 = the second price selected

Q_2 = the quantity associated with the second price

Q_1 = the quantity associated with the first price

Changes in Quantity Demanded

A fundamental characteristic of demand is the law of demand: *all else being equal, as price falls, the **quantity demanded** increases*. There is an inverse relationship between price and quantity demanded, and this is shown for each restaurant in Table 1. Because the total amount of money brought into the firm (i.e. total revenue) is the number sold (quantity) times the price, the law of demand means that total revenue will change as price changes. This is shown for any particular restaurant in the Total Revenue computations on Table 3.

Changes in Demand

The basic determinants of demand are:

- tastes or preferences of consumers
- consumers' income
- prices of related goods and services (complements and substitutes)
- expectations about future prices and income
- (for market demand) number of consumers

Each of these determinants can be illustrated using Table 1 and the audio tapes. The demand for food in each restaurant (at any given price) varies. At a price of \$.50, few students demand borsch but 500 kids want chicken. This is because of taste and preferences. Income as a determinant of demand can also be illustrated. For example, few students will purchase food at any restaurant when meals are priced at \$10. This is due to the lack of "ability" to pay. The price and availability of other meals (substitutes) can also be shown in this table. For example, the demand for Hunan Wok might be greater if Taco Villa were not operating or if Taco Villa charged \$5.00 for a taco. Expectations also impact demand. For example, demand for Hunan Wok might be greater today if students knew that the prices were going to double tomorrow. Finally, demand will always increase as the number of students in the market increase. For example, Bennie's could sell many more hamburgers at a high school with 3,000 students than at one with 760 students.

On the audio tape, the school counselor tells of kids' ability to afford food (income), while other callers show the varying tastes for food among students.

COSTS AND SUPPLY

Costs

The data on quantity sold at each price (Table 1) are combined with the per unit costs of each firm's production to derive a firm's total cost curve. Just as a firm's total revenue is associated with the demand curve, the firm's total cost is associated with the supply curve.

In the short run, costs are either fixed or variable. Because **fixed costs** do not vary with output, they are associated with the very existence of the firm and must be paid even when the firm is not producing. In our example, the firm must pay the rental to the Food Court and for the equipment (because of lease agreements) and these costs will not vary with production. Other examples include interest on a firm's bonded indebtedness, insurance premiums, and the salaries of top management and key personnel. Fixed costs cannot be avoided (in the short run) or controlled by the firm.

Variable costs, which change with production, increase with each one-unit increase in production. Thus, such costs continue to rise as output increases. In our example, variable costs include labor and ingredient costs. It is fairly clear that as one sells more food one must buy more ingredients and hire more labor (to cook it and serve it). Other examples of variable costs may include fuel, power, transportation, and other services. Variable costs are those that can be controlled by the firm by controlling the amount produced.

A firm's **total cost** of producing is the summation of its fixed and variable costs.

Supply

Because the market, and not the firm, determines revenue in the competitive market, the amount produced at each price (its supply) is determined by each firm's cost of production. This is an important relationship for students to recognize. Thus, the firm's "supply" curve is simply its (marginal) cost curve. Assuming factor costs do not vary with the number of firms in an industry (constant cost industry), the market supply curve is simply the summation of each firm's supply curve. The cost factors that determine a firm's "supply" curve, also determine the industry supply curve.

PROFIT

Given how much will be sold at each price (i.e. demand for a firm's product), the firm is faced with three related questions: 1) Should it produce? 2) If so, how much of a product should be produced (and at what price, unless the firm is in a *perfectly* competitive market)? and, 3) What profit or loss will be realized?

1. A firm should produce if it makes a profit. This is obvious. However, if it is not making a profit, it should still operate in the short run as long as its loss is less than its fixed costs. In this case, it loses less money by operating because firms must pay fixed costs even if they shut down. In our example, firms also might operate at a loss because of noneconomic motives (e.g. Tanya Stravinsky). Alternatively, firms might operate at a loss today because they expect to gain customers in the future (i.e. long-run profit maximization). For example, Fleur de Lys might be willing to operate at a loss in the Food Court because it expects to capture young customers, who will develop a taste for Fleur de Lys' food.
2. A firm will set price at the amount where profit is greatest. For example, Veggie Vittles will price at \$3.00, the Home Economics Kitchen will price at \$1.00, and Taco Villa will price at \$1.50. [Note: the maximum profits (or minimum losses) that each restaurant can make are in bold face on Table 5 in Appendix IV]. The quantity sold at the profit maximizing price is determined from Table 1 in Appendix IV (Demand for Entrees), which shows how much students will purchase at the profit maximizing price. At \$3.00, Veggie Vittles will sell 15 veggie sandwiches, the Home Economics Kitchen will sell 25 meat and potato meals, and Taco Villa will sell 150 tacos.
3. Profit or loss realized at each price is shown on Table 5 in Appendix IV, which can be used to illustrate how profits or losses will vary with changes in price, total revenue (Table 3, in Appendix IV), and total costs (Table 4, in Appendix IV).

GRAPHS AND THEIR MEANINGS

A graph is a visual representation of the relationship between two variables. The table below illustrates the relationship between price and quantity demanded for tacos at Taco Villa. Although this information is obtained from Table 1 in Appendix IV (and hence is merely a different representation of the same information), the graphic representation of price and quantity demanded illustrates the concept of a demand curve. That is, it shows visually or graphically how consumption varies with price of the good. In the graph below, we illustrate a linear (straight line) and nonlinear (changing slope) approximation of the demand curve for tacos that is depicted in tabular form in Table 1 in Appendix IV.

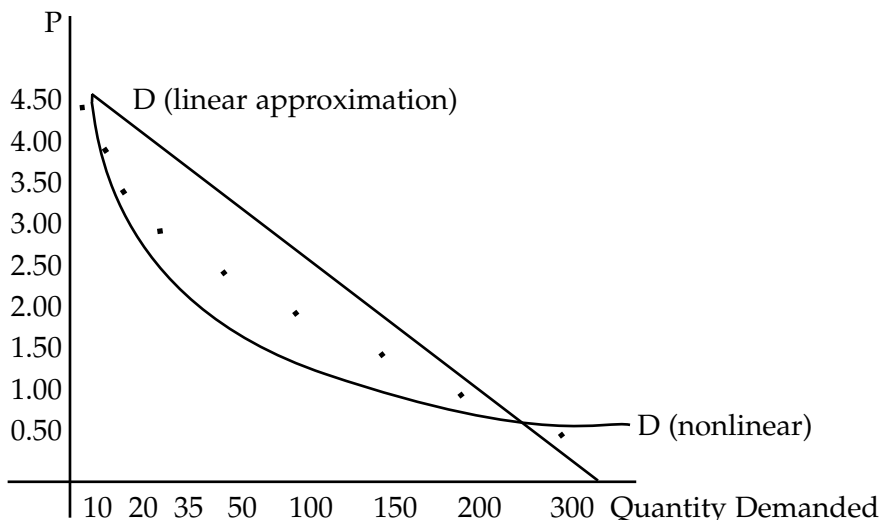
In the graph below, price is presented on the vertical axis and is the determining factor or independent variable. Consumption (quantity demanded) depends on price and is represented on the horizontal axis. (Actually, the demand curve differs from the traditional graphic portrayal of relationships, which typically show the independent variable on the horizontal axis and the dependent variable on the vertical axis.)

We first arrange the vertical and horizontal scales of the graph to reflect the range of values on price and consumption, as well as mark the steps in convenient increments. We then locate the various points that reflect the information on quantity demanded at a particular price that is provided in Table 1 in Appendix IV. Each of the points illustrated in Table 1 can be used to plot a demand curve for a particular restaurant. For example, at a price of \$4.50, no tacos will be purchased; at \$4.00, 10 tacos will be purchased; at \$3.50, 20 tacos will be purchased.

The downsloping demand curve illustrates the negative or inverse relationship between the two variables (price and quantity demanded). These two variables move in opposite directions. As price goes up, demand goes down. The supply or (marginal) cost curve illustrates a positive or direct relationship between cost and quantity produced. Should cost information be plotted on a graph, an upsloping curve would result because cost and production move in the same direction.

The simple two-variable graph ignores many other factors that might affect the amount of tacos purchased. These other factors (e.g. income, tastes and preferences, price of other goods and services, number of people in the market) are illustrated by shifting the curve. For example, should Oak Grove High School double in size, the demand curve would shift to the right, demand would increase, indicating that at every price more tacos would be purchased.

Demand Curve for Tacos from Taco Villa



BLANK TABLES FOR HOMEWORK COMPUTATIONS

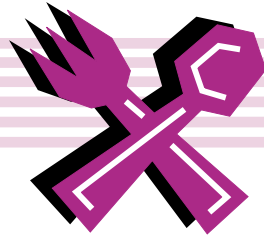
The following three pages contain worksheets that can be used by the students to compute 1) the total revenue that each restaurant will receive (at each price), 2) the total cost that each restaurant will bear (at each price), and 3) the total profit that each restaurant will make (at each price). Tables that contain the completed computations (i.e. the “answers”) are located in Appendix IV. Appendix IV also contains the tables that have the information necessary to perform the computations in the worksheets. In fact, students should be given the tables that are referenced at the bottom of the worksheets (e.g. the Computed Total Revenue table references Table 1) at the same time that they are given the worksheet since they must rely on the referenced table to complete the worksheet.

These worksheets can be used as homework for individual students, as a project for a group, or as part of a teacher-lead discussion in a benchmark lesson.

Total Revenue

Restaurant	Taco Villa	Wildcat's Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubb's	Sally's	Bennie's	Hunan Wok	Borsch Palace	Pizza Place	Roastery
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken
Price												
	Total Revenue at Each Price:											
\$10.00												
\$9.50												
\$9.00												
\$8.50												
\$8.00												
\$7.50												
\$7.00												
\$6.50												
\$6.00												
\$5.50												
\$5.00												
\$4.50												
\$4.00												
\$3.50												
\$3.00												
\$2.50												
\$2.00												
\$1.50												
\$1.00												
\$0.50												

Total Revenue = Price X Quantity Sold at that price (All information is contained in Table 1 in Appendix IV.)



Appendix III: Concept Definitions

The curriculum was designed to teach the following concepts:

Concepts in **boldface** are defined below. Concepts in *italics* are defined elsewhere in the definition list.

Competing Needs: Because resources are *scarce*, the redistribution of goods often means that one group (or individual) often gains only at another's expense. That is, to make someone better off, someone else must be made worse off because individuals are competing for the same resources.

Costs: (of production): The measure of what has to be given up in order to achieve or produce something. Total costs include both *opportunity costs*, or the cost of alternative uses of resources, and *direct costs*, or total money outlays.

Demand: Purchases of a good or service that people are actually able and willing to make, given price and choices available to them. The "**law of demand**" states that there is a negative (or inverse) relationship between price and quantity demanded. That is, as price increases (decreases) the amount of a good purchased decreases (increases). Consumers' demand is determined by their tastes, income, and price of other goods. The **demand schedule** is a table showing the quantities of a good that will be purchased at various prices. The **demand curve** is a curve that relates the price of a product and the quantity of the product that individuals are able and willing to purchase. **Aggregate Demand** is the total demand for goods and services in the economy by households (for consumer goods), by firms and government (for investment goods), and by other countries (exports).

Economic Profit: A firm's *total revenue* (price times number of items sold) minus the total *cost* of production, which includes both *direct* and *opportunity costs*. Negative *economic profits* are called losses. Economic profits indicate that a firm is generating revenue above and beyond the next best use of its productive resources.

Equilibrium Price: The price at which the quantity of the product that buyers are able and willing to purchase exactly equals the quantity of the product that sellers will sell.

Equilibrium Quantity: The quantity at which the amount that buyers are able and willing to purchase exactly equals the amount of the product that sellers will sell. This occurs at the *equilibrium price*.

Opportunity Costs: The real sacrifice involved in achieving something. The value of the next best opportunity that would have to be foregone in order to achieve a particular thing.

Profit: *Total revenues* minus total *direct costs*. This is distinguished from **economic profit** which is the residual of *total revenue* minus *total costs* when a normal rate of return on investment is included as a part of cost.

Scarcity: A condition where less of something exists than people would like if the good had no cost. Scarcity arises because resources are limited and cannot accommodate all of our unlimited wants.

Total Cost: The sum of *fixed cost* and *variable cost*.

Total Revenue: The total amount of money brought in by a firm. This is computed by multiplying the unit price of the product times the number of units purchased.

Tradeoff: An exchange relationship denoting how much of one good (or resource) is needed to get another good (or resource).

Teachers can also demonstrate the following concepts using this lesson:

Direct Costs: The accountant's definition of cost. The total money expenditure or outlays necessary to achieve a resource or good/service.

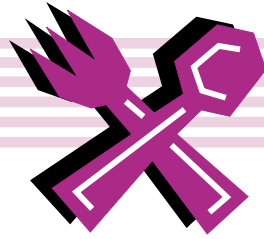
Elasticity: The measure of responsiveness of one variable to changes in another. For example, the **price elasticity of demand** is the change in the quantity demanded of a good as a result of a change in its price.

Fixed Costs: *Costs* to the firm that do not vary with output. These *costs* are borne even though no output is produced and are often referred to as "overhead."

Indirect Costs: See *Opportunity Cost*.

Supply: The amount of a good or service that firms are prepared to sell at a given price. The firm determines how much to supply using its marginal cost curve. **Industry supply** is the summation of an individual firm's marginal cost curves (in a constant cost industry). The **supply schedule** is a table showing the amount of a product that will be produced at a given price. The **supply curve** relates the quantity of a good supplied by a firm (or market) at each price. The **law of supply** dictates that the curve is upsloping, indicating that more will be produced as the price of the good increases. **Aggregate Supply** is the total amount of goods and services available for consumption and consists of both domestically produced goods and services and imports.

Variable Costs: *Costs* that vary with the amount of production.



Appendix IV: Resource Materials

Restaurant Bidders

1. **Taco Villa:** Taco Villa is a fast-food franchise that will serve meat-filled tacos at the Oak Grove High School Food Court. Outlets are located in virtually every mall in the United States. High school students always enjoy a quick, cheap meal at Taco Villa.
2. **The Wildcat's Den:** Our student-run enterprise offers good food at reasonable prices. By purchasing our processed meat and cheese submarine sandwiches, you will be helping your fellow students learn about running a restaurant. Profits from the Wildcat's Den will go back to the School-to-Work program and will help support additional course offerings.
3. **Veggie Vittles:** Veggie Vittles bases its cooking in the philosophy of eating low on the food chain. Its menu is limited to whole grains, raw fruits and vegetables, and no animal products. Veggie Vittles will serve a veggie sandwich at the Oak Grove High School Food Court. Your good eating habits are our major concern.
4. **Home Economics Kitchen:** The Home Economics Kitchen offers good food at low prices. To keep our prices low we work closely with the Department of Agriculture's County Extension Office and purchase our cans of meat and bags of potatoes in bulk. Although our food may not be as taste tempting as our fast-food competitors, our nutritionally balanced meals are cheap and approved by the FDA. Profits from the meat and potatoes entree sold at the Food Court will support students in the Home Economics program.
5. **Fleur de Lys:** Fleur de Lys' nationally acclaimed chef, Pierre Gerard, serves traditional Northern French cuisine. Enjoy Pierre's famous crab crepe at the Food Court. Add a touch of elegance to your high school experience.
6. **Bubba's Steak House:** This popular steak house serves generous portions of prime rib, T-bone and Porter House steaks. Our Montana raised, grass fed beef packs more protein per pound than any other lunch around. When you've been to Bubba's, you've been well fed.
7. **Sally's Soups and Salads:** Healthy, low calorie soups and salads are Sally's specialties. We will offer a wide variety of vegetable, fruit, and pasta salads at the Food Court. Low fat does not have to be low taste.
8. **Bennie's:** Bennie's has attracted customers all across the United States by offering great food at great prices. Bennie's is known as a popular high school hangout serving its signature hamburgers in a friendly, informal setting. Bring Bennie's hamburgers to the high school Food Court for that "at home" feeling.
9. **Hunan Wok:** Hunan Wok has been serving fast food for over thirty years. Its lemon chicken and pork chow mein are favorites among teenagers. Oak Grove students will love the low prices and flavorful choices at the Hunan Wok.
10. **The Borsch Palace:** Beets, cabbage, and vinegar in a beef broth never tasted so good. Our borsch won the Cleveland Founders Day Cook Off three years running. Eat like a czar at the Borsch Palace.
11. **The Pizza Place:** The Pizza Place offers family-style, Italian fare, lots of food, and cheap prices. Every teen will love the spaghetti in a meat sauce served at the Food Court by the Pizza Place.
12. **The Roastery:** Enjoy chicken that has been spit-roasted over a hickory and apple wood fire. Because gourmet magazines are raving about our special cooking techniques, we know that our half chicken on a bed of rice will be a tasty meal for the discerning palate.

Table 1: Demand for Entrees at Oak Grove High School

Restaurant	Taco Villa	Wildcat's Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubba's	Sally's	Bennie's	Hunan Wok	Borsch Palace	Pizza Place	Roastery
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken
Price	Quantity Demanded Daily:											
\$10.00	0	0	0	0	1	1	0	0	0	0	0	3
\$9.50	0	0	0	0	2	1	0	0	0	0	0	3
\$9.00	0	0	0	0	3	1	0	0	0	0	0	3
\$8.50	0	0	0	0	4	1	0	0	0	0	0	3
\$8.00	0	0	0	0	5	1	0	0	0	0	0	4
\$7.50	0	0	0	0	6	1	0	0	0	0	0	5
\$7.00	0	0	0	0	7	1	0	0	0	0	0	6
\$6.50	0	0	0	0	8	3	0	0	0	0	0	7
\$6.00	0	0	0	0	9	4	0	0	0	0	0	8
\$5.50	0	0	0	0	10	5	0	3	0	0	0	10
\$5.00	0	0	0	0	11	10	0	10	5	0	3	12
\$4.50	0	0	4	0	13	15	5	25	15	0	7	15
\$4.00	10	0	7	0	15	20	10	40	25	0	25	20
\$3.50	20	5	10	0	18	30	14	55	45	0	35	30
\$3.00	35	10	15	0	25	45	18	70	55	0	50	60
\$2.50	50	20	17	0	30	60	25	100	75	0	80	100
\$2.00	100	37	20	10	55	100	35	150	150	0	100	150
\$1.50	150	63	25	15	70	200	84	188	250	0	140	275
\$1.00	200	75	30	25	80	250	150	225	300	5	200	425
\$0.50	300	100	30	25	120	350	200	350	350	10	250	500

Table 2: Cost Data

Restaurant	Taco Villa	Wildcat's Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubba's	Sally's	Bennie's	Hunan Wok	Borsch Palace	Pizza Place	Roastery	
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken	
Cost Item	Unit												
Variable Costs													
labor	per serving	\$0.20	\$0.05	\$0.20	\$0.10	\$0.60	\$0.30	\$0.40	\$0.20	\$0.20	\$0.20	\$0.40	
ingredients	per serving	\$0.20	\$0.75	\$0.50	\$0.025	\$2.80	\$2.20	\$0.75	\$1.00	\$0.20	\$0.10	\$0.75	\$2.15
Fixed Costs													
stall rental	daily	\$25.00	\$25.00	\$25.00	0	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	
equipment rental	daily	\$5.00	\$5.00	\$5.00	0	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	

Table 3: Computed Total Revenue

Restaurant	Taco Villa	Wildcat's Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubba's	Sally's	Bennie's	Human Wok	Borsch Palace	Pizza Place	Roastery
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken
Price												
\$10.00	0	0	0	0	\$10.00	\$10.00	0	0	0	0	0	\$30.00
\$9.50	0	0	0	0	\$19.00	\$9.50	0	0	0	0	0	\$28.50
\$9.00	0	0	0	0	\$27.00	\$9.00	0	0	0	0	0	\$27.00
\$8.50	0	0	0	0	\$34.00	\$8.50	0	0	0	0	0	\$25.50
\$8.00	0	0	0	0	\$40.00	\$8.00	0	0	0	0	0	\$32.00
\$7.50	0	0	0	0	\$45.00	\$7.50	0	0	0	0	0	\$37.50
\$7.00	0	0	0	0	\$49.00	\$7.00	0	0	0	0	0	\$42.00
\$6.50	0	0	0	0	\$52.00	\$19.50	0	0	0	0	0	\$45.50
\$6.00	0	0	0	0	\$54.00	\$24.00	0	0	0	0	0	\$48.00
\$5.50	0	0	0	0	\$55.00	\$27.50	0	\$16.50	0	0	0	\$55.00
\$5.00	0	0	0	0	\$55.00	\$50.00	0	\$50.00	\$25.00	0	\$15.00	\$60.00
\$4.50	0	0	\$18.00	0	\$58.50	\$67.50	\$22.50	\$112.50	\$67.50	0	\$31.50	\$67.50
\$4.00	\$40.00	0	\$28.00	0	\$60.00	\$80.00	\$40.00	\$160.00	\$100.00	0	\$100.00	\$80.00
\$3.50	\$70.00	\$17.50	\$35.00	0	\$63.00	\$105.00	\$49.00	\$192.50	\$157.50	0	\$122.50	\$105.00
\$3.00	\$105.00	\$30.00	\$45.00	0	\$75.00	\$135.00	\$54.00	\$210.00	\$165.00	0	\$150.00	\$180.00
\$2.50	\$125.00	\$50.00	\$42.50	0	\$75.00	\$150.00	\$62.50	\$250.00	\$187.50	0	\$200.00	\$250.00
\$2.00	\$200.00	\$74.00	\$40.00	\$20.00	\$110.00	\$200.00	\$70.00	\$300.00	\$300.00	0	\$200.00	\$300.00
\$1.50	\$225.00	\$94.50	\$37.50	\$22.50	\$105.00	\$300.00	\$126.00	\$282.00	\$375.00	0	\$210.00	\$412.50
\$1.00	\$200.00	\$75.00	\$30.00	\$25.00	\$80.00	\$250.00	\$150.00	\$225.00	\$300.00	\$5.00	\$200.00	\$425.00
\$0.50	\$150.00	\$50.00	\$15.00	\$12.50	\$60.00	\$175.00	\$100.00	\$175.00	\$175.00	\$5.00	\$125.00	\$250.00

Total Revenue = Price X Quantity Sold at that price (All information is contained in Table 1 in this Appendix).

Table 4: Computed Daily Costs

Restaurant	Taco Villa	Wildcats Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubbas	Sally's	Bennie's	Hunan Wok	Borsch Palace	Pizza Place	Roastery
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken
Price	Total Daily Costs at Each Price:											
\$10.00	\$30.00	\$30.00	\$30.00	0	\$33.40	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$37.65
\$9.50	\$30.00	\$30.00	\$30.00	0	\$36.80	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$37.65
\$9.00	\$30.00	\$30.00	\$30.00	0	\$40.20	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$37.65
\$8.50	\$30.00	\$30.00	\$30.00	0	\$43.60	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$37.65
\$8.00	\$30.00	\$30.00	\$30.00	0	\$47.00	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$40.20
\$7.50	\$30.00	\$30.00	\$30.00	0	\$50.40	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$42.75
\$7.00	\$30.00	\$30.00	\$30.00	0	\$53.80	\$32.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$45.30
\$6.50	\$30.00	\$30.00	\$30.00	0	\$57.20	\$37.50	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$47.85
\$6.00	\$30.00	\$30.00	\$30.00	0	\$60.60	\$40.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$50.40
\$5.50	\$30.00	\$30.00	\$30.00	0	\$64.00	\$42.50	\$30.00	\$33.60	\$30.00	\$30.00	\$30.00	\$55.50
\$5.00	\$30.00	\$30.00	\$30.00	0	\$67.40	\$55.00	\$30.00	\$42.00	\$32.00	\$30.00	\$32.85	\$60.60
\$4.50	\$30.00	\$30.00	\$32.80	0	\$74.20	\$67.50	\$35.75	\$60.00	\$36.00	\$30.00	\$36.65	\$68.25
\$4.00	\$34.00	\$30.00	\$34.90	0	\$81.00	\$80.00	\$41.50	\$78.00	\$40.00	\$30.00	\$53.75	\$81.00
\$3.50	\$38.00	\$34.00	\$37.00	0	\$91.20	\$105.00	\$46.10	\$96.00	\$48.00	\$30.00	\$63.25	\$106.50
\$3.00	\$44.00	\$38.00	\$40.50	0	\$115.00	\$142.50	\$50.70	\$114.00	\$52.00	\$30.00	\$77.50	\$183.00
\$2.50	\$50.00	\$46.00	\$41.90	0	\$132.00	\$180.00	\$58.75	\$150.00	\$60.00	\$30.00	\$106.00	\$285.00
\$2.00	\$70.00	\$59.60	\$44.00	\$1.25	\$217.00	\$280.00	\$70.25	\$210.00	\$90.00	\$30.00	\$125.00	\$412.50
\$1.50	\$90.00	\$80.40	\$47.50	\$1.875	\$268.00	\$530.00	\$126.60	\$255.60	\$130.00	\$30.00	\$163.00	\$731.25
\$1.00	\$110.00	\$90.00	\$51.00	\$3.125	\$302.00	\$655.00	\$202.50	\$300.00	\$150.00	\$31.50	\$220.00	\$1113.75
\$0.50	\$150.00	\$110.00	\$51.00	\$3.125	\$438.00	\$905.00	\$260.00	\$450.00	\$170.00	\$33.00	\$267.50	\$1305.00

Daily costs are computed by multiplying the amount sold at each price (for a given restaurant)—information located in Table 1 in this Appendix—by the variable costs (labor and ingredients costs) and adding it to the fixed cost (stall and equipment rental). The cost information for each restaurant is located in Table 2 in this Appendix.

Table 5: Computed Daily Profit

Restaurant	Taco Villa	Wildcat's Den	Veggie Vittles	Home Ec Kitchen	Fleur de Lys	Bubba's	Sally's	Bennie's	Hunan Wok	Borsch Palace	Pizza Place	Roastery
Entree	meat tacos	sub sandwich	veggie sandwich	meat and potatoes	crab crepe	steak	salad	hamburger	lemon chicken	borsch	spaghetti	chicken
Price												
\$10.00	-\$30.00	-\$30.00	-\$30.00	0	-\$23.40	-\$22.50	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$7.65
\$9.50	-\$30.00	-\$30.00	-\$30.00	0	-\$17.80	-\$23.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$9.15
\$9.00	-\$30.00	-\$30.00	-\$30.00	0	-\$13.20	-\$23.50	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$10.65
\$8.50	-\$30.00	-\$30.00	-\$30.00	0	-\$9.60	-\$24.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$12.15
\$8.00	-\$30.00	-\$30.00	-\$30.00	0	-\$7.00	-\$24.50	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-8.20
\$7.50	-\$30.00	-\$30.00	-\$30.00	0	-\$5.40	-\$25.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$5.25
\$7.00	-\$30.00	-\$30.00	-\$30.00	0	-\$4.80	-\$25.50	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$3.30
\$6.50	-\$30.00	-\$30.00	-\$30.00	0	-\$5.20	-\$18.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$2.35
\$6.00	-\$30.00	-\$30.00	-\$30.00	0	-\$6.60	-\$16.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$30.00	-\$2.40
\$5.50	-\$30.00	-\$30.00	-\$30.00	0	-\$9.00	-\$15.00	-\$30.00	-\$17.10	-\$30.00	-\$30.00	-\$30.00	-0.50
\$5.00	-\$30.00	-\$30.00	-\$30.00	0	-\$12.40	-\$5.00	-\$30.00	\$8.00	-\$7.00	-\$30.00	-\$17.85	-0.60
\$4.50	-\$30.00	-\$30.00	-\$14.80	0	-\$15.70	0	-\$13.25	\$52.50	\$31.50	-\$30.00	-\$5.15	-0.75
\$4.00	\$6.00	-\$30.00	-\$6.90	0	-\$21.00	0	-\$1.50	\$82.00	\$60.00	-\$30.00	\$46.25	-\$1.00
\$3.50	\$32.00	-\$16.50	-\$2.00	0	-\$28.20	0	\$2.90	\$96.50	\$109.50	-\$30.00	\$59.25	-\$1.50
\$3.00	\$61.00	-\$8.00	\$4.50	0	-\$40.00	-\$7.50	\$3.30	\$96.00	\$113.00	-\$30.00	\$72.50	-\$3.00
\$2.50	\$75.00	\$4.00	\$0.60	0	-\$57.00	-\$30.00	\$3.75	\$100.00	\$127.50	-\$30.00	\$94.00	-\$35.00
\$2.00	\$130.00	\$14.40	-\$4.00	\$18.75	-\$107.00	-80.00	\$-0.25	\$90.00	\$210.00	-\$30.00	\$75.00	-\$112.50
\$1.50	\$135.00	\$14.10	-\$10.00	\$20.625	-\$163.00	-\$230.00	\$-0.60	\$26.40	\$245.00	-\$30.00	\$47.00	-\$318.75
\$1.00	\$90.00	-\$15.00	-\$21.00	\$21.875	-\$222.00	-\$405.00	-\$52.50	-\$75.00	\$150.00	-\$26.50	-\$20.00	-\$688.75
\$0.50	\$0	-\$60.00	-\$36.00	\$9.375	-\$378.00	-\$730.00	-\$160.00	-\$275.00	\$5.00	-\$28.00	-\$142.50	-\$1055.00

Numbers in bold indicate maximum profit or minimum loss. It is at this price that the restaurant will sell its entree.

Profit is computed by subtracting total cost (Table 4 in this Appendix) from total revenue (Table 3 in this Appendix) at each price for each restaurant.

TRANSCRIPT OF THE AUDIO TAPE

1. FROM THE PRINCIPAL TO BART AND THE STUDENT COUNCIL

Bart, I've received some voice mail messages about the new Food Court and I'd like you to share them with the Student Council. They are from people who are concerned about the restaurants you are considering for the Food Court. These are important people in our community so I know you'll pay close attention to them.

2. FROM RITA PRICE, EXECUTIVE DIRECTOR OF THE GROVE AREA SCHOOL-TO-WORK PROGRAM

Dr. Campbell, this is Rita Price from the Grove Area School-to-Work Program. I've been thinking about the Board's decision to let the Student Council pick the restaurants for our new Food Court. I think that is a big responsibility for students. That kind of hands-on decision making is what we try to advance in our school-to-work classes. So, I think that's good. But I hope your Student Council knows that our own Wildcat's Den is one of the restaurants proposed for the new site. Wildcat's Den, if it gets into the Food Court, will be owned and operated by our students here at Oak Grove High School. The restaurant will be operated through our school-to-work restaurant class. Kids who take the restaurant class will get hands-on experience running Wildcat's Den. They'll learn how to prepare food, order inventory, set prices and serve the public. Currently, 25% of all Oak Grove students are involved in our career classes, so this opportunity would help many of them. Many of these kids can move into jobs in hotels and restaurants once they have experience, and the Wildcat's Den will give them excellent work-related experience. Please remind the Student Council for me that the Wildcat's Den will be a student operated restaurant, for the students and by the students.

3. FROM EDITH CASH, PTA PRESIDENT

At our last PTA meeting you mentioned that the Student Council was picking the restaurants for the new Food Court. Wow! I just looked at the list of choices. The quality of food served by some of these bidders is just awful. Meat-filled tacos? Fast food hamburgers? Spaghetti with meat sauce? Where are the fresh ingredients? I really don't think these are healthy foods for growing young people. We're parents and we're worried about the health of our children. And quite frankly, many of the PTA members question the ability of teenagers to make wise decisions about what to eat for lunch. We talked about this at length at the recent PTA meeting and we think that limiting the options students have to only healthy food would encourage our kids to eat well when we are not there to influence their choices. Please let the Student Council know that the PTA parents don't want to see any fast food or franchised restaurants in our student Food Court.

4. *FROM THE GALLOPING GOURMETS CLUB*

Mr. Campbell, the Galloping Gourmets Club just wanted you to know that we were extremely happy to see that two outstanding restaurants (Fleur de Lys and the Roastery) were on the list of bidders for Food Court. We take eating seriously at the Gourmets Club and we are tired of cardboard hamburgers and fat-filled tacos. Just because we're teenagers doesn't mean we want tasteless garbage as the mainstay of our diet. If money is an issue for bringing in decent restaurants, no problem. Our parents will gladly give us more allowance so we can eat appetizing food. And please remind the Student Council that our parents are very active members of the Booster Club. They do a lot for this school. Students who play in the band, take drama, and receive college financial aid - should know that funds are provided by the Boosters. As a matter of fact, because of the good will and hard work of our parents, the Student Council members will be attending the national leadership conference - a trip sponsored by the Booster Club. Please remind the Student Council to keep the Galloping Gourmets Club's gastronomical interests in mind when making their selections.

5. *FROM VITAL VEGETARIANS*

Hi Dr. Campbell. I am calling in regards to the new restaurants that will be going into the school's Food Court. Vital Vegetarians are members of this student body and we are committed to preserving the planet and avoiding needless animal sacrifice. I don't want to preach to you, but if you have ever befriended a helpless animal and then watched it be slaughtered, you will know where we are coming from. We want to see a Food Court that respects animals, one with vegetarian meals that emphasize grains and legumes. These foods are nutritious and they reduce the chance for animal extinction. The Food Court needs a vegetarian alternative. Vegetarian students are entitled, just like any other student, to a place on campus where they can eat lunch. We want to encourage the Student Council to include Veggie Vittles as a restaurant in the new Food Court.

As you may know, both Taco Villa and Hunan Wok are being boycotted by people concerned about the environment. These restaurants are responsible for the destruction of the rain forest. They are cutting down the rain forest at an alarming rate in order to graze cattle and they are using the trees they cut to produce their throw-away food containers. As Oak Grove High School students and members of the Vital Vegetarians, we are concerned about having such environmentally irresponsible restaurants in our Food Court. Please pass our concerns on to the Student Council.

6. FROM MS. LOER, SCHOOL COUNSELOR

Dr. Campbell this is Ms. Loer from the counseling office. It has been brought to my attention by a number of parents and community folks, who want to remain nameless at this time, that prices of food sold in our new Food Court may be out of reach for many of our students. Twenty five percent of our students are considered low income. These students aren't likely to bring up the fact that they can't afford the food but it is true. It's going to cause some of these kids to go hungry since they are not allowed to go off campus during school hours. Students shouldn't be forced to go hungry and certainly students shouldn't be singled out and stigmatized because they can't afford our food. I think that would be an unacceptable situation. I hope that our Student Council understands that the Home Economics Kitchen is the only place these kids can afford to eat. Student Council representatives took an oath to serve all students and they have a responsibility to consider the needs of lower income kids.

7. FROM THE PRINCIPAL REGARDING MS. STRAVINSKY

This message is for Bart and the Student Council members from Dr. Campbell. As you know the Borsch Palace, one of the restaurants bidding for space in our new Food Court, is owned by Tanya Stravinsky. Ms. Stravinsky donated the money used by the School District to build our new Student Center. Those wonderful facilities - the game room, study hall, Food Court, the computer lab, and the theater - would not be yours to enjoy had it not been for Ms. Stravinsky. Now, in the last conversation I had with her, she said that she would love to stay in contact with this school by cooking food from her native land. Money is not the issue. She doesn't care if the restaurant makes money. She would just like to be a part of the project she helped build. We are hoping Ms. Stravinsky will contribute heavily to the construction of the swimming pool and tennis courts that we have planned for the Student Center. So, I'm asking you to keep that in mind when you are making your decisions.

OAK GROVE CITY HIGH SCHOOL

Home of the Wildcats

Board of Directors

Dr. Leslie Tucker, Board President

TO: Student Council, Oak Grove City High School via Bart Stravinsky,
Student Council President

FROM: Mr. Eric Wong, Board Secretary

REGARDING: Food Court Restaurant Selections - Presentation to the Board

At the upcoming Board meeting you will be giving a presentation to the Board discussing the restaurants you think should be included in the new Food Court. You will be giving your presentation to the following Board members:

Dr. Leslie Tucker, an economist, is President of the Board of the Oak Grove City Schools. As an economist, Dr. Tucker is concerned about maintaining profitable restaurants in the Food Court so that the students are able to afford their clubs, student activities, and social events.

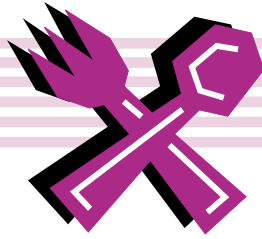
Mr. John Cash, husband of our PTA president, Ms. Edith Cash. Like his wife, Mr. Cash is concerned about the health and well-being of Oak Grove City High School students. He wants to see healthy food served in the Food Court and he wants Oak Grove students to have the opportunity to learn valuable job skills through running and operating a restaurant in the Food Court. Mr. Cash is also concerned about low-income students who cannot afford high priced lunches.

Mr. John Muir, is a staunch environmentalist. His concern is for the right of vegetarian students to have a non-meat source of food on campus. He is also boycotting Hunan Wok and Taco Villa because of their dismal environmental record. As a no-growth advocate, Mr. Muir does not consider building the tennis courts or the pool a high priority.

Ms. Tanya Stravinsky is a non-voting, honorary member of the School Board. As one of the school's major contributors, she is interested in the long term well-being of the school, including the building of the tennis courts and pool. She has a special interest in cooking from her homeland and in gourmet food from around the world. She supports the Galloping Gourmet Club's desire to have quality food on campus.

The three voting members of the Board, Dr. Tucker, Mr. Cash, and Mr. Muir must reach a consensus on your plan. They must all agree that the plan is acceptable.

Please remember that your presentation is to be five minutes long. The Board will not allow you to exceed your time limit. Make sure that your visual presentation, with posters and graphs, is delivered to me two days before the meeting so that your materials can be included in the meeting agenda.



Appendix V: Audience Questions

Dr. Leslie Tucker, the School Board President (played by the teacher)

Background: The School Board President, as an economist, wants a market-based distribution of restaurants in the Food Court. The president argues that to not select restaurants with the highest profit would result in an inefficient use of resources.

Points to be made:

1. To bring restaurants into the Food Court on any basis other than “highest profit” is inefficient. Why should the Student Council have less money to spend because they don’t make economically efficient decisions? To select restaurants on any basis other than highest profits means that the Student Council must give up revenue. Less revenue will impact the school’s social events. How can this be explained to the student body?
2. Why should we let restaurants come into the Food Court that don’t make the most profit? The demand curve shows what students prefer in food and the costs say what resources are used to make the food. If you do not select restaurants with the highest profits it means that one of two things must be occurring: 1) Demand is not sufficient to cover the costs of production (i.e. the value placed on a meal is less than it costs to produce it) and clearly this is inefficient; or, 2) the goods valued most, relative to their cost, will not get produced.

Ms. Tanya Stravinsky, Honorary Board Member

Background: Tanya Stravinsky has two concerns: opening her Borsch Palace restaurant, and maintaining the quality of food in the Food Court. She is concerned that students will not be exposed to foods from around the world (including the Eastern European mainstay, borsch) and the finer foods in life without strong input from the Gourmets Club. She represents the interests of the elite and those individuals who think that their wants should be fulfilled because they have the money (and taste) to afford it. Tanya's main economic argument is that the long run well-being of the school rests with maintaining good relationships with the "elite" because finishing the swimming pool and library depends upon their donations.

Points to be made:

1. There is a group of students who can afford the high price of better restaurants. Why shouldn't we provide these students with this option and expose other students to the finer things in life?
2. Why should we subsidize the poor? This is providing the wrong message because kids will think that they should get something for nothing.
3. Profit is the wrong motive. Quality is the appropriate standard by which restaurants should be allowed to operate in the Food Court. The market-based solution (most profit) always reduces products to the lowest common denominator. In this case low quality food at cheap prices will be offered so that everyone can afford to eat. Students will not be exposed to quality food from around the world. Quality food will be driven out by quantities of bad, cheap food.
4. The long-term interests of the school are maintained through a steady stream of interested, wealthy benefactors. Pursuing short-term profit motives may be good for today's Student Council and may satisfy today's student body, but it will harm the school in the long run by alienating the students and their parents who can afford to donate money to the school. Public funding for education is drying up and we must increasingly rely upon our benefactors for things like libraries and swimming pools. Our Boosters Club wants quality food in the Food Court and we must provide them with this alternative for the long-term benefit of our school.

Mr. John Muir, School Board Member

Background: John Muir is concerned about the health of the students (natural foods) and the environment. He responds most favorably to the lobbies of the PTA and Vital Vegetarians but only Veggie Vittles is an acceptable restaurant because the remaining options are less natural. John argues that students cannot make decisions for themselves but must have someone else watch over them (the paternalistic role of government). Protecting the environment, nutrition and health are the outcomes that he favors, not profit.

Points to be made:

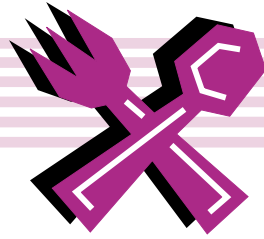
1. Why should profit be the motive for operating a restaurant in the Food Court? The restaurants that come into the Food Court with the highest profit motive serve food that is not healthy and ruin the environment. Society should have loftier goals than profit—like the health of our children and the world.
2. Why shouldn't we support eating natural food? Equity concerns voiced by the counselor for certain students are as valid as equity concerns for vegetarians. People concerned about their health and the welfare of our planet have the right to eat at a restaurant that prepares healthy meals without meat or meat products. To fail to provide this alternative is discrimination.
3. Why should the rich (Tanya and the Boosters) always have their way? Living in a healthy world is more important than supporting the distorted values that accompany free market capitalism. Economic growth and material goods (like the swimming pool) are evils that make for disharmony on our planet.

Mr. John Cash, School Board Member

Background: John Cash's main concern is for the needs of students: the School-to-Work program, the Home Economics students, and low-income students. In response to the argument for selecting the restaurants that bring in the most profit, Mr. Cash, like the counselor, argues for equity and "investing in our students." Mr. Cash believes this can be done by keeping open the Wildcat's Den, which provides students with work skills, and the Home Economics Kitchen, which provides relatively nutritious, low-cost meals for students. In addition, because he is married to Edith Cash, he strongly supports the PTA's concerns for health (although places other than Veggie Vittles would suffice.)

Points to be made:

1. Why isn't serving healthy food the primary goal of the Food Court? The Student Council should focus on the needs of students and not on which restaurants make the most money (i.e. the market-based solution). Money/profit is not everything and should not be the Student Council's major goal.
2. Why aren't we supporting education for our students? Selecting restaurants that make the most profit may be most efficient in the short run (i.e. bring in the most money for the Student Council) but in the long run it is not a prudent strategy. We need successful grads that return support to the school (like Tanya). This will not happen unless we invest in our students today so that they support our school in the future. This can be done by opening the Wildcat's Den, which invests in student skills, and the Home Economics Kitchen.
3. Why aren't we concerned about the needs of our low-income students (25% of our students)? The gourmet/health food people think only of themselves. Their alternatives are not fair to our low-income students who cannot afford meals at the restaurants that they support. If we are concerned for *all* of our students, we must have low-cost alternatives.



Appendix VI: Assessment Rubric

Rubric

We have provided a rubric for the assessment of student presentations. This rubric is intentionally designed to allow for flexibility in its application. In its current form, it does not contain a great deal of detail. As the teacher, you can augment the structure with additional criteria for evaluation, if you wish. The rubric is designed for evaluating an individual student. However, it can easily be modified for evaluation of group presentations.

RUBRIC FOR PRESENTATION

Total: 100 points

Content—70 points

Components Points

Define Problem 15

The student defined the problem with a well-reasoned cause and effect to show an understanding of the allocation of resources.

Address the issue with correct information 25

The student addressed the topic with accurate information to show an understanding of key topic components (topic components worth five points each).

- profit maximization
- opportunity cost, if not profit maximization
- construction of criteria
- (equity concerns) students' needs met
- logic grounded in economic thinking

Solutions. 30

The student used knowledge of economics and of the problem to allocate space in the Food Court (components worth ten points each).

- the solution fit the problem
- it was adequately justified / defended
- it used correct information

Skills in Presentation—30 points

Components

Kept within time limitations 5

Made eye contact and maintained good posture 5

Made a positive introduction and conclusion. 5

Used appropriate volume. 5

Displayed a confident tone. 5

Had a clear purpose and was focused. 5