Fostering Belonging Can Be a Cost-Effective Way to Teach Economics

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Abstract

A sense of belonging is a vital determinant of academic success, particularly in higher education. This paper explores three cost-effective, practical strategies to foster belonging in Economics classrooms. These approaches: structuring course delivery, incorporating group activities, and facilitating student-led discussions, promote inclusion while reducing the time and effort required by instructors. Central to these strategies is the validation of student presence, which emerges as a critical factor in cultivating a supportive learning environment.

Keywords: Economics education, belonging, cost-effectiveness.
JEL- classification: A22, A13, I23

1 Introduction

Research in pedagogy has long established that belonging is critical to student success (Felten and Lambert, 2020). The brains of our students are social and emotional (Steele, 2011). Alex-Assensoh explains: "In fact, students' fears about stereotyping,

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anxiety, and their relative status, sense of belonging, autonomy, and fairness reach the amygdala hundreds of milliseconds before other parts of the brain can process them. This puts the brain in survival mode" (Alex-Assensoh, 2021). On the other hand, positive emotions have benefits in creativity and learning (Osher et al., 2021). At the same time, as a discipline, Economics is well aware that we have an underrepresentation of Women, Black, Latino, and Native American people in the profession. Our misrepresentation is likely to have an effect on our students. Thus, it is important to take steps to be inclusive in the Economics classroom. Efforts of inclusivity are mostly useful for those students in the margin. Those with the lowest grades, those with the least resources, independently of skin color (Avila Forcada, 2023; Walton and Cohen, 2011)*. Still, efforts to create an inclusive space in the classroom are welcomed by everyone, even by those students with a strong sense of internal coherence.

On the other hand, cost-effectiveness is an essential trait for any economist, even economists who teach. The main reason 89% of economic instruction is through Lectures is because it is perceived as cost-effective. Economics instructors believe that "students don't learn best from lectures, but it's cost-effective" (Goffe & Kauper, 2014).

In this paper, I share three examples when fostering belonging is cost-effective. Instructors save time and effort in these examples while fostering inclusion and belonging. The first is having structure, the second is using groups, and the third is using online discussions.

A well-structured course not only allows the instructor to pursue specific objectives effectively but also provides certainty, thereby reducing anxiety among students. According to Hoyt (2022), students feel a greater sense of control and ownership over their learning experience when they can see a clear roadmap. Recent research by Lang and Smith (2022) further supports this notion, indicating that a well-structured course enhances the sense of belonging and improves grades among STEM students. Wilson (2023) Principle of Economics Course stands out as an excellent example of effective course design using Backward Design. I share the structure of an Econometrics course as well as the schedule of an Urban Economics course. Having a good

*Avila (2023) finds that the impact of kind messages improves the grades of students on the lower quintile, while it does not affect the best students. Walton and Cohen (2011) find that their intervention impacts African-American students, increasing college completion, but has no impact on the White population.

organization serves two purposes: it facilitates a smooth teaching process for instructors and provides weaker students with a sense of certainty and rhythm, promoting inclusivity.

Students may collaborate to reduce the load on the instructor. Cagliesi and Ghanei (2022) find that team-based learning approaches help students improve academic performance while promoting inclusion. Their example includes an escape room! McGoldrick et al. (2010) describe simple, replicable ideas such as think-pair-share. These ideas require very little effort. Another advantage of group learning is reducing the grading load, as the professor has to grade fewer group projects instead of individual assignments. I share an example from Managerial Economics, where students use collaborative learning to work on Case Studies.

Bayer, et.al., (2020) suggest that we should promote a relevance, belonging, and growth mindset to foster inclusion in Economics Courses. One strategy, of course, is to reach out to each student with a message that says: I am glad you are here! (Avila Forcada, 2023). Another strategy is to allow students to interact with each other and build community while learning. I share an example from Urban Economics, where students watch lectures and read articles together with no extra effort from the instructor.

I hope that these examples can be helpful for busy Economics Professors who are eager to promote inclusion.

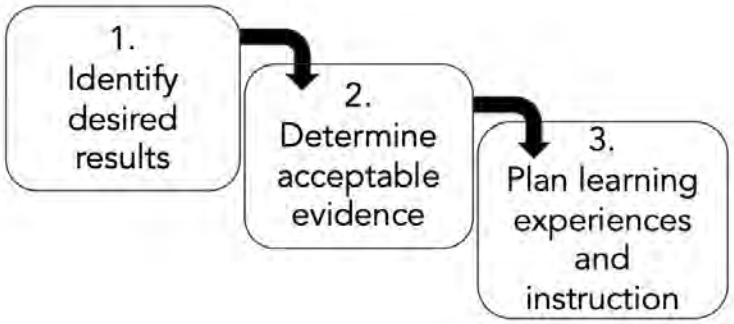
2 Well-Structured Course

Having a better course structure increases the academic performance of all student populations, with particularly notable benefits observed among minority and first-generation students Cohen (2024). Students consistently report higher rates of completing assignments, increasing study time, and a heightened sense of community within well-structured courses(Wilton et al., 2019).

The literature on Instruction Design for Higher Education offers a plethora of tools for course design, such as Morrison et al. (2019). In many cases, the design of a course is a time-consuming experience Saroyan and Amundsen (2023). Course design can be regarded as a fixed cost that will be exerted once. Considering that the economics instructor is already hired and must face this cost, then, it makes

sense to make it as painless as possible. For the sake of efficiency and considering the literature in Economics, I focus on one proven method to create a well-structured course: Backward Design (Bowen, 2017). In short, Backward Design calls to start with identifying the objective of the course and the desired results, then determine acceptable evidence, which in Economics tends to be quizzes or exams, and finally, plan the learning experiences and the instruction (See Figure 1).

Figure 1: Stages of Backward Design



Bowen (2017)

Cohen (2024) makes the point that backward design allows the development of courses that focus on higher-level mastery of a shorter list of concepts that students can apply throughout their lives. A detailed example is provided in Wilson (2023). As part of her design, she provides learning objectives, problem sets, and even an escape room!

A well-structured course focuses on the important concepts and makes them relevant. One of the ongoing debates in the design of Economics Courses is what topics to include or exclude. Cohen (2024) explores this debate for principles in Economics Courses. Above all, the consensus is that the list of what to leave must be short Colander and McGoldrick (2009); Frank (2012). Having a shortened list of concepts to teach allows time for activities to make Economic Concepts relevant, a principle advocated in various Econ Teaching studies. For example, Bayer et al. (2020) highlighted that many students were unaware of economics' potential to address inequalities and racism until the latter stages of their college education. Cohen (2024) also considers that learning concepts that students can apply throughout their lives

require relevance and focus, thus arguing that less can be more.

UC Davis Backward Design Course Planning suggests some questions to sort and prioritize items: What am I including so that students have the prerequisite knowledge and skills to continue in the discipline? What am I including only because it's in the textbook? What am I including because the person who taught this course before included it? What am I including because it's something I'm really passionate about?

Gilleskie and Salemi (2012) find that making the topics more relevant, which translates into fewer topics, does not have a negative impact on the performance of students in intermediate courses. A deeper dive into fewer concepts allows students time to explore the relevance of each one and learn more about the applications of each concept.

To make sure the topics are relevant for students, Wilson (2023) relies on writing prompts where students make an early reflection and then go on to learn the theoretical topic. This is the third suggestion in this paper. The prompts that I use in my courses are discussions on the Learning Managing System (i.e. Canvas or Blackboard), but could also happen on a shared document in Google Docs or in more sophisticated tools such as Perusall.

A well-structured course takes into account students' preferences when presenting the material. Hoyt (2022) has relied on a pre-survey to learn more about her students. This pre-survey gives them a chance to establish their identity in class. It can also provide useful information to tailor lectures while keeping the interests of students in mind.

Finally, a well-structured course provides the opportunity to use examples as opportunities for inclusivity. My Introduction to Statistics course starts with an R exercise to describe variables. I use the dataset in Matt Butner's Github, the same dataset used by Harrison Jr and Rubinfeld (1978). This is the seminal paper that introduces Hedonic Pricing to value clean air using a dataset from the Boston Metropolitan Area. One of the neighborhood variables is an index that measures the proportion of the African American Population in each neighborhood. This variable is crucial in determining the price of housing. At the very first class, this is a great opportunity to discuss the pervasive effects of racism in the housing market using facts.

A well-structured course based on Backward Design that appeals to students'

interests and uses relevant examples is an excellent way to save time and energy while being inclusive.

3 Group Projects

This is a very obvious strategy: if we allow students to work in teams, we have fewer assignments to grade. For decades, STEM education research has embraced group learning, a type of active learning that improves learning and benefits students from underrepresented groups (Haak et al., 2011). The literature makes a distinction between different group learning approaches: one approach is Team-Based Learning (TBL), another strategy is Problem-Based Learning (PBL), and another yet is Cooperative Learning (CL)(Haak et al., 2011; McGoldrick, 2011; Swanson et al., 2019).

Team-based learning (TBL) began in Business Schools and has been widely used in medicine Swanson et al. (2019). TBL for economics has been documented by Imazeki (2015), Ruder et al. (2021), and, recently by Cagliesi and Ghanei (2022). Implementing Team-Based Learning can be daunting because it demands that the whole course works in teams. At the beginning of each term, Imazeki (2015) explains to her students that the majority of the work will be done in teams. Most of the class time is spent on group activities, solving exercises, and discussing readings.

Problem-Based Learning (PBL) also began in Business and Medical schools. Savery (2015) offers an overview. Ruder et al. (2021), documents a case study to understand debt in a Principles of Economics course. The main takeaway from PBL is that students get a complex and authentic problem to apply course content. This allows higher engagement and independent thinking (Odell, 2018; Roche Carioti, 2020).

Cooperative Learning (CL) has been successfully documented in Economics Teaching Literature (Emerson et al., 2015, 2018; Maier et al., 2010). Cooperative learning allows tasks to be split and distributed among group members. This allows the grading to be independent while at the same time having a collaborative component. McGoldrick (2011) explains the "jig-saw" problems where each member works on a slightly different problem, and then the parts have to be put together for a finished product. This process is different from Team-based learning, where everyone works on the same problem.

Here, I share an example from Managerial Economics that uses the TBL lesson on encouraging diverse voices; the PBL lesson on engaging in complex real-life

problems, and the CL lesson on having each student be in charge of one part of the problem.

3.1 Group Project Example

The group project is a summative culmination of the application of intermediate microeconomic principles to a business case study. The course is Managerial Economics, a fourth-year level course. The objective is for students to identify pertinent conditions and then apply economic principles to maximize their firm's net present value. Each group receives a specific case study, and the project is assessed based on both individual and group performance components. Students solve this project over the course of five weeks. Each week, we study one topic, and one student in each group is in charge of that section. This student becomes "the expert" on one of the following topics:

- Pricing strategy
- Vertical Integration Strategy
- Joint Production strategy
- Quality/location strategy
- Net Present Value calculation

Table 1 is the calendar I use in my online course. Since the discussions are asynchronous and online, a meeting takes five days until the due date when the expert must submit a draft of her section.

The professor forms the teams aiming to have diverse voices but also considering the academic strengths of students. One of the stronger students begins as the Pricing Expert and another strong student finishes as the Vertical Integration Expert. The allocation of roles is not a matter of varying difficulty levels across topics; rather, it aims to cultivate an atmosphere of enthusiasm and scholarly rigor set by the initial student and to culminate in a strong finish by the latter. Opting for five members per group provides a practical buffer in case of unforeseen circumstances, such as a student's withdrawal or emergency, thereby promoting continuity and resilience within the team dynamic[†]

[†]Originally, I used the Jigsaw format that organizes students into two sets of groups. First, students discuss one idea in groups by topics to learn content and become experts and then return to their primary group to discuss and teach others. The downside is that students become close with their expert group, and given the little time we have, it was hard to start a new relationship with their Case-Study group. In my experience, relationships are very important.

Table 1: Group Project Calendar

Action	**Where**	**When**	**Who**
Read your case study and meet each other	Module 6	Oct 11-15	Professor
Participate in the Pricing Meeting	Module 8	Oct 25-29	Pricing Expert
Participate in the Vertical Integration Meeting	Module 9	Nov 1-5	Vertical Integration Expert
Participate in the Joint Production Meeting	Module 10	Nov 8-12	Joint Production Expert
Participate in the Quality/Location Meeting	Module 11	Oct 15-17	Quality/Location Expert
Participate in the Present Value Meeting	Module 12	Dec 1-5	Present Value Expert
Get the draft together, add intro and conclusion	Module 13	Dec 10	All the group submits

.

This quasi-jigsaw format project promotes students' interdependence since each becomes an expert on one topic. They depend on their peers' research and work to have an articulated final project. The project also creates a space that forces all students to participate fully since each has one job to do. Having a clear rubric allows students to focus on the objectives while also saving time for the professor to grade (See the annex for the rubric).

4 Student Collaboration

Another strategy that does not involve a group project but allows students to work towards an inclusive environment is classroom discussion. Leading effective discussion during class requires careful planning along with presence of mind and awareness of students (Buckles et al., 2011). However, for the efficiency-oriented approach of this paper, I suggest commenting on material, which is the online equivalent.

Discussion is very useful as a way of teaching the process of learning and thinking. Students can be asked to compare different concepts or previous topics with the current topic. Focusing on how things are alike and different helps students connect ideas together like puzzle pieces. When they link ideas this way, they remember them better than if they think about them separately. Talking about ideas with others allows students to make new concepts fit with what they already know (Lowman, 1995; Schunk, 2012). Discussions allow for questions, motivation, and ownership of the material Tice et al. (2021).

Discussions are excellent tools to foster belonging. Tice et al. (2021) considers that one of the most important lessons from the Covid-19 pandemic is the importance of discussions in Higher Education. Educators realized that discussions could be done online both, live or asynchronously. Discussions can enable students to meet each other and even fulfill the needs for social closeness and presence. One strategy to do this is to keep groups constant over the time of the term. Building connections through online discussions does not require skills or experience, it's enough to have a supportive social environmentParker-Rees and Haynes (2013).

In the Covid context,De Freitas et al. (2023) compares synchronous video discussion with asynchronous text commenting. They find that students prefer text-based discussions that allow them to post whenever they are able. Students value the convenience and flexibility of asynchronous assignments. Given my experience with asynchronous videos, I believe that asynchronous videos would be equally accepted.

Discussions can take place around articles, videos, podcasts, and other media. Dirk Mateer provides insights into his use of media within Economics courses, emphasizing the effectiveness of visual media in enhancing student retention. He highlights how videos can efficiently convey complex ideas within a brief timeframe, making learning more engaging and memorable for students. He offers media library access to everyone (Mateer, 2020).

4.1 Example on Dating Apps

The example below is a discussion in Urban Economics, a course for Seniors majoring in Economics. This discussion takes place in Module 3 entitled "The Consumer City." The Learning Outcome is that after completing this module, students will be able to:

1. Predict how urban firms behave using the monopolistic competition model and the Cournot monopoly model.
2. Identify how economies of scale are needed to provide certain goods in the urban setting.
3. Identify the transformation derived from new technological development in our economic models.

In Urban Economics, we comment on the following:

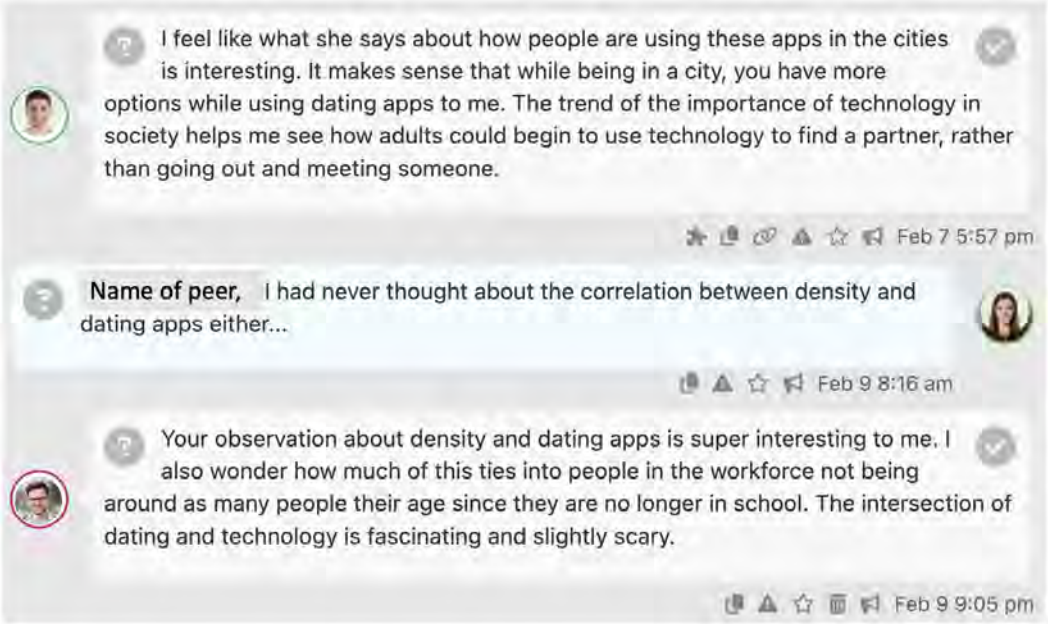
- Podcasts that introduce problems such as traffic congestion, homelessness, racial segregation, and so on.
- Academic conferences using the models that we are learning
- Academic articles that have applied the theoretical models to different cities.
- Non-academic articles that share educated opinions about the problem we are studying.

Every week, we discuss two or three items. As Tice et al. (2021) suggests, students are often motivated by grades, which underscores the importance of making these discussions low-stakes assignments. I use a program called Perusall, although similar exercises can be conducted on any shared document platform.

Module 3 starts with two discussions: one about the impact of Airbnb, and a video on Dating Apps. The professor writes the initial comment to this last video: "Apps have enhanced the consumer experience. In this video, Edward Glaeser and Meredith Goldstein explore how dating has changed with the use of dating apps. Please make at least one thoughtful comment." Figure 2 is an image that shows an excerpt from a discussion in this assignment.

In their comments, students mainly share their emotions. While they might refer to "urban density" and use the word "correlation", which are concepts we have used in class, students are simply feeling. Emotions keep us aware or alert. Bell hooks explains, "Professors can dish out all the right material, but if people are not in the mood to receive it, they leave classrooms empty of that information. The simple act of recognizing people's feelings can awaken an exciting learning process" (hooks, 2014, p.156). In other words, if nothing else, by allowing students to express their feelings, we engage them in finding the usefulness of the Economic models.

Figure 2: Response to Video on Dating Apps



Source: Author's course with random pictures

4.2 Example Discussing Data Using Stories

While the instructor's leadership is a key element for setting the tone of inclusiveness or lack of in class, no professor can create enthusiasm alone(Farber, 2008). Forty (or as many students as you have) other people are also in the class, whether online or in person. They are also responsible for building a learning community (hooks, 2014).

Figure 3 is a discussion that takes place in the same Urban Economics course. This is the discussion in module thirteen and the topic is "Urban Poverty." After thirteen weeks of interaction, students are more familiar with each other. The Learning Outcomes of Module 13 are: Once students complete this module, they will be able to:

1. Calculate and interpret the Gini Coefficient.
2. Use the Monocentric Model to describe poverty location in some cities.
3. Identify characteristics that pertain to urban and rural neighborhoods using economic data.
4. Identify traits common to urban neighborhoods that provided opportunities for poor families to escalate out of poverty.

In this module on urban poverty, we introduce students to the data from The Opportunity Atlas. In this case, we use a discussion with the following instructions:

"Share a picture of a person you know who grew up in the USA in the eighties. Perhaps your parent, godparent, mentor, or friend, and describe where he/she/them lived in the 1980s. You need to know with certain accuracy the neighborhood where your person grew up.

Find their neighborhood in the Opportunity Atlas and the expected income of someone with their characteristics. Using the story of your person, describe if his/her life does reflect the opportunities given by the neighborhood."

This assignment is a strong closing to weeks of interactions. Albeit short sentences, students open to share stories that link their own families to data we use in class. This discussion serves as a testament to the stories of our ancestors and builds a connection among us.

Encouraging student discussion serves as a vital community-building tool within the educational framework. In practical terms, the professor's role involves posing stimulating questions and ensuring respectful interactions among participants[‡]. Allowing student interactions through discussions is an efficient strategy for building community and fostering belonging. The online alternative of discussions gives students flexibility and lowers the pressure on the instructor.

5 Conclusion

Economists are keenly aware of the gains from efficiency. Economists who teach are often driven by a genuine desire to be inclusive but have scarce time and energy. The three strategies presented in this paper have the potential to build a learning community. A well-structured course represents better opportunities to acquire knowledge and liberating time to engage in meaningful conversations. Group projects force students to interact with each other while the professor has to grade fewer papers. Collaboration using technology allows for interactions where students share the privilege and the responsibility to build community. Finally, one last tip that is both efficient and effective is validation. Validation focuses on *how* teaching is delivered

[‡]Over the years that I have used these interactive methods, I have consistently observed constructive and supportive exchanges without disruptive behavior that would warrant censorship.

Figure 3: Discussion on Urban Poverty

This is my mom, Jane but today I will be writing about my grandma/grandparents. I couldn't get a picture of her (my grandma) but I assume my mom and grandma had similar traits at that age. Anyways, my grandparents immigrated here from Korea in the late eighties in search of the American Dream. They lived here in Northeast Denver, so they were close to work. When they came here both my grandparents worked in janitorial services at the Denver International Airport until they were able to save up enough to open a laundromat. I find their story amazing as they spoke no English when they came to America, were able to raise 4 kids, and even send 2 of them to college. I think that having access to the Airport allowed them to start even with no English. The city was welcoming in this sense.

Johnny Doe
Date when written

Hi John,
It seems like your grandparents had achieved their American dreams. Congrats to them! My dad also works at the DIA. I wonder: When did your grandparents come to the US? Why don't you have a picture of them? Do they not use social media? (I feel like they work so much like my dad, and they don't have time for traveling or pictures)

Another Doe
Date when written

Hey John!
My grandparents also worked at DIA when first coming to America and also spoke no English, so I understand that. That's amazing! Also, Sending their children to college and raising them is an amazing accomplishment. Congratulations to your whole family!

Source: Author's course with random pictures

rather than on *what* specific strategy is used (Kitchen, 2023). As we plan our courses, as we lecture or grade, we can always consider approaching students with an honest desire to learn who they are, to value and respect them, and, with this disposition, be willing to share a learning experience with them.

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A Group Project Instructions

The Final Case Study is the opportunity to apply your knowledge to a real-world firm. Below, you will find a Case Study. Each case study was gathered by a team of experts from Sage Business Experts, the Kellogg School of Management, or The New York Times.

Your Final Case Study is a paper that has seven parts: an introduction, a pricing strategy, a vertical integration strategy, a joint production strategy, a quality/location strategy, a net present value calculation, and a conclusion. Try your best to limit each section to one page. The Final Paper must have six pages at the most.

Each student will be the expert on one section. The introduction and the conclusion will be a group effort. Over the next several weeks, you will work with your group to help each other develop your part of the puzzle.

In this space, I include the specific case study.

Considering all the information provided and data that you gather from your own research, each expert must answer one of the following sections:

Pricing Strategy

1. Create a supply and demand curve for your product. Use the story provided and calculate the size of the market. You must determine if you will consider the world market or a single country. You need to show the shortage in raw materials, which is reflected in your supply.
2. Define a pricing strategy. You can certainly use second or third-price discrimination.
3. Make a graph or use an equation like the one we did in class that depicts your strategy.
4. Calculate the profits derived from your strategy for the next five years.

Vertical Integration and Distribution

1. The text describes some vertical integration. Should your firm integrate vertically, or should it back off (reduce) its vertical integration?
2. Make a graph or use an equation like the one we did in class that depicts your strategy.

3. Consider a strategy for five years. Make assumptions with the rest of your team (market growth, shortage of raw materials, etc.).
4. Calculate the debt or profits derived from your strategy for the next five years.

Joint Production

1. Describe if your firm should have a multi-plant strategy (for a particular market?).
2. Consider if fewer larger venues (with lower costs for fewer inputs) are better than smaller plants (with lower transportation costs). Make assumptions together with the rest of your group.
3. Make a graph or use an equation like the one we did in class that depicts your strategy.
4. Calculate the debt or profits derived from your strategy for the next five years.

Production quality

1. Describe if your firm should have different types (quality) of products.
2. Consider the location of selling points. You may need to clarify some assumptions behind your criteria.
3. Make a graph or use an equation like the one we did in class that depicts your strategy.
4. Calculate the debt or profits derived from your strategy for the next five years.

Net Present Value

1. Consider the suggestions of your peers and calculate the costs and benefits to obtain a net present value for several years. Bring all those numbers to present value so the manager can make an informed decision.
2. Make a spreadsheet like the one we did in class.

Below is the grading rubric for this assignment. This item counts for 150 points of your grade.

Group Item	Description	Points
Introduction	Your introduction is informative, clear and concise. The introduction reflects the flow of your paper	15
Conclusion & docu flow	The document is coherent and it's easy to read. flows beautifully, and it's easy to read. The conclusion summarizes the four strategies.	20
Interaction	The members of the team helped each other. This item is the average of the points from each meeting.	15
Individual Item	**Description**	**Points**
Data	The data used for your calculations should be believable.	20
Market Structure	You identify the market structure, which is the same that your teammates assume (perfect competition, monopoly, monopolistic competition...)	10
Economic Tool	How well you construct the pricing structure, the joint production (or lack of) strategy, location decision, or calculate the net present value.	40
Graph/Equation/ Spreadsheet	Use a graph, an equation, or a spreadsheet to explain your strategy.	15
Interaction	You posted ideas, requested, and provided help. This is the average of your individual participation in team discussions.	15