

**EXPERIENTIAL LEARNING IN DEMAND ANALYSIS
FOR AN AGRICULTURAL COMMODITY**

Dennis M. Conley, University of Nebraska

ABSTRACT

Students are expected to take responsibility for their own semester-long research project that is complemented with lecture material and lab activities. Increasing complexity and higher expectations proceed through the semester. The experiential component has students demonstrating trials, errors and progress.

INTRODUCTION

A Master's level course titled, "Commodity Demand and Price *Analysis*," is offered in our graduate program for students majoring in agricultural economics or agribusiness. As the teacher, I had come from industry into an academic position. In developing the course, I reflected on my own graduate experiences and outlined the following general objectives.

First, disciplinary knowledge should be integrated with real world observations through the student's own empirical work. Second, much of the responsibility for learning ought to rest with the student. Third was to require demonstration of both oral and written communication skills.

These three objectives set up the experiential learning component. The method used for achieving the objectives was to have each student be responsible for their own semester-long research project. The student selects an agricultural commodity and becomes familiar with the balance sheet components included in supply and disappearance, and how they are related to prices. In addition, an assessment is made on the competitive nature of the market, and how government and institutional factors affect it. The student is responsible for finding historical data, developing an econometric demand model for the commodity, estimating the model, evaluating adequacy, generating forecasts and

communicating the results. The quantitative analysis uses the Statistical Analysis System (SAS) software. Cooperative learning on the projects, use of SAS, and the computer is encouraged (Conley, 1993).

During a normal week there are two periods of lecture and one period of lab work. The lecture and lab periods complement the project activity, and the subject matter increases in complexity to coincide with higher expectations on project development. The student is not allowed to procrastinate until the last two weeks of the semester and quickly throw together a paper. Both professor expectations and peer pressure, which is substantial in a multi-cultural class, keeps the students mostly on task

Model Development

The bridge building between theory and reality continues with the students developing a model. Many forms of a model are possible to represent demand behavior, but the one advocated is a single equation demand model.

When the students start collecting data and think about or try to specify a model, the feedback indicates they are overloaded. The experiential learning process now is very real and uncomfortable. Feedback takes the form of presenting the teacher with the initial problems they have in collecting data. The typical plea is that they cannot find the data, or all the data that is needed. Later on the complaint is that the data differs across sources. They begin to ask questions about what variables to include in their model. How should it be specified?

The nature of the teacher's response is critical during a student's attempt to upward delegate the problem. A "teachable moment" has occurred, and the best response is to sustain the tension and keep

problem. A “teachable moment” has occurred, and the best response is to sustain the tension and keep the experiential learning process alive. This teacher’s response is rhetorical. What has the student found? Where did they look? What variables do you think should be in the model specification? How would you define the variables?

The student is counseled that they probably have never done an extensive search for data in previous academic exercises, but to keep trying. The encouragement is that if they can do it now on their own, then they will be able to repeat it in their professional career with much more confidence.

Model Estimation and Reporting

The tension increases, and the experiential learning process continues, when students estimate their first empirical demand function. They have expended considerable effort in collecting the data, becoming proficient in using the computer, and developing the demand equation as a function of the variables unique to their chosen commodity. With all this careful effort at building a model, they have high expectations that the empirical results will confirm demand theory. They anxiously scan the SAS computer printout seeking to interpret the prolific output of statistical results. For most students the high expectations come crashing down when the results, which they believe should reflect reality, do not confirm the theory. In many cases, almost everything is insignificant and no causal relationships are evident. It is a sobering experience.

The criteria for model adequacy is based on two tests. One asks the student to see if results are consistent with economic theory, such as an inverse relationship between quantity demanded and price. The signs on explanatory variables are checked for this consistency. The second test is based on the statistical results. Harms (1996) in his paper listed eight criterion for what makes a good model. Similar criteria are applied by

students in this course.

As teacher, the experiential learning process is compounded by having the students give in-class reports on progress and problems. Other class members are asked to offer suggestions that could assist the reporting student on their project. In all projects, students have overcome the initial problem of a dichotomy between theory and reality, and eventually they develop their own credible model (Conley, 1993).

Conclusions

As students work on their projects by searching for data, gaining a more complete understanding of the demand context for their commodity, developing a model, and reporting results both in oral and written form, does a compound effectiveness take place in the experiential learning process. One outcome from using experiential learning that was not expected, was the opportunity for students to work and learn at their own pace, within bounds set by the teacher. Tension generated by a lockstep schedule for completing assignments, and the inter-student competition, was reduced. Higher expectations from the teacher during the semester, and ultimately by the students themselves, leads them to take more responsibility for learning because of the reinforcing motivation coming from the experiential project.

REFERENCES

- Aigner, J. S. (1991) *Advising and Teaching International Students: A Guide for Faculty*, 6-7. Office of International Affairs, University of Nebraska, Lincoln, NE
- Conley, D. M. (1993) Multi-Cultural Adaptability Using Experiential Learning in a Graduate Course. *Developments in Business Simulation and Experiential Exercises*, 20, 34-38
- Harms C.G. (1993). An Econometric Multiple Regression Case in Experiential Learning. *Developments in Business Simulation and Experiential Exercises*, 23, 96-99