

Final Report

2010

Promoting classroom experiments in undergraduate economics teaching

**Professor Ross Guest
ALTC Teaching Fellow**

<http://www.economicgames.org/#>



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Executive Summary

This fellowship program was motivated by the need to improve the quality of the student learning experience in undergraduate economics, as evidenced by declining enrolments and poor teaching ratings in Australian university economics over at least two decades. The evidence indicates that the best way to improve the learning experience of students in economics is to engage students more actively in a student-centred teaching and learning process. A practical way of achieving this is through classroom 'experiments' which is shorthand here for a range of active learning approaches that include games, simulations and role-plays.

The fellowship program consisted of professional development activities that included: developing and disseminating electronic resources on classroom games in economics; conducting workshops for academics to promote the use of classroom games; disseminating the value of classroom games through new contributions to the academic literature on pedagogy in economics; and seeking to evaluate the effectiveness of classroom experiments in economics.

The central outcome of the program is an enhanced appreciation by economics academics of the value of classroom experiments and a willingness to embed these as an integral part of their teaching. This was achieved through several initiatives – in particular, the development of an online Economic Games Resource Portal <<http://www.economicgames.org/>> which is an open-access website providing information for economics educators on classroom games for learning economics.

The website is currently functional and will be enhanced and promoted nationally and internationally. This process will be managed through Griffith University, and has been partially funded by an internal grant jointly received by the fellow and a senior lecturer at Griffith Business School, Dr Robyn Swift.

A second initiative was a range of workshops organised and run by the fellow along with other invited experts in the field. These workshops have helped to overcome resistance to new teaching methods by reducing the costs to academics of implementation and highlighting the benefits both to students and to academics.

A third initiative was a special issue of the academic journal the *International Review of Economics Education* (IREE) guest edited by the fellow. The special issue, published in November 2010, is devoted to articles about economic games – their application, potential benefits, and an evaluation of their effects on learning.

The enthusiastic response of academics to the above initiatives augers well for the ultimate impact of this program. We will be able to gauge this impact over time in several ways: (i) the degree to which classroom experiments have become embedded in teaching and learning programs both at Griffith and other Australian universities; (ii) the engagement by academics with the Economic Games Resource Portal; and (iii) student feedback on economic games and student achievement in undergraduate economics courses.



1.0 Fellowship outcomes

The broad outcome of the fellowship program is an enhanced appreciation by economics academics of the value of classroom games or 'experiments', and a willingness to embed these as an integral part of their teaching. The following is a detailed statement of the specific outcomes that were intended and progress made towards achieving them.

Intended outcome 1:

Online resources for academics on Griffith University's website with open access.

Progress:

This was a primary aim of the fellowship and has been substantially achieved. At Griffith University we have developed, from start to completion, an Economic Games Resource Portal <<http://www.economicgames.org/>>. (See Appendix A for screenshots and descriptions).

The portal allows instructors (and students) to search for classroom games by broad economic category, subcategory and keyword. There are currently 35 games catalogued. For each game the following information is provided:

- Aim: a short statement of the pedagogical aims of the game.
- Description: approximately 200 words describing what the game entails and how to run it.
- Overview: information on suggested maximum and minimum class size, level of difficulty, set-up time and duration of the game.
- Learning and Teaching: this provides ratings on a 1 to 5 Likert scale of the following dimensions:
 - engage all class
 - challenge learners
 - teacher expertise
 - overall effectiveness.
- Resource Requirements: this may include physical space requirements and any props required.
- Primary Source and Additional Sources: these include literary sources such as journal articles and other websites that describe the game.

The following are also provided on the website:

- recently added games
- most popular games
- the opportunity for users to suggest a game
- the opportunity for users to provide feedback on the games. Users must first register by providing an email address.

Ongoing work is being undertaken to improve the website in response to feedback, and to add new games. This work is being funded by an internal grant from Griffith University.



Intended outcome 2:

A greatly enhanced appreciation by economics academics of the value of classroom experiments, and a willingness to embed these as an integral part of their teaching.

It is one thing to have a website with many economics games and experiments but the challenge is to get academics to use it enthusiastically and properly. A key aim of the fellowship was to make progress towards overcoming resistance to integrating games into their normal suite of teaching and learning activities.

Progress:

The process of breaking down inertia commenced with a range of workshops and seminars conducted by the fellow and others. (See 2.0 Approach and methodology for detail on the workshops and seminars.)

Intended outcome 3:

A teaching and learning grant from Griffith University to develop new classroom experiments based on identifying gaps in the curriculum where there are not yet any suitable experiments.

Progress:

As reported above in relation to Intended outcome 1, the Economic Games Resource Portal <<http://www.economicgames.org/>> is now live and functional. However, there is more to be done in terms of evaluating experiments that are on the website; sourcing additional experiments (external); creating new experiments (internal); and responding to feedback from both Griffith and outside users. This is the purpose of the Griffith University teaching and learning grant.

The grant application was successful and \$20,000 was provided. The project is being managed by Dr Robyn Swift and the fellow.

Intended outcome 4:

A special issue of the *International Review of Economics Education* (IREE) on classroom experiments. This outcome was conditional on agreement from the journal's co-editor and publisher.

This outcome was seen as an important activity in promoting and disseminating, in Australia and internationally, the role of classroom games and experiments in economics education.

Progress:

The special issue was approved with the fellow and Professor Mike Watts from Purdue University in the US acting as guest editors. The special issue was published in November 2010. All submitted papers were double blind refereed and a selection of six papers was accepted for publication. (See Appendix B for the list of the six accepted papers).

Intended outcome 5:

A new evaluation instrument and new evidence of the effectiveness of classroom experiments.

The aim here was to develop and apply a focus group instrument, then analyse the results in order to provide evidence of the effectiveness of classroom experiments.



There has not been any focus group evidence reported in the literature either in Australia or internationally on the use of games in economics education.

Progress:

An unstructured focus group interview was conducted with eight students in the fellow's 3rd year undergraduate public economics course. The students were asked about feedback on the three economics games in which they had participated during the semester. The interviews were transcribed and the results were very encouraging. The students reported positive learning experiences from the games; they also had some suggestions for improvement. The focus group interviews were unstructured which made the responses less amenable to formal statistical analysis. Formal statistical analysis was not undertaken.



2.0 Approach and methodology

The fellowship promoted the use of 'experiments' or classroom games by conducting a range of professional development activities designed to disseminate best practice in this area to the community of economics educators.

Activity 1:

Develop a catalogue of existing classroom experiments and match them against core undergraduate topics.

An initial literature search indicated that a number of classroom experiments have been developed and written up by various authors, particularly in the US and UK. A more thorough literature search was conducted in order to develop a comprehensive catalogue of existing experiments undergraduate topics. Having chosen the best 30 of these, a short description of each was written up, including instructions for academics and literature references providing more detail.

Activity 2:

Work with Griffith University's Flexible Learning and Access Services (FLAS) unit to develop an online resource portal of economics games.

The online resource portal allows instructors (and students) to search for classroom games by broad economic category, subcategory and keyword. There are currently 35 games catalogued. For each game the following information is provided:

- a short statement of the pedagogical aims of the game
- a 200-word description of what the game entails and how to run it
- information on suggested maximum and minimum class size, level of difficulty, set-up time and duration of the game
- ratings on a 1 to 5 Likert scale on the following teaching and learning dimensions:
 - engage all class
 - challenge learners
 - teacher expertise
 - overall effectiveness
- resource requirements, which may include physical space and any props required
- primary and additional sources including literature and websites.

The portal also provides information on recently added games; most popular games; and allows users to suggest a game; and provide feedback on the games. Users must first register by providing an email address

Ongoing work is being undertaken to improve the website in response to feedback, and to add new games. This work is funded by an internal grant from Griffith University.



Activity 3:

Develop and conduct workshops for academics where experiments/games are conducted with the academics as participants.

Run classroom experiments in selected undergraduate classes at Griffith University.

The professional development activities included:

- A seminar presentation by the Fellow to the Griffith Business School Teaching Community of Practice on the role of classroom games in promoting student learning (6.5.09).
- An invited seminar presentation by visiting academic from New Zealand, Mary Hedges, who is a recognised advocate and practitioner on classroom games in economics education (8.6.09 to 12.6.09).
- Several classroom experiments conducted in the Fellow's course — Public Economics — over the period August to October, 2009. Focus group interviews of students were conducted in order to evaluate their effectiveness.
- Workshops conducted for the Australian and New Zealand School of Government in Melbourne on implementing classroom experiments in economics (11.2.10).
- Two workshops conducted for academics at Griffith University on active learning strategies such as classroom games (8.6.10 and 10.6.10)

In addition several classroom experiments conducted in the fellow's public economics course from August to October 2009. Focus group interviews of students were conducted in order to evaluate their effectiveness.

Activity 4:

Develop an application for a Griffith University teaching and learning grant to develop new classroom experiments based in identifying gaps in the curriculum where there are not yet any suitable experiments.

The purpose was to evaluate the experiments that are on the website, source other experiments (external), create new experiments (internal), and respond to feedback on the website from both Griffith and outside users. A \$20,000 grant was received in January 2010 for this purpose. The project will be managed by Dr Robyn Swift in consultation with the ALTC Fellow.

Activity 5:

Organise a special issue of the *International Review of Economics Education* (IREE) on classroom experiments.

This was an important activity for promotion and dissemination of the role of classroom games and experiments in economics education, both within Australia and internationally. The fellow and Professor Mike Watts from Purdue University in the US are acting as guest editors for a special November edition of IREE. All papers submitted for the special edition were double blind refereed and a selection of six papers was accepted for publication. (See Appendix B for the list of the six accepted papers).



3.0 Contribution to existing knowledge and literature

Australian university enrolments in economics have been falling relative to total university enrolments for at least two decades (Millmow and Bookallil, 2006; Millmow, 2000). Indeed this pattern is not confined to Australia – a similar relative decline has occurred in the UK and the US. (Lodewijks, 2002). One obvious reason is competition from other business and commerce disciplines. But the decline has also been attributed to uninspiring, ‘chalk and talk’ teaching methods, both in Australia (Millmow and Bookallil, 2006) and in the US. (Becker et al, 2006; Becker, 2000). Becker and Watts (1998) report that in the US some authors have gone further by singling out economics teaching as an example of what is wrong with university education.

In Australia, the teaching of university economics has been consistently rated poorly by new graduates in the annual Course Experience Questionnaire (CEQ). For example, the fellow reports (in Guest and Duhs, 2002) that for a sample of three consecutive years the Good Teaching Score for economics was found to be in the lowest 25 per cent of scores for all Fields of Study (FOS), whereas the Overall Satisfaction Index scores for economics were not significantly below the mean for all FOS. This suggests that the problem is more with the teaching than with other factors influencing satisfaction with the course. As further evidence, a survey of Australian economics graduates indicated that they perceived that they had retained little economic understanding of any use in either their professional roles or their citizenship roles (Guest and Duhs, 2002). This echoes evidence in the US that economics graduates have what economic educators regard as a poor understanding of economics, and are only slightly better than non-economics graduates being able to apply economic principles to solve economic problems (Walstad and Rebeck, 2002; Walstad and Allgood, 1999).

This evidence points overwhelmingly to the need to improve the teaching and learning of university economics. It is widely accepted that the best way to improve the learning experience of students in economics is to cut back the volume that we teach and to engage students more actively in a student-centred teaching and learning process (for recent examples see Frank, 2006; Salemi, 2005; Reimman, 2004, and the many references therein). However, university economics teachers have been reluctant to replace the traditional lecture with a more dynamic teaching and learning style. The problem is partly the inertia in the pedagogical approach embedded in textbooks (Colander, 2005) – the approach lends itself to the traditional teaching style. The fundamental problem is that the benefits of embracing new teaching methods are not perceived by teachers to justify the costs in terms of preparation time and the effort of a more challenging style of teaching.

This fellowship program has addressed this problem by promoting the benefits and reducing the costs of introducing a more dynamic student-centred approach to teaching and learning economics. This has been achieved by promoting the use of classroom ‘experiments’ to teach economic principles at undergraduate level. ‘Experiments’ here is short hand for a range of learning activities that include games, simulations and role-plays. The distinguishing feature of these activities is that they put students in a controlled environment in which they make economic decisions. These decisions, or the consequences of them, become the data that the class analyses (Hazlett, 2007).

An example of a classroom experiment will give the flavour of these sorts of activities. A classic example is the pit market trading game which is used to illustrate a number of features of real world markets. Students are divided into two groups: buyers and sellers. A set of playing cards is also divided into two: red (hearts and diamonds) and black (spades and clubs). The buyers are handed the red cards and the sellers are handed the black cards. The number on each buyer’s card is the value to the buyer: the maximum they would be prepared to receive in return for their card. The number on the seller’s card is the seller’s cost of production: the minimum the seller would be prepared to receive in return for their card. The buyers



and sellers then move to a physical space (at the front of the classroom for example) which represents a trading pit used in some financial markets. Buyers and sellers then negotiate a sale price and this is repeated in successive rounds. The point of the exercise is to show that the price gradually converges to the market equilibrium. The exercise can be used to illustrate a number of features of real world markets.

The educational foundation for classroom experiments derives from Kolb's (1984, 1991) model of experiential learning. In this form of learning the student is placed in a real world situation that requires active participation and the application of concepts. It can be seen as a form of problem-based learning where the problem is the situational context in which the student is placed and to which the student must respond. The study in Reimann (2004), based on structured interviews with a range of university economics teachers and students in the UK, indicates that learning outcomes in economics could be substantially improved with a more problem-based/experiential approach. Examples in an economics context would be asking students to solve the problem of road congestion as recently reported in the local newspaper; and student radio broadcasts consisting of commentary on a current economic issue. Hawtrey (2007) reports strong student support for experiential learning in economics courses in Australia based on student survey evidence. This evidence is echoed by the fellow's own work on experiential learning (Guest, 2002, for example), using student-driven computer simulations in the classroom.

Experiential learning and problem-based learning, of which classroom experiments are one form, is also a way of dealing with increasing diversity in Australian university classrooms which the fellow discusses in Buckridge and Guest (2007). The Australian university student body has become more diverse in terms of students' preparation for higher education and their socio-cultural backgrounds; and this contributes to the wider range of learning styles that they bring to their initial experience of university learning. Increasing diversity means that a one-size-fits-all classroom experience is less appropriate. Instead, an individually customised learning experience is more effective and classroom experiments are an ideal way of providing this because the students determine their own individual response to the situation, see the consequences of their actions, and thereby construct their own understandings.

The fellowship program has contributed to the relatively scant evidence on the efficacy of classroom experiments by conducting focus group interviews of students, and by publishing international evidence through the special issue of the *International Review of Economics Education* (IREE). (See the sections on Approach and Outcomes in this report).

In Australia there has been no published evaluation of classroom experiments in economics. In fact, classroom games in economics have apparently not been widely adopted in Australian universities. Formal studies in the US (Dickey, 2006) and the Netherlands (Gremmen and Potters, 1997), both using a randomised control design, found that the use of games led to a statistically significant improvement in learning relative to the traditional lecture. There are also benefits other than improved learning outcomes that tend to be neglected in the literature, according to Brauer and Delemeester (2005). One such benefit is the enjoyment that the academic may derive from having more active engagement with students. The authors refer to another possible benefit which is that students may become more efficient at learning economics – that is, they can achieve the same quality of learning outcomes in less time, which would free them up to spend more time in other activities including both the learning of other subjects and leisure pursuits. This might however be viewed by some as a less important and more contentious benefit than improving learning outcomes in economics. The papers published in the special issue of IREE, an outcome of this program, add further evidence in relation to some of these points.



4.0 Critical success factors and related issues

A number of factors contributed critically to the outcomes of this fellowship:

- Established networks: the fellow had connections with leaders in teaching and learning economics in other institutions as well as at his home university. The fellow also had connections with key contacts at the Economics Network of the UK's Higher Education Academy.
- Support from key people in the Griffith Institute for Higher Education at the fellow's home university.
- Support from the fellow's department in his university, which allowed for time release (funded by the fellowship) from some university responsibilities, notably contact teaching hours.
- Funding from the ALTC – the program could not have proceeded at any level without it.

It is important to note the importance of establishing support *in advance* – it would have been very risky to proceed with the program without first having established the necessary support from networks and institutions.

Thankfully, there were no major impediments to the success of the program. The only difficulty was the fact that the fellow was not able to put aside his many professional activities other than face-to-face teaching. These included Head of Discipline responsibilities, a current ARC Discovery Project and a journal co-editorship. Hence, a six-month extension to the fellowship was sought and granted.



5.0 Dissemination and wider implementation of the approach and outcomes

The over-arching outcome of the fellowship program is an enhanced appreciation by economics academics of the value of classroom games/experiments and a willingness to embed these as an integral part of their teaching.

An important vehicle for achieving this is the Economic Games Resource Portal <<http://www.economicgames.org/>>. The games on this website can be readily implemented at any institution. All of the games are non-electronic and the resource requirements are generally low.

The portal will be promoted through:

- invitations to economics departments in Australia to include the URL in their own online resources
- posting the URL on the website of the Economics Network website which is the UK-based organisation that publishes the *International Review of Economics Education* (IREE)
- information posted on the Economics Society of Australia's website.

The special issue of IREE will also play a significant role in raising awareness of the role of games in economics education and promoting their effectiveness.



6.0 Links with ALTC strategic priority areas

Curriculum Renewal

This fellowship program links with the ALTC strategic priority area of curriculum renewal. Taking the notion of curriculum to include the learning experiences that are intended to achieve learning outcomes, then experiments and games are very much part of the curriculum.

The need for curriculum renewal in economics is evidenced by declining enrolments and poor teaching ratings in Australian university economics over at least two decades. This has been attributed to uninspiring, 'chalk and talk' teaching methods, both in Australia (Millmow and Bookallil, 2006) and in the U.S. (Becker et al, 2006; Becker, 2000). The evidence suggests that the best way to turn this around is to encourage academics to adopt more student-centred learning experiences. Classroom experiments are one type of student-centred, active learning approach.



7.0 References

- Becker, W. (2000) 'Teaching economics in the 21st century', *The Journal of Economic Perspectives*, 14, 1, 109-119.
- Becker, W., Watts, M., Becker, S. (eds.) (2006) *Teaching economics. More alternatives to chalk and talk*, Edward Elgar, Cheltenham.
- Brauer, J. and Delemeester, G. (2001) 'Games economists play' *The Journal of Economic Surveys*, 15, 2, 221-236.
- Buckridge, M. and Guest, R. (2007) 'A conversation about pedagogical responses to increased diversity in university classrooms', *Higher Education Research and Development*, 26, 2, 133-146.
- Colander, D. (2005) 'What economists teach and what economists do' *The Journal of Economic Education*, 4, 249-260.
- Dickie, M. (2006) 'Do classroom experiments increase learning in introductory microeconomics?', *The Journal of Economic Education*, 37, 3, 267-288.
- Frank, R. (2006) 'The economic naturalist writing assignment', *Journal of Economic Education*, 37, 1, 58-67.
- Gremmen, H and Potters J. (1997) 'Assessing the efficacy of gaming in economic education', *The Journal of Economic Education*, 28, 4, 291-303.
- Guest, R. (2002) 'A simulation approach to the Taylor-Romer Model of Macroeconomic Stabilisation', *Computers in Higher Education Economics Review* 15, 1, 2-7.
- Guest, R. and Duhs, A. (2002) 'Economics teaching in Australian universities: Rewards and outcomes', *The Economic Record* 78, 241, 147-160.
- Hawtrey, K. (2007) 'The Economic Naturalist Writing Assignment', *The Journal of Economic Education*, 38, 2, 143-152.
- Hazlett, D. (2007) 'A classroom investment coordination experiment', *International Review of Economics Education*, 6, 1, 63-76.
- Kolb, D. A. (1984) *Experiential Learning: experience as the source of learning and development*, Englewood Cliffs, Prentice Hall.
- Kolb, D. A., Boyatzis, R., & Mainemelis, C. (2001). 'Experiential learning theory: Previous research and new directions' in R. Sternberg and L. Zhang (eds.) *Perspectives on cognitive learning, and thinking styles*, Mahwah, NJ: Lawrence Erlbaum Associates.
- Lodewijks, J. (2002) 'Economics, the doctoring of economics' in Marginson, S. (ed.) *Investing in social capital: Postgraduate training in the social sciences in Australia*, University of Queensland Press, Brisbane.
- Millmow, A. (2000) 'The state we're in: University economics 1989/99', *Economic Papers*, 19, 43-51.
- Millmow, A. and Bookallil, C. (2006) 'Girls and economics: An unlikely coupling', *Economic Papers*, 25, 3, 221-234.
- Reimman, N. (2004) 'First-year teaching and learning environments in economics', *International Review of Economics Education*, 3, 1, 9-38.
- Salemi, N. (2005) 'Teaching economic literacy: Why, what and how', *International Review of Economics Education*, 4, 2, 46-57.
- Walstad, W. B. and Allgood, S. (1999) 'What do college seniors know about economics?', *American Economic Review*, 89, 350-4.
- Walstad, W. B. and Rebeck, K. (2002) 'Assessing the economic knowledge and economic opinions of adults', *Quarterly Review of Economics and Finance*, 42, 921-35.



8.0 Appendix A: Screenshots of the Economics Games Resource Portal

This is the home page of the portal, www.economicgames.org

ECONOMIC GAMES Resource Portal
"Games for Learning Economics"


(cc) BY-NC-SA

[HOME](#) [SEARCH](#) [CONTACT](#) [LINKS](#) [LOGIN](#)

WELCOME

This website is part of an ALTC (Australian Learning and Teaching Council) funded program to promote the use of classroom experiments and games in economics. Subsequent funding for website development was provided by Griffith University.

The program director is Professor Ross Guest and the website development managers are Dr Robyn Swift and Eliot Sanft of Griffith University. For enquiries about this website please contact Robyn Swift on r.swift@griffith.edu.au or Eliot Sanft on e.sanft@griffith.edu.au.

Support for this website has been provided by the Australian Learning and Teaching Council Ltd, an initiative of the Australian Government Department of Education, Employment and Workplace Relations. The views expressed in the Fellowship do not necessarily reflect the views of the Australian Learning and Teaching Council.

WHY USE GAMES?

WHAT THIS SITE DOES

FIND A GAME

Select a category to start search

Note: Search checks word entered to see if it matches with game title or game description

[SEARCH](#)

RECENTLY ADDED GAMES

Inflation game	23rd May 2010
Official and parallel market exchange rate game	19th May 2010
Exchange Rates with Purchasing Power Parity Game	19th May 2010
Currency Attack Game	18th May 2010
Bank Run Game	18th May 2010

MOST POPULAR GAMES

Free Entry Exit Farm game	★ ★ ★ ★ ★
Public Good Game	★ ★ ★ ★ ★
Widget game	★ ★ ★ ★ ★
Oligopoly game	★ ★ ★ ★ ★
Five Firms Oligopoly Game	★ ★ ★ ★ ★

[+ SUGGEST A GAME](#) [👤 PROVIDE US WITH FEEDBACK](#) [✍ REGISTER WITH US](#)

The following two pages provide the information for a particular game: the free entry exit farm game.

ECONOMIC GAMES

Resource Portal

"Games for Learning Economics"




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[SEARCH](#)
[CONTACT](#)
[LINKS](#)

Free Entry Exit Farm game

Microeconomics > Market Structure

★ ★ ★ ★ ★
[SHOW SOURCE](#)

AIM

The game is an experiment that demonstrates the dynamic process that leads to long-run equilibrium in a multimarket setting. Students see how free entry and exit lead to equal profits across markets in the long run, and how opportunity costs determine what those profits are.

DESCRIPTION

Students take on the role of farmers who must decide whether to enter one of four markets (corn, wheat, rice, or soybeans). Production costs differ for each crop and market prices depend on the amount supplied and consumer demand. Demand is simulated through a pre-determined inverse linear demand function with a slope of negative one. The classroom is divided into four market areas. Each student/farmer makes their supply decision by physically going to the market area they wish to enter (each farmer only supplies one unit of production per period). The number of farmers in a given market is totalled and the market prices and profits are then reported to all. The process is repeated for several periods until all markets yield equal (zero)

OVERVIEW

Minimum Class Size: 15
Maximum Class Size: 80
Level of Difficulty: Medium
Setup Time: Medium
Duration of Game: Medium

LEARNING AND TEACHING

Engage All Class	1	2	3	4	5
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LEAVE A COMMENT

COMMENTS (1)

I have utilized this game in my class for the last five years. This is a fantastic introduction to markets.

POSTED BY: [G Dirk Mateer](#)

★ ★ ★ ★ ★

« NEWER » « OLDER »

ECONOMIC GAMES

Resource Portal

"Games for Learning Economics"




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[CONTACT](#)
[LINKS](#)

Free Entry Exit Farm game

Microeconomics > Market Structure

★ ★ ★ ★ ★
[SHOW SOURCE](#)

profits are then reported to all. The process is repeated for several periods until all markets yield equal (zero) profits. After a long-run equilibrium is achieved, a second stage is played in which a "Government Fallow Program" is instituted. The GFP guarantees each farmer \$1 profit if they do not plant any crops (which is indicated by having the students physically move to the centre of the room). Profits in the agricultural markets converge within several periods. Topics for discussion can focus on the distinction between

OVERVIEW

Minimum Class Size: 15
Maximum Class Size: 80
Level of Difficulty: Medium
Setup Time: Medium
Duration of Game: Medium

LEARNING AND TEACHING

Engage All Class	1	2	3	4	5
Challenge Learners	1	2	3	4	5
Teacher Expertise	1	2	3	4	5
Overall Effectiveness	1	2	3	4	5

RESOURCE REQUIREMENTS

Four signs in each corner of the room to denote markets, instruction sheets for students.

LEAVE A COMMENT

COMMENTS (1)

I have utilized this game in my class for the last five years. This is a fantastic introduction to markets.

POSTED BY: [G Dirk Mateer](#)

★ ★ ★ ★ ★

« NEWER » « OLDER »

9.0 **Appendix B: Papers accepted for the special issue of the *International Review of Economics Education* (IREE)**

Published in November 2010.

<http://www.economicsnetwork.ac.uk/iree/>

Teaching Opportunity Cost in an Emissions Permit Experiment

Charles Holt (University of Virginia), Erica Myers (University of California, Berkeley), Markus Wrake (IVL Swedish Environmental Institute), Dallas Burtraw (Resources for the Future, Washington) and Svante Mandell (VTI Swedish National Road and Transport Institute, Stockholm)

Discovering Economics in the Classroom with Experimental Economics and the Scottish Enlightenment

Taylor Jaworski (University of Arizona), Vernon Smith (Chapman University, California) and Bart Wilson (Chapman University, California)

Patents and R&D: a Classroom Experiment

Amy Diduch (Mary Baldwin College, Staunton)

Experiential Learning with Experiments

Henrik Egbert (University of Giessen) and Vanessa Mertins (University of Trier)

Do Classroom Experiments Affect the Number of Economics Enrolments and Majors?

Tisha Emerson (Baylor University) and Beck Taylor (Samford University)

To Work or Not to Work ... That is the Question: Labour Market Decisions in the Classroom

Phyllis Esplin (University of Otago) and Arlene Garces-Ozanne (University of Otago)

10.0 Appendix C: Flyer promoting the Economic Games Resource Portal



Classroom Games in Economics Education www.economicgames.org

New website

This website is part of an ALTC (Australian Learning and Teaching Council) Fellowship* which aims to promote the use of classroom experiments and games in economics. The ALTC Fellow is Professor Ross Guest and the website development managers are Dr Robyn Swift and Eliot Sanft of Griffith University. For enquiries about this website please contact Robyn Swift on r.swift@griffith.edu.au or Eliot Sanft on e.sanft@griffith.edu.au.

Why use games?

Let's be honest: spending a 50 minute class reading through a set of old Powerpoint slides is easy, low risk, and allows more time for our research. Right? But do you enjoy the teaching experience? Are the students learning? How do they rate your teaching? OK, let me give you four simple reasons for using classroom games – occasionally, not every lecture – instead of reading through your old PPT slides.

1. Your students will learn more and achieve better results. True! The evidence is out there.
2. You'll get better student ratings. Students enjoy the active engagement and they appreciate the effort you make to improve their learning.
3. You'll enjoy teaching more.
4. You could even save time on preparation in the long run. Once you've prepared a game, it is repeatable at almost no extra time cost in preparation.

What are the costs?

There are initial time costs in preparation (but games can be repeated at very little subsequent cost). They can also use up a lot of class time. For example, the tennis ball game, which illustrates the dual concepts of diminishing returns to a fixed factor and rising marginal costs, might take most of a 50 minute class. Whereas by "chalk and talk" you might "cover" those concepts in 10 minutes. The use of games in class therefore could mean the breadth of the curriculum is narrower. **But less is more!** That is, less breadth of coverage but with more active student engagement leads to deeper learning outcomes.

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