COMPREHENSIVE ASSESSMENT IN ECONOMICS EDUCATION

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ABSTRACT

Assessment of student learning is an increasingly important trend in higher education. While faculty interest in assessment as a means of improving the educational process is important, to a considerable extent, the increased emphasis is the result of more stringent standards being imposed by accreditation agencies in an attempt to require educational institutions to better define specific student learning outcomes, demonstrate student learning, and use the results obtained in a cycle of continuing educational improvement.
This paper proposes a model for assessing student learning in courses throughout the entire economics curriculum. This model is much more broad-based than assessment of student learning in the principles courses alone. The model proposed is sufficiently flexible so that it can be used, with perhaps only minor adjustments, by many economics departments as these departments work to implement a program of assessment as part of a culture of continuous improvement..

INTRODUCTION

Overall, assessment should be thought of as a means of understanding the process of learning and how learning can be measured and improved. In effect, assessment moves away from the traditional emphasis on teaching and places greater emphasis on student learning and demonstration of the outcomes of the learning process. The process of assessment is an essential element in any systematic, objective evaluation of individual students, individual courses, multiple sections of individual courses, programs, or institutions as a whole, and as an additional, objective means of assessing instructors.
Questions to be asked as part of any assessment process include:
1) What are students expected to learn?
2) Are students learning what they are expected to learn?
3) How can students' learning be demonstrated?
4) How can students' learning be improved?
The goal of this paper is to develop a model for assessing student learning in courses throughout the economics major. The model is based on the cognitive categories incorporated in the Test of Understanding in College Economics (TUCE) that is used to assess student learning in Principles of Economics courses. While the TUCE is a useful tool for use in assessment of student learning in Principles courses, it is insufficient for a broad-based assessment process.
Assessment is not a one-time activity but a continuous process. The ultimate goal of assessment is to identify strengths and weakness both in student learning and in teaching. A culture of continuous assessment is imperative for improving student learning and teaching. The end result of this paper is to provide a framework for a program of assessment that can be implemented by Economics departments as part of creating a culture of continuous improvement.

LITERATURE REVIEW

The literature review is divided into two sections. The first section provides background information about the TUCE. The second section focuses on accreditation and the assessment of student learning outcomes.

TUCE

Developed more than 40 years ago by the Joint Council on Economic Education, the TUCE has been used extensively by instructors and researchers in the economics profession. The test was designed to serve as a measuring instrument for controlled experiments in the teaching of introductory economics at the college level and to enable instructors of particular introductory courses to compare the performance of their students with that of a sample of students in other colleges and universities. Broad content categories are incorporated into the TUCE as a means of insuring "adequate coverage of the basic elements of 'typical' college principles courses so that the *total raw score* can be deemed to measure *general* understanding of basic economic principles" and "discriminate among individual students on the basis of their ability to understand and apply selected concepts and principles." (Saunders, 1991, p.2). The comparative effectiveness of courses in achieving the objectives measured by the TUCE can be ascertained by comparing the scores of students with the percentile distributions of the scores of students used to develop norming data for the TUCE. While the TUCE was not designed to evaluate the achievement of individual students, the test can be used in this way.

The TUCE-4 for both microeconomics and macroeconomics consists of 30 multiple choice questions covering six content categories and representing three cognitive categories. Topics included in each of the six microeconomic and macroeconomic content categories are shown in Appendix A and B. As noted by Saunders (1991), "all editions of the TUCE have sought to emphasize the *application* of basic concepts and principles…The three broad cognitive categories used to classify questions on the TUCE are: Recognition and Understanding (RU); Explicit Application (EA); and Implicit Application (IA)." Characteristics of each of these cognitive categories are contained in Appendix C.

One limitation to using the TUCE is that it is structured using only multiple-choice questions and students perform better on a post-course multiple-choice test when they take multiple choice exams throughout the course instead of essay exams (O'Neill 2001). However, O'Neill finds the type of exam does not impact student's attitude towards economics or the decision to complete the course.

Accreditation

Secondary education institutions as well as institutions of higher education in the United States are accredited by one of six accrediting associations. Since Saint Mary's College of California is accredited by the Western Association of Schools and Colleges (WASC), for purposes of this paper, WASC accreditation and assessment information is used. Accrediting and assessment guidelines for other accrediting associations are similar.

The accreditation process is intended to (WASC 2008):

1. Assure the educational community, the general public, and other organizations and agencies that an accredited institution meets the Commission's Core Commitments to Institutional Capacity and Educational Effectiveness and has been reviewed under Commission Standards;

2. Promote institutional engagement on issues of educational effectiveness and student learning;
3. Develop and share good practices in assessing and improving the teaching and learning process;
4. Develop and apply standards to review and improve educational quality and institutional performance, and validate and revise these standards through ongoing research and feedback;
5. Promote within institutions a culture of evidence, through which indicators of performance are regularly developed and data are collected to inform institutional decision making, planning, and improvement;
6. Develop systems of institutional review and evaluation that adapt to institutional context and purposes, build on institutional evidence, support rigorous reviews, reduce the burden of accreditation, and add value to the institution;
7. Promote active interchange of ideas among all institutions to improve institutional performance, educational effectiveness, and the process of peer review.

Maintaining accreditation is a necessity for educational institutions. If an institution were to lose its accreditation, its reputation would suffer dramatically and there would, most likely, be a dramatic drop in enrollments. As part of the accreditation process, WASC uses four general standards. These institutional standards are:

1. Defining institutional purposes and ensuring educational objectives.
2. Achieving educational objectives through core functions.
3. Developing and applying resources and organizational structures to ensure sustainability.
4. Creating an organization committed to learning and improvement.

Each of these standards has several subcategories. Each subcategory has specific criteria for review. The criterion for review provides the details for what an institution is expected to do to maintain accreditation. The following is a partial list of the criteria for review to emphasize the importance of assessment and student learning:

1.2 …The institution has a system of measuring student achievement, in terms of retention, completion, and student learning.

2.3 The institution's student learning outcomes and expectations for student attainment are clearly stated at the course, program and, as appropriate, institutional level. These outcomes and expectations are reflected in academic programs and policies, curriculum, advisement, library and information resources, and the wider learning environment.

2.4 The institution's expectations for learning and student attainment are developed and widely shared among its members, including faculty, students, staff, and where appropriate, external stakeholders. The institution's faculty takes collective responsibility for establishing, reviewing, fostering, and demonstrating the attainment of these expectations.

3.4 The institution maintains appropriate and sufficiently supported faculty and staff development activities designed to improve teaching and learning, consistent with its institutional objectives.

4.4 The institution employs a deliberate set of quality assurance processes at each level of institutional functioning, including new curriculum and program approval processes, periodic program review, ongoing evaluation, and data collection. These processes include assessing effectiveness, tracking results over time, using comparative data from external sources, and improving structures, processes, curricula, and pedagogy.
4.6 Leadership at all levels is committed to improvement based on the results of the inquiry, evaluation and assessment that is used throughout the institution. The faculty takes responsibility for evaluating the effectiveness of the teaching and learning process and uses the results for improvement. Assessments of the campus environment in support of academic and co-curricular objectives are also undertaken and used, and are incorporated into institutional planning.
What an institution needs to accomplish in regards to assessment for accreditation can be summed up as:

- Clearly stated intuitional, program, and course learning objectives.
- A college wide system for creating, measuring, assessing, and improving student learning.
- A culture committed to learning and improvement by the faculty and the entire institution.
- A commitment for resources to obtain the above.

Analysis and Limitations of Using the TUCE for Assessment

As noted above, the TUCE has been used widely in assessing student learning in Principles of Economics courses. However, the purpose of this paper is to develop a model for assessing student learning in courses throughout an economics curriculum and not just in Principles courses. The following is a brief consideration of the issues involved in using a TUCE-only assessment model:

Only applicable for Principles courses. The TUCE was created for principles of macro- and microeconomics courses. While it is a useful tool for those two courses, much more is needed for assessment purposes of courses throughout the economics curriculum. There are many more lower- and upper division courses students must take in order to complete the economics major. These other courses must be part of any comprehensive assessment model. Current WASC assessment guidelines state that every section of each course in a degree program should be assessed once every five years. Because the TUCE is for principles courses only, it is insufficient for an entire program. Strengths of the TUCE and ways to incorporate it in a more widespread assessment process are explored later in this paper.

Time consuming. Use of the TUCE pre- and post-test procedure requires a considerable amount of class time and resources for analysis. So, while the procedure is useful, it is not advocated for use in each Principles course each term. Rather, the procedure might be thought of as a means of periodic assessment of courses and programs as well as comparison of results over time and across instructors. The procedure could also be used for specific courses in which specific problems have been identified and follow-up action is required. A significant advantage of the TUCE

is that it provides an objective evaluation of student performance and measures outcomes that can be used as a diagnostic and developmental device for use by both instructors and administrators.

Potential for cheating. Using the TUCE pre- and post-tests on a regular basis could lead to cheating by students. With the TUCE used as a major portion of the final exam, students may eventually determine that a substantial portion of the final exam is the same as the pre-test and find ways to cheat. Changing testing methods and exams is one way of preventing cheating.

Reliance on multiple-choice questions exclusively. There are several limitations to using a multiple-choice exam for testing and assessment. The first is that an instructor might not want to offer multiple-choice questions exclusively for a final exam. Instructors might add other types of questions to the TUCE to comprise a final exam but this possibility is limited due to time restrictions since the TUCE itself requires considerable time for completion, leaving relatively little time for other types of questions. Another reason instructors might not want to use multiple-choice questions exclusively is that some students do not perform as well on this type of exam, and consequently results do not accurately measure student learning. Because of this, many instructors use exams which include multiple-choice, true/false, short-answer, and essay questions.

The second limitation has to do with accreditation and the breadth of assessment. Use of multiple-choice questions may not provide an adequate means of assessing an overall program. Assessment should include a variety of types of assessment and pre- and post-test multiple-choice questions are just one type of direct assessment. Direct assessment is an observation of coursework (papers, projects, etc.). Indirect assessment is an observation of work outside of the classroom (for example: alumni or employer surveys).

Standardized test. While standardized tests have many positive traits, there are negative aspects of such tests. As noted by the Center of Public Education (Mitchell 2006):

1. Teachers can teach to the test.
2. Can decrease time in other important economic areas to focus only on the TUCE.
3. Standardized tests put additional stress on students and teacher alike.
4. There could be testing bias (diversity, language difference, cultural bias, testwiseness, gender, socioeconomic status, etc.).
5. Most standardized tests are multiple choice. This focus on multiple choice format "limits teaching and learning to knowledge, at the expense of skills and abilities, such as critical thinking, creative thinking, and problem solving".
6. Dishonesty and different conclusions.

In general, the TUCE can be a valuable tool for use by faculty as well as departmental and school administrators as a means of assessing student learning. Results can be used both as a means of ascertaining how well students are doing in meeting course learning goals and also as a means of identifying specific content categories and cognitive categories for which instructors need to devote additional class time and attention. However, departments may want to consider modifying the TUCE to create standardized tests designed to better fit the specific subject matter taught in each Principles course at a specific institution. One downside of doing this is that student performance may not be compared with results from a national sample of students.

A BROADER ASSESSMENT MODEL

Based on the challenges and limitations noted, a broad-based model for assessing all courses in an Economics Department's curriculum is proposed as follows:

Develop Program Learning Objectives

The first step in the assessment process is to define Program Learning Objectives (PLOs). Many institutions have learning objectives which students should have obtained upon graduation. In addition, specific degree programs should have defined PLOs which articulate those learning objectives that majors in each department should achieve prior to graduation. Institutional and departmental learning objectives should be in alignment. Finally, each course in a degree program should have student learning outcomes (SLOs) which support the program's overall learning objectives when brought together. SLO's are specific learning outcomes which a student should obtain on completion of a specific course. There are usually 2-3 broad-based SLO's per course.

At St. Mary's College, the Program Learning Objectives we created are as follows:

1. Demonstrate the ability to explain core economic terms, concepts, and theories
2. Demonstrate the ability to employ the "economic way of thinking"
3. Apply economic theories and concepts to contemporary and historical social issues, as well as formulation and analysis of policy
4. Demonstrate the ability to compare and contrast competing views within economics with a critical thinking perspective, an open-mind, and a respect for diversity
5. Demonstrate the ability to collect, analyze, and interpret data

Each course must have specific SLO's which, when combined with other courses, rollup to PLO's. Questions on each TUCE are categorized into six content categories and three cognitive categories. Although we recognize the six content areas are important, the SLO's need to be at a higher and broader level. The proper level for a SLO should be one of the subsets of the cognitive categories. Below are the SLO's we have chosen along with their respective cognitive category:

SLO 1- Recalls or recognizes specific economic rules.

Recognizes and understands basic terms, concepts, and principles (RU)

SLO 2- Applies economic concepts needed to define or solve a particular problem when the concepts are explicitly mentioned.

Explicit application of basic terms, concepts, and principles (EA)

SLO 3- Distinguishes between correct and incorrect application of economic concepts which are not specifically given.

Implicit application of basic terms, concepts, and principles (IA)

In order to make our assessment as broad as possible, we chose a SLO from each of the three cognitive categories. The advantage of choosing one SLO from each cognitive category allows for flexibility going forward. We could use other SLO's or give a cognitive category more weight. We have found that we prefer the first SLO for undergrad courses and SLO's #2 and 3 for upper-division courses. This is constantly changing based on who is teaching the course and our program/college objectives.

The content categories will play an important role in our assessment model. The content categories will consist of the questions which will make the pre- and post-test.

Non-Principle Courses

One of the goals of the new assessment model is to create an assessment tool which can be used in many courses by every economics instructor. In order to do this, we needed a much smaller pre- and post-test. By having a smaller pre- and post-test, assessment will not be as time-consuming and cumbersome and not have a significant

adverse impact on the normal flow of the course. Another benefit of using only 2-3 questions per SLO (6-8 questions in total) is that the test questions periodically can be changed to prevent cheating. The proposed assessment plan is as follows:

1. For each SLO, 2-3 questions will be created.
2. The questions will be administered the first day of class as an ungraded practice quiz.
3. The same questions will be imbedded in a future quiz, midterm, or final exam.
4. The percentage change from the pre- to post-tests will be calculated for each SLO along with an overall improvement score.

One of the benefits of using only 6-8 TUCE questions for assessment is that it also allows for other types of assessment to be used. Using only a multiple-choice pre- and post-test would not be the best way to assess an entire program and would fall short of accreditation standards. Because each section of each course needs to be assessed at least once every five years, other methods are needed.

Many courses in economics programs incorporate student papers as part of the course requirements. In these courses, copies of the papers are to be obtained from the instructors. A team of two or three instructors should read the papers and evaluate how well students have achieved specific SLOs. To aid in this form of assessment, a rubric is to be created. This rubric will rate the various levels of understanding a student may demonstrate and help achieve consistency among readers of the papers.

Along with creating an assessment plan for continuous improvement, we wanted to make this a manageable process. Each course in the economics program will need to be assessed. In order to assess a course, specific SLO's need to be created and included in the syllabus. When we were choosing SLO's from the TUCE, we were also thinking about every course in the program.

Our three SLOs can be used in each economics course because they are broad-based. What will differ among courses are the specific questions. Here is an example of how that could work:

SLO #1- Recalls or recognizes specific economic rules.
Course: Principles of Microeconomics (lower division)
Question: What happens to demand when the supply curve shifts to the right?
Course: Macro Economic Theory (upper division)
Question: Using the IS-LM model, what happens when the price level rises?

By using the same SLOs for each course, instructors can focus on what they want to teach. These SLOs are broad enough to give instructors flexibility and we do not have to create new SLOs for each course. Also, these SLOs can be used for each of the economic department's five PLOs.

As part of an Economics Department's longer-term assessment process, goals for improvement in students' improvement in each of three cognitive categories should be established. Progress in meeting such goals can be monitored as part of the ongoing assessment process increasingly being requested by institutional administration as well as accrediting agencies. For SLO's and overall scores which do not meet the minimum goals, an improvement plan should be implemented.

CONCLUSION

Assessment of student learning is not a one-time process but one which is continuous. The goal of assessment is to identify strengths and weakness in teaching and learning. Once strengths and weaknesses have been determined, faculty members can begin to

make changes to teaching methods and further refine assessment techniques. A culture of continuous assessment is imperative for student learning and improvement. Information obtained from this type of analysis can provide useful information to faculty members. The results should help them better understand a) what students are learning and how well they are achieving the learning goals for courses; b) specific areas of course content or specific cognitive areas for which students' performance is good and/or higher than their overall performance as well as poor and/or lower than their overall performance; and c) how well faculty are communicating with and motivating students.

This paper proposes a model for assessing student learning in courses throughout the entire economics curriculum. This model is much more broad-based than assessment of student learning in the principles courses alone. The model proposed is sufficiently flexible so that it can be used, with perhaps only minor adjustments, by many economics departments as these departments work to implement a program of assessment as part of a culture of continuous improvement.

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Tables and Appendixes

APPENDIX A

Microeconomic Content Categories on the TUCE – 4

A. The Basic Economic Problem (scarcity, opportunity cost, choice)

B. Markets and Price Determination (determinants of supply and demand, utility, elasticity, price ceilings and floors)

C. Theories of the Firm (revenues, costs, marginal analysis, market structures)

D. Factor Markets (wages, rents, interest, profits, and income distribution)

E. The (Microeconomic) Role of Government in a Market Economy (public goods, maintaining competition, externalities, taxation, income redistribution, public choice)

F. International Economics (comparative advantage, trade barriers, exchange rates)

Source: Walstad, Watts, and Rebeck (2007)

APPENDIX B

Macroeconomic Content Categories on the TUCE - 4

A. Measuring Aggregate Economic Performance (GDP and its components, real vs. nominal values, unemployment, inflation)

B. Aggregate Supply and Aggregate Demand (potential GDP, economic growth and productivity, determinants and components of AS and AD, income and expenditure approaches to GDP, the multiplier effect)

C. Money and Financial Markets (money, money creation, financial institutions)

D. Monetary and Fiscal Policies (tools of monetary policy, automatic and discretionary fiscal policies)

E. Policy Debates (policy lags and limitations, rules vs. discretion, long run vs. short run, expectations, sources of macroeconomic instability)

F. International Economics (balance of payments, exchange rate systems, open-economy macro)

Source: Walstad, Watts, and Rebeck (2007)

APPENDIX C

Definitions of Cognitive Categories Used to Classify Questions on the TUCE - 4

(RU) Recognizes and Understands Basic Terms, Concepts, and Principles

1.1 Selects the best definition of a given economic term, concept, or principle

1.2 Selects the economic term, concept, or principle that best fits a given definition

1.3 Identifies or associates terms that have closely related meanings

1.4 Recalls or recognizes specific economic rules, e.g., an individual firm's profit is maximized at the level of output at which marginal cost equals marginal revenue

(EA) Explicit Application of Basic Terms, Concepts, and Principles

2.1 Applies economic concepts needed to define or solve a particular problem when the concepts are explicitly mentioned

2.2 Distinguishes between correct and incorrect application of economic concepts that are specifically given

2.3 Distinguishes between probable and improbable outcomes of specific economic actions or proposals involving no unstated assumptions

2.4 Judges the adequacy with which conclusions are supported by data or analysis involving no unstated assumptions

(IA) Implicit Application of Basic Terms, Concepts, and Principles

3.1 Applies economic concepts needed to define or solve a particular problem when the concepts are not explicitly mentioned

3.2 Distinguishes between correct and incorrect application of economic concepts that are not specifically given

3.3 Distinguishes between probable and improbable outcomes of specific economic actions or proposals involving unstated assumptions

3.4 Judges the adequacy with which conclusions are supported by data or analysis involving unstated assumptions

Source: Walstad, Watts, and Rebeck (2007)

APPENDIX D

Economics Department's 5-Year Assessment Plan Timeline

2007-2008 – Assessment Year

Principles of Microeconomics (30 question TUCE exam used for pre- and post-tests) - 4 Instructors covering 7 sections, 178 students were assessed

Principles of Macroeconomics (30 question TUCE exam used for pre- and post-tests) - 2 Instructors covering 4 sections, 54 students were assessed

2008-2009 – Analysis and Planning Year
Richard Courtney, Kara Boatman, and William Lee wrote, "Using Standardized Testing to Assess Student Learning in Introductory Economic Courses". This paper detailed the proceeding years TUCE assessment results and compared them to national averages. They presented this paper at the Gulf Coast Economics Association teaching conference November 6-7, 20008.

Summary of the results presented in their paper:
Microeconomics- Overall student improvement was 17.2% at St. Mary's College vs. the national average of 11.3%.

Macroeconomics- Overall student improvement was 27.3% at St. Mary's College vs. the national average of 14.6%

1. The 5-year Economics department review was completed. The six major improvements to the assessment process for 2009-2010 are:
2. Program Learning Objectives were defined.
3. Student Learning Outcomes were defined (see next page).
4. We defined the improvement standard at a minimum of 11.3% for microeconomics and 14.6% for macroeconomics (see next page).
5. We will be assessing an upper division course.
6. In addition to pre- and post-tests, we will analyze student papers.
7. Using the entire TUCE test is not realistic. A shorter pre- and post-test will be created and administered for principle courses.

2009-2010 – Assessment Year
Obtain results from new assessment procedure. There will be three courses used instead of two. In addition to pre- and post-tests, term papers will be included in the analysis.

2010-2011 – Analysis and Planning Year
Analyze results from prior year and make improvements. Each course in the economics major needs to be assessed on a 5-year rotation. Every section of the course should be assessed during the courses assessment year.

2011-2012 – Assessment Year
Implement changes from 2010-2011

APPENDIX E

Student Learning Outcomes for Economic Courses
These three Student Learning Outcomes (SLO's) were obtained from the "Test of Understanding in College Economics: Examiners Manual for Fourth Edition" (Walstad, Watts, and Rebeck 2007). The SLO's are divided into three cognitive categories. The cognitive categories are listed below each SLO in italic. These SLO's

are broad enough and address each PLO, so that they can be used in every economics course. Each course will have a different assessment questions focusing on what the course teaches.

SLO #1- Recalls or recognizes specific economic rules.

Recognizes and understands basic terms, concepts, and principles (RU)

SLO #2- Applies economic concepts needed to define or solve a particular problem when the concepts are explicitly mentioned.

Explicit application of basic terms, concepts, and principles (EA)

SLO #3- Distinguishes between correct and incorrect application of economic concepts which are not specifically given.

Implicit application of basic terms, concepts, and principles (IA)

Assessment plan:

1. There will be two or three questions created for each of the three SLO's.
2. The questions will be administered the first day of class as an ungraded practice quiz.
3. The same questions will be imbedded in a future quiz, midterm, or final exam.
4. The percent change from the pre- to post-tests will be calculated for each SLO and an overall improvement score.

Goal:
Each SLO and the overall SLO score should have an aggregate improvement of, at least, 11.3% for microeconomics and 14.6% for macroeconomics over the course of a year.

For SLO's and overall scores under the above percent's, an improvement plan of action will be completed.

BOOK REVIEW

Title: Small Farmers Secure Food: Survival Food Security; the World's Kitchen & the Critical Role of Small Farmers

Author: Dr. Lindsay Falvey

Publisher: Thaksin University Press

Year: 2010

Cost: USD$25:00

ISBN: 978-974-474-023-6

Reviewer: Dr. John Barnes, AFBE

Rating: ****

Review: This slim volume of just eight chapters will prove invaluable to academics and all who are interested in food security whether they are faculty members or students at the graduate and post graduate levels or concerned citizens from any walk of life.

As the back leaf of this book mentions "Professor Lindsey Falvey has worked in international agriculture for more than fifty years He has led Australia's largest faculty in agriculture as Dean and CEO at the Melbourne University and advised all major development agencies and several governments. As a Fellow of the Academy of Technological Sciences and Engineering and a Life Member of Clare Hall at The University of Cambridge. Dr. Falvey has three doctorates all relating to agriculture, for his international contributions as do many of the honors bestowed on him."

The volume comprises eight chapters some of moderate length others quite short but all important to the title topic. The book is arranged as follows:

Acknowledgements – of the continuing past Feeding Rome Feeding the World. Here professor Falvey contemplates ancient Rome and how that civilization planned and sought to manipulate nature to obtain a stable supply of food to feed its citizens and armies. He does this from the site of Pliny the Younger's villa overlooking Lake Como.

Chapter 1 Introductory Words comprises a little over two pages and can be summarized in the opening paragraph " "This is a simple book. It argues for a return to two critical values in international development, the securing of food for a minimal level of existence and acknowledgement of the vital role of small farmers in that basic level of food security." (Falvey, 2010, 1)

Chapter 2 Food Farmers and Fallacy comprises thirty-one pages and covers fifteen sections among them: Secure Food Producers; False Security; Where Did We Go Wrong?; (Here Falvey lays the blame not a countries and their goverments but at our own feet. i.e. those of the scientist who have developed the methods necessary to prevent or overcome the difficulty of food shortage but who have permitted political impediments to prevent or weaken their implementation) A Short Review of Economics; Common Needs, Uncommonsense; (this reminds me of a book of required reading for Victorian (Australia) primary school students from the 1960's "Unocommon Common Sense"; Re-Integrating Economics; Rights to Food; Un-Free World Trade; Food as a Commodity; Commoditization leads to Speculation; Lessons of the Recent Past; Life and Death Risks; Supply and Demand Demand; Policy Approaches. All compelling reading.

Chapter 3 Securing Enough Food to Survive comprises twenty-six pages and includes the nine sections: Rediscovering Food Security; Forgotten Food; Forgotten Famines; Fundamental Knowledge; Food Crises and Foreign Aid; International Approaches; Variables in Food Security; Food Reserves; Food Security and Recent Crises; Informed Policy. This chapter come with many telling simple charts and tables to illustrate its message. It is interesting that as this reviewing is being written this Thailand (the world's largest rice exporter plans to reduce its rice production permitting South Vietnam to assume the dominant export position in the world rice market.

Chapter 4 Forgotten Food Producers; Small Farmers comprises nineteen pages and includes the following sections: Billions of Third-World small Farmers; Correcting the Bias; Small Farmer Advantages; Awakening to the Continued Role; Challenging World Views; Shifting the Paradigm; Towards a Small Farmer Friendly Policy. Like the previous chapter this one uses diagrams to illustrate its message including one on page 77 which illustrates the process from subsistence to commercialization of small farmers.

Chapter 5 Why Bite the Hand that Feeds? comprises thirty-five pages and includes the following sections: Mess and Confusion; Economic Development Pathways; The Arrogance of Ignorance; Gutenberg's Legacy of Ignorance; We Know Best – Free The World Trade; Let them Eat Brioche; Non-Revisionist History; The State of Agricultural Science; Institutions Marginalize Small-Farmers; Changing Emphases in Food Security; Conjuring up Wisdom. This chapter comprises several bite sized lessons in agricultural development and international economics.

Chapter 6 Good Governance Starts with Food Security comprises thirty-four pages and includes the following sections: Why Agricultural Planning Fails; Causes of Policy Void; What is Good Governance? Good Governance of Food; Dissipated Security – Weak Governance; Good Governance – Absence of Conflict; Fiat or Fantasy; Rich Country Governance; Rich Country Contributions to Food Security.

I will leave it to the reader to read the riveting opening paragraph of this chapter. Much like the opening of the first chapter Professor Falvey "pulls no punches" and

drives home the message with a clarity and economy of words that many readers will find refreshing.

Chapter 7 From Criticism to Action: Refocusing on Small Farmers and Food Security comprises thirty-nine pages and includes the following sections: An old Argument; Revaluing a National Asset; Writing-off the Part Line; Watering Down Dry Messages; Small Farmer Irrigation; Focusing Research; Making Extension Practical; Letting Small Farmers Develop Privately; Skills not Dills; Small Farmers and Innovation Science; The Personal Touch of the Small Farmer; Credit Where Credit's Due; No One Recipe. This chapter "revisits the message in chapter four which considered small farmers as the forgotten majority of the producers of the world's staple food for survival. In this second last chapter a practical view is taken of reorienting development agencies to focus on small farmers and security in survival foods." (Falvey, 2010, p157)

Chapter 8 Practical Food Security From Small Farmers comprises just fifteen pages and includes the following sections: The Human Plague; Farm Size and World Hunger; Revising Present Views; Future Food; Updating Our World View.

Following this final chapter is single page poem: "'First Food" which is followed by two pages of selected acronyms and a single page listing ten other books also written by the Professor Falvey.