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The Perry Framework and Tactics for Teaching Critical Thinking in Economics

George A. Thoma

Definitions of critical thinking generally include the ability to identify key aspects of an issue and reach a conclusion or position using appropriate methods and standards of evaluation, such as inductive and deductive reasoning, numerical analysis, logic, the scientific method, and rhetoric. In addition, critical thinking is thinking about the topics, issues, and problems of a particular discipline.

Because methods of reasoning differ among academic areas and disciplines, students must learn those specific methods and develop a facility in applying them. The process of discovering the methods and standards specific to any given discipline may be particularly daunting and frustrating for beginning students who find that the methods and approaches that brought them academic success in one discipline do not necessarily work in other disciplines. Moreover, the highest level of critical thinking also involves changes in attitudes and understandings of the very source and nature of learning, thinking, and education.

Genuine critical thinking requires the recognition of the evolutionary nature of knowledge and the ability and responsibility of individuals to make independent intellectual choices. It is in describing these various aspects of critical thinking that the Perry scheme can be particularly insightful.

THE PERRY SCHEME

Perry's (1970) scheme of intellectual and ethical development is a widely used model that describes cognitive development. It provides a useful framework for the development of teaching tactics to foster critical thinking skills and other forms of "higher order" thinking.

The Perry scheme describes different stages in the cognitive development of undergraduates. Based on interviews of undergraduate Harvard students, Perry identified nine developmental positions to categorize the intellectual development he observed. The Perry scheme suggests that critical thinking is a developmental process with recognizable stages and that each stage involves differences in how a person views knowledge and learning.

Since 1970, a substantial body of literature related to the Perry scheme has developed.¹ Craig E. Nelson's (1989) variant of the Perry scheme is particularly valuable because of its simplicity of exposition and its usefulness in generating

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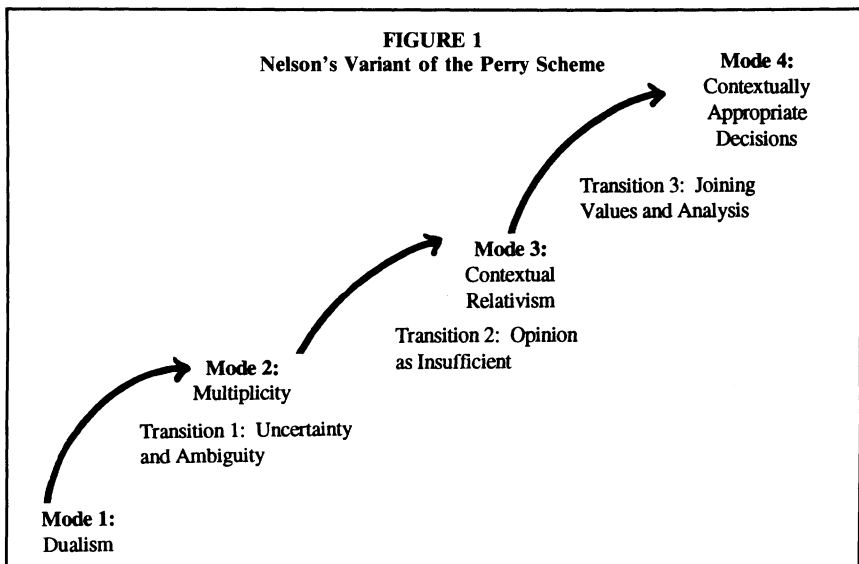
teaching strategies. This article describes the key elements and teaching implications of a Perry framework using the Nelson variant and suggests specific teaching tactics for fostering cognitive development in economics.

NELSON'S MODEL AND TEACHING TACTICS

Nelson's variant describes four modes of thinking and three transitions between modes of thinking (see Figure 1).² Nelson suggests that a key focus of education should be on facilitating the *transitions* from lower to higher levels of cognitive development. Moreover, because criteria and methodologies differ among disciplines, cognitive development must (1) take place in the context of specific disciplines, and (2) engage students in a wide variety of disciplines. This suggests that the focus of cognitive development must be on fostering transitions in the context of a specific discipline. That is, strategies to foster cognitive development will be most effective when applied across the curriculum within disciplines, rather than in general courses on "critical thinking." Nelson's formulation of the Perry scheme and teaching tactics that flow from the transitions follow.

MODE 1: DUALISM

Dualism, the lowest level of cognitive development, is characterized by a view that objective and immutable answers exist for most questions and that authorities or experts know or can discover the eternal truths. In this mode, students hold a black or white, right or wrong, view of the world and have little tolerance for uncertainty and ambiguity. Knowledge is regarded as timeless and absolute. Learning is viewed as a process of the transmission of facts and truths from the teacher to the student.



Transition 1: Recognizing Uncertainty and Ambiguity

To move beyond simple dualism, students must recognize and accept the reality of uncertainty in knowledge and thinking. In transition 1, students begin to see that knowledge is not absolute. They begin to appreciate that different points of view exist and that even experts disagree.

Teaching Tactics to Facilitate Transition 1

The general goal of this transition is to upset the equilibrium of dualism by making students aware of the uncertain nature of knowledge. The dualistic belief of absolute knowledge and black and white answers must be challenged and demonstrated to be invalid. Examples of specific teaching tactics include the following.

Mini research projects. Projects require students to pick a current economic issue and summarize the different points of view. This can help students become aware of real-world issues and begin to appreciate the limitations of a dualistic mode of thinking. This level of research does not require prior knowledge of methods of economic analysis or the ability to apply economic models. The goal is to orient students to the issues and relevance of economics and help them recognize opposing views among experts.

Summaries of paired readings. Summaries of selected readings that represent opposing points of view on economic policy issues help to initiate the transition from mode 1 to mode 2. Swartz and Bonello (1990) have provided a collection of articles that are accessible to beginning students.

Group discussions. In these activities, teams of students summarize, present, and exchange views on the opposing sides of an issue. An advantage of using a group approach early in a course is that it facilitates useful student interaction.

History of economic thought. Teaching economics at least partially from a history of economic thought perspective can be very effective in terms of the Perry/Nelson framework. A history of thought approach highlights economic theory and policy as an ongoing, evolving process of development. It makes it explicitly clear that economic “laws” and theories are not immutable and that the experts of different schools of thought often held opposing views. A history of thought approach makes the central message of transition 1 explicit: Economic knowledge is imperfect, uncertain, and evolving. Using a history of thought approach, key contemporary models of economics can be introduced with a sketch of the theories or frameworks that preceded them. For example, the supply and demand model can be introduced with a description of the content, common sense, and limitations of the cost of production and marginalist theories of value. Or, the Keynesian model can be introduced in the context of pre-Keynesian theories and policy conclusions. When key topics are introduced in historical context, the point can be made that knowledge in economics is not absolute or immutable. This challenges the student to move beyond mode 1.

MODE 2: MULTIPLICITY

Multiplicity is a level of cognitive development in which students, having recognized the reality of uncertainty, adopt the view that, where uncertainty exists, knowledge and truth are essentially subjective and personal. In this mode, students have not yet developed criteria or standards for making judgments in the context of uncertainty. Students are unaware of such criteria. Students tend to feel that “everyone has a right to their own opinion” and that one person’s opinion or theory is just as valid as any other person’s opinion or theory.

Transition 2: Recognizing Opinion as Insufficient

In this transition, students learn that, even in the realm of uncertainty and diversity of theory and thought, criteria exist for evaluating the relative usefulness and validity of competing views. Students come to realize that where uncertainty exists, not all opinions or theories are equal.

Teaching Tactics to Facilitate Transition 2

Students in mode 2 recognize that a diversity of views exist on issues of economic theory and appreciate the uncertainty of economic knowledge. The awareness of many points of view among “experts” may frustrate students or lead them to conclude that economics is a soft or inexact science. They may believe that there is no way to choose among economic opinions, except on the basis of personal subjective preference.

The goal of transition 2 is to make students aware of the methodology and criteria used in economics to discriminate among theories and policies. After this transition, students are able to apply these criteria in evaluating economic theory and policy. As a first step, the distinction between *normative* and *positive* economics must be clear to students. However, in addition to the normative/positive distinction, it is necessary to make clear the criteria used in deciding which theories or models are better than others. Criteria such as logical consistency, explanatory power, empirical evidence, and ability to predict can be made explicit. Appropriate teaching tactics help students who are becoming familiar with the criteria of economics begin to distinguish, compare, analyze, and evaluate different positions on economic issues. The following examples of teaching tactics are extensions of those outlined earlier.

Mini research projects. For this transition, projects can be at substantially higher levels of cognitive activity than those associated with transition 1. Students must be able to take and support a position, distinguish the key differences in alternate points of view, compare those differences, analyze the arguments, and evaluate the points of view. Mastery of these cognitive abilities is not a simple matter. Students will start out slowly and need examples, models, and guidance in these assignments.

Analysis of paired readings. At this level, students are required to go beyond summarization and practice comparing, analyzing, and evaluating. One of the

advantages of the paired reading approach is that the reading is less open ended than a research assignment and can be made available to groups. Again, guidance is needed. Group preparation of a position paper allows students to share their skills and knowledge.

Panel discussions or debates. Debates and panels require teams of students to take a position and defend it. Students must think critically about the position they are attacking and also anticipate arguments against the position they are defending. Attack and defense should be based on criteria such as logical consistency, empirical support, and economic theory rather than on rhetoric and appeals to emotion.

History of economic thought. The study of the evolution of economic theories and doctrines inevitably involves explicit comparison, analysis, and evaluation, using the methodologies of contemporary economics. It is not necessary to transform the traditional principles course to take advantage of this approach. Instead, key theories or models can be developed in the history of thought context. To the extent that these strategies are successful, students will make progress to mode 3.

MODE 3: CONTEXTUAL RELATIVISM

Contextual relativism is a mode of thinking in which students learn at least the mechanics of how different disciplines use various criteria as critical standards to make choices among competing views and theories. Students become aware that even where uncertainty exists, choices among hypotheses are not arbitrary. However, students may view the methods and criteria of a discipline as a game to be played or a behavior to mimic in order to realize academic success. They may learn to use discipline-specific methodologies in the context of a formal class without seeing the practical relevance of those approaches. Students who master the games of various disciplines may do quite well academically but still be unable to think critically outside of the academic context or in different academic disciplines.

Transition 3: Joining Values and Analysis

In this transition, students come to realize that in choosing among theories, ideas, or actions in the “real world” of uncertainty, it is necessary to choose and apply methods of critical thinking outside of the context of the classroom. Ideally, this transition leads to the next and highest mode of critical thinking.

Teaching Tactics to Facilitate Transition 3

The transition from contextual relativism to contextually appropriate decisions is the most complex, involving development of the highest level of cognitive ability and maturity. In many cases, it is unrealistic to expect that this transition will be made during the undergraduate years. The goal is for students to realize

that the methodologies that they have learned can and must be used as the bases for mature choices among real-world alternatives in a world of uncertainty. In addition, the goal is for students to become aware of and confront values as well as objective analysis and recognize that both values and analysis must be used in making choices. Specific teaching strategies associated with affecting this transition are less clear. This transition involves (1) the recognition of the relevance of critical thinking to the real world and (2) the recognition and confrontation of values. Strategies that reinforce the relevance of economic analysis and illustrate how values enter into normative economics are helpful in making this transition. The relevance of economic analysis can be reinforced through continued analysis of economic issues. Among the issues I have used are trade and investment policy toward Japan, welfare reform, airline deregulation, industrial policy, rent controls, budget deficits, foreign aid, macro policy, and hostile takeovers. Recognition and confrontation of values can be done explicitly by examining the normative elements of policy issues in terms of implicit and explicit values and through the study of economic ideologies in the history of economic thought. Examples include comparison of liberal and conservative values, a survey of Marxist views on capitalism, and identification of key value positions in the debate over welfare reform.

MODE 4: CONTEXTUALLY APPROPRIATE DECISIONS

In this mode, students accept the reality of uncertainty but are able independently to make and commit to choices of ideas and action. Choices are based on applications of the methods and criteria of various disciplines in the context of the student's values. It is recognized that knowledge is not absolute and that even the methodologies of specific disciplines are imperfect. Nonetheless, students recognize their responsibility for making choices and that those choices must be based on joining personal values with the criteria of appropriate disciplines. This mode is the highest level of cognitive development in the Perry scheme.

SUGGESTIONS FOR RESEARCH

I know of no previous attempts to assess the impact of alternative tactics for teaching economics within a Perry framework. Clearly, research faces formidable problems of measurement and interpretation because the results involve qualitative changes in thinking and complex interactions between thinking and value formation.

A potentially relevant methodology for assessment that is related to the Perry model has been developed by McDaniel and Lawrence (1990). They have adopted the position that critical thinking should be defined and researched in terms of an "information-processing approach." They point out that the information-processing approach is consistent with Perry's concept of levels of cognitive development. McDaniel and Lawrence have developed interpretive exercises for evaluating levels of thinking. Their approach involves a system for identifying the levels of cognitive complexity reflected in the written answers of students to

questions based on a short reading and videotape. It would seem that their approach could be adapted to the measurement of critical thinking about economics and provide a basis for assessment of the teaching tactics that are implied by the transitions in the Nelson/Perry model.

SOME LESSONS OF LIMITED EXPERIENCE

Despite the lack of formal evidence to support the efficacy of the tactics proposed here, I am convinced that the Perry/Nelson framework is useful. It provides a description of cognitive development that corresponds to the perceptions of many teachers. Further, it is a framework that at least provides a hypothesis and, therefore, direction in formulating and exploring alternate teaching tactics.

My experiences in using the tactics proposed in this article have provided me with casual and anecdotal encouragement. In 1989 and 1992, I taught courses during the January "Interim" that were designed with the Perry/Nelson framework in mind. The principles/policy courses for undergraduates used the tactics of small-group discussion, films of debates on economic issues, paired readings, panel discussions, and debates between groups of students. The goal of the course was to develop skills for critical thinking about economic issues. Student evaluations were very favorable. My perception was that the quality of student analysis of economic issues showed encouraging improvement. Small class sizes (13 in 1989 and 16 in 1992) provided only a small sample of evaluations. Therefore, representative student responses are anecdotal.

In 1989 the *IDEA Report* (1976) was used by students to assess my course. On a scale of 1 (low) to 5 (high), students rated their progress on "Learning to apply course material to improve rational thinking, problem solving, and decisionmaking" as follows: 91 percent at 5 and 9 percent at 4, average = 4.9. Using a scale that ranged from 1 (definitely false) to 5 (definitely true), 100 percent of the students responded "definitely true" to the statement, "As a result of taking this course, I have more positive feelings toward this field of study." The "Overall Evaluation (Progress on Relevant Objectives)" ranked in the 99th percentile using all courses evaluated by the IDEA system as a comparison group. In 1992, I constructed my own evaluation instrument. In response to the question, "Do you think that this course has changed your approach to, or ability to think about, economic issues?", 15 of 16 students responded very positively. The following were typical comments:

Yes, it gave me the ability to begin to separate logic from emotion when dealing w/ issues or in general to look at things better, to analyze more.

Yes, I came into the course completely close minded in my liberal views, I left the course open to both sides if their arguments were sensible and reasonable. It made one look at the issue in a purely analytical way without emotion and deduct a conclusion on my findings.

It has definitely reinforced my ability to *think*. It is not stressed enough in other classes to think in some assemblance of order. This class should be a requirement for everyone who would like to be considered educated.

A CAUTION

Perry and Nelson are careful to point out that cognitive development may require significant periods of time and accumulations of experiences. Perry concluded that

in any of the Positions in the main line of development a person may suspend, nullify or even reverse the process of growth as our scheme defines it: (1) He may pause for a year or more, often quite aware of the step that lies ahead of him, as if waiting or gathering his forces ("Temporizing"). (2) He may entrench himself, in anger and hatred of "otherness," in the me-they or we-other dualism of the early Positions ("Retreat"). (3) He may settle for exploiting the detachment offered by some middle Position on the scale, in the deeper avoidance of personal responsibility known as alienation ("Escape"). (1979, 177)

That some students, particularly those in the mode of dualism, resist the tactics and changes associated with transition 1 is not surprising. The movement away from dualism is a challenge to the security and order of a world of clear-cut objective answers. As a result, it is not surprising to encounter negative reactions in some students. In the 1992 evaluation, one student assessed all aspects of the course very negatively.

It wasn't a question of being hard or easy but rather way too subjective. I found this to be the worst course I have ever taken, taught by the worst professor in the history of the human race. . . . I have found the best course I have ever taken to be an introduction to biology of cells. The course required much intense technical reading and a lot of work effort. But it was very rewarding and an absolute *objective* grading policy.

Given this potential level of discomfort, it seems appropriate to develop a feedback mechanism to help instructors recognize and try to diminish the level of student dissatisfaction.

SUMMARY

Elements of the Perry scheme can provide a useful framework for developing teaching tactics to facilitate cognitive development. The Perry framework implies that effective teaching strategies must be developed in the context of specific disciplines and should focus on facilitating transitions from one mode of thinking to another. Thinking about cognitive abilities and teaching strategies in terms of the modes and transitions of the Perry/Nelson framework gives direction to the development of teaching activities that foster critical thinking about economics. A large-sample study of the impact of the tactics proposed on the cognitive levels of students would be useful.

NOTES

1. The Center for the Study of Intellectual Development, 1670 Prince Avenue, Athens, GA 30606, is a contact for the "Perry Network," which publishes a bibliography and a newsletter.
2. This section draws heavily on Craig E. Nelson (1989) and his workshops at the University of Chicago (June 18–21, 1989) and Elmhurst College (June 8–9, 1990).

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