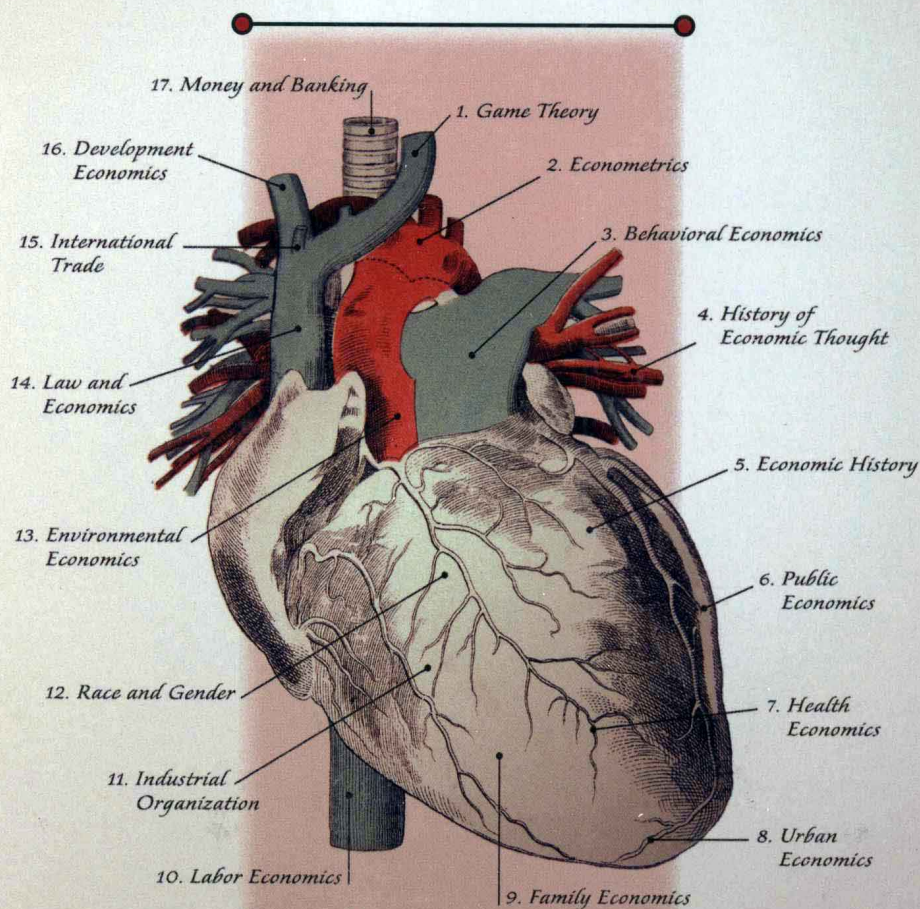


The Heart of Teaching Economics

Lessons from Leading Minds



Simon W. Bowmaker

With a Foreword by Robert M. Solow

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Foreword

Robert M. Solow

My first thought on reading these interviews was that people who like teaching turn out to be good teachers. Then, like any well-trained economist, I worried about reverse causation: maybe naturally good teachers end up enjoying teaching. In the absence of a structural model, I'll settle for the correlation. Pleasure in teaching and competence in teaching are associated.

Any young or old teacher of economics can learn something from these interviews. (Fully one-third of the subjects did their graduate work at MIT, said he with a smile.) I am not thinking of little hints or recipes about classroom technique, but rather about mind-sets and attitudes. For instance, good teaching is clearly hard work. Every one of these good teachers thinks seriously about the function and structure of the course, and then prepares each lecture or class with forethought and care. A good teacher can't just follow a text, useful as a text may be for some purposes, because a good teacher has his or her own coherent view of what this stuff is all about and where it is going. That is why teaching a course a couple of times is so educational for the teacher. I always felt that approximately the third time I taught a course was the best, because I really understood the material and its lessons. After that, a little bit of boredom might creep in, and it was time to look for some new problems and some new angles for next time.

All this is quite separate from style and manner of teaching. Paul Samuelson and I usually saw eye-to-eye about what mattered in economics, and how to go about finding answers to questions. But we had quite different teaching styles, and would have given different answers to some of Professor Bowmaker's questions. Not everyone, in fact hardly anyone, can be Dan Hamermesh or Nancy Folbre or David Laibson; but everyone can work that hard.

Bowmaker asks each of his interviewees for an opinion on an old question: the rival or complementary relation between research and teaching. The answers tend to favor complementarity, with occasional remarks going the other way. It seems to me that there are two or even three quite

separate things going on. If you are teaching a specialized course, you will probably do a better job if you have been doing research in the field. You are more likely to know where the bodies are buried, as well as where the exciting ideas are, and you should (repeat, should) have some conception of the field as a whole. In the other direction, I think teaching a course well, even at the undergraduate level, is a very good way to see where the holes are, both in theory and in getting a grip on real magnitudes, and that is a good way to latch on to promising research ideas.

Nevertheless, teaching and research are both drains on a common pool of time and energy, and it would be foolish not to recognize that fact. Corner solutions are not the answer: for everyone or nearly everyone, the marginal, least interesting research project is less valuable than teaching a good course to interested students. These interviews suggest that the scholars and institutions involved have arrived at a viable allocation.

It would be useful to have some similar interviews with teachers of economics at good liberal arts colleges. Many able high school graduates prefer to start there. It seems likely that the large production of new PhDs and the availability of data and facility of distant collaboration via the Internet have, between them, broadened the playing field for combining teaching and research to include more of the better liberal arts colleges, even if the mix there will always be slightly different.

One last thought: just about every one of these experienced teachers has something interesting to say about the relation between classroom economics and current events. They do not all say the same things, nor should they: their own ways of doing economics and the details of their own fields constrain what makes sense for them. But they have all thought about the question, and how an answer should be reflected in their teaching.

Outsiders looking at academic economics see an equation or two and recoil at what they think of as “formalism.” We think we know better. To write down a demand equation and a supply equation is not formalism in any meaningful sense; it is just a way of accepting that prices and quantities are numerical. There is indeed formalism, true formalism, in economics but it is a minority taste. It seems to me that one of the things we ought to teach our students, at every level, is a grown-up attitude about the relation between theory and practice. Only a small part of this is the business of econometrics. The rest is an essential part of applied economics. It is a point of substance, not methodology.

So thinking about the teaching of economics is closely connected with thinking about economics.

Robert M. Solow
Massachusetts Institute of Technology, USA

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Putting together a collection of interviews involves the help and co-operation of numerous people. First and foremost, I would like to express my sincere gratitude to each economist whom I interviewed for making this book possible. It was an absolute pleasure in all respects.

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Introduction

Simon W. Bowmaker

This volume brings together 21 interviews conducted face-to-face with leading economists at universities in the United States over the period March to July 2009. It has four underlying motivations: first, to present economists with a unique and rare opportunity to talk about teaching; second, to discover how they interpret, understand and practice their role as teachers; third, to learn lessons that can inform other people's teaching; and fourth, to shatter the illusion that teaching and research are strictly independent and competing activities. As such, the volume is aimed at fellow academics, but it should also be of interest to students.

The book is divided into three main parts: *Fundamentals*, *Tools* and *Applications*. Each of these parts contains several teaching areas within economics, ranging from the traditional fields such as the principles of economics and industrial organization to more contemporary ones such as race and gender and behavioral economics. Whilst the teaching under discussion in each interview is predominantly at the undergraduate level, which is appropriate since that forms the bulk of most teaching at universities, instruction at the master's level and PhD level is also represented.

The interviewees are economists who have all made significant scholarly contributions in their respective fields. However, there is diversity in terms of career paths. Several have enjoyed an almost meteoric rise to superstar status within the profession; some are best-known for their textbook writing; a few have been very successful in popularizing research; and a couple have been active participants in policy-making at the highest level.

Their teaching interests and experience are varied. Whilst many teach economics at both the undergraduate and graduate levels, they do so across a wide spectrum of fields and in contrasting environments, from colleges of arts and sciences to business schools and to public policy schools. At the time of the interview, three-quarters of the interviewees teach at private universities in the United States, several of which are Ivy League, and the remainder teach at public universities. Several have reputations within the economics profession as outstanding teachers and are the recipients of prestigious awards; all truly care about teaching.

Every interviewee received at least part of his or her education from a university in the United States. The majority have formal training in economics, but two have no formal training at all in the subject. Most were born and raised in the United States, although there are three Europeans (a Belgian, a Portuguese and an Englishman) who came to the United States to pursue graduate studies. The majority are male and white, but there are three females, one of whom is African-American. They range in age from early-40s to mid-60s.

The interviews took place at university campuses or at the homes of interviewees in thirteen locations in the United States (Cambridge, MA; Weston, MA; New York City, NY; Rochester, NY; Palo Alto, CA; Chicago, IL; San Jose, CA; Austin, TX; Evanston, IL; Denver, CO; Princeton, NJ; New Haven, CT; and Berkeley, CA). The spoken word was chosen over the written word for its simplicity, emotion, directness and candor. Each economist was offered the chance to view the questions prior to the interview, and the conversation was digitally recorded, transcribed and then edited, first by myself and then by the interviewee. To preserve the character and spontaneity of the conversation, editing was kept to a minimum.

The interviews center predominantly on seven lines of enquiry. In the first section, *Background Information*, interviewees are asked questions about their academic training and role models as teachers. Specific questions include: Why did you study economics? As a student, did any of your teachers stand out as being particularly influential or inspirational? As a teacher, have any of your colleagues been particularly influential or inspirational in terms of developing your style and approach in the classroom?

The second section, *General Thoughts on Teaching*, includes the following two questions: What do you like most about teaching and what do you like least? On balance, do you think that teaching effectiveness and research productivity are complementary or competing endeavors? The third section, *The Learning Process*, focuses on how the interviewees interpret the process by which students learn, how they evaluate students to help meet that end, and how they solicit and collect feedback on their teaching. Specific questions include: How would you describe your understanding of how humans learn? How do you assess whether the students are learning the material? How do you check your progress and evaluate your own efforts in the classroom?

The fourth section, *Teaching Philosophy and Technique*, focuses on teacher-student relations and pedagogy. Specific questions include: What do you promise your students? What do you expect of your students? How do you treat your students? How do you prepare to teach? What are your primary teaching methods? Is there something in particular that you do

that is intended to help and encourage students to learn? How do you deal with the heterogeneity that exists among students in a typical class? How do you keep the material fresh for your own sense of engagement in the classroom? How do you achieve the right balance between being objective and incorporating your own views in the classroom?

The fifth and six sections, *Course Content and Design* and *Textbooks*, respectively, contain questions that relate to particular courses that are taught by the interviewee. They include: When you are designing your syllabus, how do you strike the right balance between teaching established ideas that have stood the test of time and incorporating current research? How do you strike the right balance between formalism and reality? Where does your course begin and why does it begin where it does? Which are the key ideas at the heart of your course and how do you teach them? Which are the big questions that these ideas will help the students answer? Which intellectual abilities or qualities will your course help the students develop? Are there any aspects of your course that the students tend to find particularly fascinating? Where do the students have most difficulty with motivation or understanding? Where does your course end and why does it end where it does? Which textbook do you recommend for your course?

The final section, *Teaching Economics in the Future*, includes the following question: How do you think the process of teaching economics will change over the next few years and to what extent will student demands and expectations shape that change?

Whilst there are many common questions across each interview, there are also questions that vary by teaching field and by individual, and that emerge in response to insights and perspectives from a previous conversation. The latter allows for debate among the economists, on issues ranging from the appropriate level of formalism within introductory courses to the pros and cons of the *Freakonomics* phenomenon.¹

So, what do we learn? Let me outline a few broad, unifying themes. For several of the interviewees, the attraction to economics began in high school. Caroline Hoxby recalls that this was “an amazing experience because it made me think I wanted to be an economist when I was 13 years old.” But what is particularly fascinating is that for quite a few of the interviewees, the lure of economics, and in some cases their areas of expertise, can be traced back to the influence of their parents and childhood experiences.

For example, Daniel Hamermesh’s interest in labor economics was partly stimulated by his parents’ “somewhat lefty background”; Gene Grossman’s field of international trade was a natural choice because his parents exposed him to cross-country cultures when traveling extensively as a child; William Easterly’s interest in development economics was

influenced at age 12 by a year living in Ghana, where his father was a Fulbright professor; Edward Glaeser's fascination with urban economics was fostered by a childhood spent in New York City, where his mother ran Mobil's local capital markets group and where his father worked as an architectural historian at The Museum of Modern Art; Frederic Mishkin's interest in macroeconomics was inspired by his father who "always talked about the Great Depression"; and Barry Eichengreen grew up in Berkeley in the 1960s and was tear-gassed after days at high school, making it "hard not to become interested in the social sciences."

Two interviewees, Robert Gordon and David Friedman, were raised by parents who were both economists. For Gordon, his career choice was therefore the "default profession", but Friedman tells us that he "stayed out of it (economics) because I didn't want to spend my whole life being my father's son, but I decided that was a mistake given that I was better at economics." Friedman's story is indeed an interesting one: the son of Milton and Rose and nephew of Aaron Director, he attended Harvard University at 16 years old, gained a PhD in theoretical physics from the University of Chicago, and has subsequently held professorial positions in economics and law without having taken a formal course in either subject.

When asked about teachers that inspired or influenced them during their education, the interviewees provide us with an insight into the myriad qualities that captured their minds, be it the "extreme clarity" of Robert Solow; the "natural brilliance" of Kevin Murphy; the "precision" of Art Goldberger; the "incredible integrity" of Stanley Fischer, or the "quiet intensity" of Eric Immel, Robert Frank's analysis teacher at Georgia Tech. David Cutler points out that whilst everyone has different styles, all good teachers "share their enthusiasm for the subject." Nancy Folbre advises aspiring teachers that, "Your students have to have a sense that you love what you're doing and that you think that they could love it as well." Passion is a characteristic that defines much of the teaching found in this book.

But it is notable that few interviewees appear to engage in discussions with colleagues about teaching approaches and strategies or are subject to peer evaluation. Yet, for those who have either attended colleagues' lectures or co-taught courses, the experience has been both enlightening and invaluable. John List, for example, tells us that in his first quarter of residence at the University of Chicago, he attended the microeconomic theory course for first-year PhD students, which is taught by Gary Becker and Kevin Murphy. "What struck me was their level of understanding of economics and how they could explain that to the students on a very intuitive level", he recalls, adding, "I think that pushed me to think harder about how I could up my game here at the University of Chicago and give

the students exactly what they're paying for and what they deserve." List arrived at Chicago by way of the Universities of Central Florida, Arizona, and Maryland.

Ben Polak also remembers vividly co-teaching a graduate class in game theory with David Pearce at Yale as a "fresh-out-of-school" rookie. "Everybody thought that he just walked into the classroom, went up to the board, and started teaching", he tells us, "But when I taught with him, I realized that he was preparing every single one of those sentences in his head beforehand. He would go into lockdown hours before the class . . . it looked spontaneous, but it was actually incredibly prepared. I think that was a really important lesson. You realized that if the great ones are having to work that hard at it, then you know you have to as well." As we shall see, this experience appears to have had a profound effect on Polak's approach to preparing for class.

What do the interviewees like most about teaching economics? For some, it is the dissemination of new ideas to students, particularly at the undergraduate level. As Robert Gordon puts it, it is being "the vehicle by which empty minds are introduced to the great world of economics and all the things that it has to offer." For Luís Cabral, that particular aspect is "an absolutely wonderful experience", noting that, "aside from parenting, I don't think that there's any occupation where you can get that feeling as much as you can from teaching." For others, it is the personal and intellectual engagement with students, especially when the latter finally understand a complex concept ("There is no feeling that beats that. That's opium. . .", according to William Greene), or it is the showmanship and performance aspects of teaching. John Taylor tells us that in his large-lecture introductory class, "I enjoy getting the laughs and seeing their reaction and hopefully it'll help them understand more." For others still, it is the contribution to the path of intellectual development in the world; "the satisfaction that you've done something to prepare the next generation to confront some of the big, big problems in the world", in the words of David Cutler. It should be difficult for readers of this book who are contemplating an academic career not to be excited by these possibilities.

The interviews also bring the traditional dichotomy of teaching and research into question. Admittedly, the interviewees are a self-selecting group, and most do view teaching and research as complementary rather than competing activities, setting aside the obvious conflict in terms of time allocation. Several mention that teaching forces them to analyze deeply the nature of the material, to evaluate its quality, and to cut to the heart of the matter. As Frederic Mishkin explains, "(teaching) gets you to think much more clearly about issues, so it is actually good for your writing and for your research." That relationship can be surprisingly

strong. Caroline Hoxby tells us that, “90 percent of my research is somehow linked to thoughts that came to me during the process of writing lectures.” A leading researcher on the economics of education, Hoxby is also an exceptional teacher.

The teaching and research relationship can also be two-way when the latter feeds into the former. “When you’re wading deep into the scholarly literature on the history of ideas, continuously engaging the original text and the secondary literature”, Steven Medema explains, “it can’t help but inform your teaching.” Moreover, John Taylor draws attention to the potential for positive interaction between research and teaching at research universities in particular. “You can convey an excitement if the subject itself is live and changing and you’re ‘into it’ and participating in its evolution and work”, he tells us. This is an important point, and one that is much neglected when the relationship between teaching and research is under discussion.

A few interviewees claim that good researchers tend, on average, to be good teachers. “I’ve observed this again and again”, Daniel Hamermesh says, whilst Steven Landsburg argues that, “by and large, if you’re looking to take flute lessons, you want to take them from a really good flute player, and I think if you’re looking to learn to think about economics, you want to learn from somebody who’s really good at thinking about economics, and that’s usually going to be somebody with a significant research career.” That said, Frederic Mishkin points out, “there are places where if you’re a good teacher you’re not only not rewarded for it, you’re punished for it.” The inference here is that in departments of economics at certain research universities, good teaching, as exemplified by the winning of a teaching award, is viewed as an “undesirable signal” since it implies that the individual in question is not devoting sufficient time to research. Of course, this is entirely wrong to those who believe that it is teaching, not research, that has the greatest long-run impact on society.

The interviewees with reputations as great teachers treat the activity as an intellectual endeavor that is both serious and creative. For example, when asked about preparation for teaching, Ben Polak describes his meticulous approach: “I’ve been teaching my game theory class for about 10 years or something”, he says, “but nevertheless on the morning that I teach it, I go to a coffee shop with my handwritten notes and a notepad and more or less rewrite the whole lecture fresh. I use the old notes and in going through those notes I’m thinking, ‘Okay, so where do I want to be standing? Where do I want to be on the blackboard with this? Do I want to go fast or slow at this point?’” Of course, revision and refinement in the classroom can also be driven by student feedback. David Laibson tells us, “I want to constantly take the temperature of the class because despite the

fact that I've been teaching for 15 years, I'm not even in the ballpark of getting it right yet." Laibson is a designated Harvard College Professor in recognition of his teaching excellence.

As one might expect, there is great diversity in teaching methods across the interviewees, depending on various factors, including the level of instruction, class size, and personality of the teacher. There are the "chalk and blackboard" lecturers, such as Ben Polak and Steven Medema; some who place great emphasis on discussion, such as David Cutler and David Laibson ("Going back and forth with the students is a key ingredient in making them feel that the whole experience is more impromptu, more enlivened, more participatory and hence, something that's worth staying awake for"); and others, such as Daniel Hamermesh and John Taylor, who recognize the value of entertainment at the introductory level. For Hamermesh, this involves riding round the lecture auditorium on a Razor Scooter rapping to a song about microeconomics ("I'm not going to win a Grammy, but it's a way of summarizing stuff that kids understand"), whilst for Taylor it takes the form of dressing up as a Californian raisin to illustrate government subsidies ("I think absolutely that entertainment and economics go together"). Whatever the method, all interviewees reject implicitly any notion that teaching is simply an activity that involves a "sage on a stage."

But do the economists have a formal understanding of how humans learn? The majority do not. In fact, it is the one question that many struggle to answer. Yet, this should not be surprising. As Robert Frank reminds us, "All the focus in our graduate instruction is on mastering the details of the discipline itself, and then we just hope that once you're put in front of a group of students you can somehow transmit relevant information to them." The interviewees appear to have developed their insights into how we learn from working with students, or from recalling their personal experiences as students, or from observing their own children, or even from Benjamin Franklin in the case of John List ("Tell me and I forget, teach me and I remember, involve me and I learn"). It is beyond the scope of this book to examine whether the empirical and theoretical literature on learning can help to inform how we design and teach economics courses, but Robert Frank makes a convincing case in his interview for integrating the rich body of knowledge on learning into the training and development of scholars, particularly those who are expected to teach at the introductory level.

More generally, how do the interviewees view the future of teaching economics? Several acknowledge that interactive classroom technology has the potential to play an increasingly important and useful role, but at the same time those interviewees are also keen to emphasize that this

will not eliminate the human element to teaching. For urban economist Edward Glaeser, this “relates to my confidence in the enduring ability of cities to survive and thrive, because we are such a social species.” Daniel Hamermesh speaks of teaching as a “matter of interaction, regardless of what specific technology you use”, which for Barry Eichengreen involves, “physical proximity, eye contact, and the Socratic method.” So there appears to be a consensus that whilst technology can be embraced to complement good teaching, it can never be a substitute for it.

Shoshana Grossbard and John List discuss the impact of the media revolution, as distinct from technology, on pedagogy. Both stress that the revolution is allowing students to learn about issues before they enter the classroom. However, Grossbard points out that this learning is “superficial”, and argues that, “part of our role as professors is to get students to think more deeply and to be more analytical.” For List, the concern is how to address the revolution’s negative impact on the concentration span and boredom threshold of a typical student. He suggests, “That could mean more Socratic methods and experimentation, where the students are an integral part of the learning process.” Therefore, whilst the media revolution represents an opportunity for teachers of economics to emphasize their important role in the classroom, it also poses a challenge for them to cultivate an effective learning environment.

Finally, several interviewees believe that it is students’ continuing demand for economics to help explain the world around them that appears most likely to drive pedagogy and the curriculum. “(Economics) used to be able to exist in a parallel universe that just gave you a set of models”, says William Easterly, “Now it’s much more about explaining a lot of the real world and the things you see around you.” Aside from this practicality, the appeal of economics is seen in many other forms throughout this book; its interdisciplinarity; its formalism; its rigor; and of course its concern with human welfare. But ultimately I hope that the interviews that I conducted convince the reader that, although teaching the subject may never achieve the same level of intellectual kudos bestowed upon research, it is an activity that deserves great respect and attention.

NOTE

1. At the end of this volume, the reader will find a list of the publications that I consulted, and that helped shape the questions that are contained in the interviews.

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PART I

Fundamentals