

Teaching introductory graduate syntax

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I discuss my experiences teaching introductory graduate syntax for forty years and offer some observations and suggestions that might be helpful to others. I particularly emphasize two things: (i) the importance of developing good homework problems and of timely and thoughtful responses to assignments, and (ii) the necessity of stimulating active participation in class discussion. I propose several techniques for making these things happen. I also suggest ways of dealing with a class made up of students who have widely varying backgrounds in the subject matter.*

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I have been asked to contribute an article on teaching syntax at the graduate level, something I have been doing for over forty years, beginning in 1972 at the University of Connecticut, and since 2002 at the University of Maryland. I talk primarily here about my favorite course to teach, introductory graduate syntax, because teaching techniques come into play much more here than in advanced seminars, I believe. This article is based on my personal experiences, and is largely impressionistic. I have not conducted any research comparing and evaluating pedagogical methods. The methods I report here have worked well for me. I suspect they will work as well for others, but I cannot say for sure. I should point out that my work on syntax is within the Chomskyan framework and this is what I teach. I am pretty certain that much of what I say here will be more broadly applicable, but some of it might not be. My course covers such topics as: the nature and source of syntactic knowledge; formalization of the infinitude of language; formalization of phrase structure; properties of syntactic transformations; syntactic information and lexical information. At the first meeting, I outline this, talk about students' requirements, and get right down to business. One version of the course can be found in Lasnik 2000.

In my experience, students enter the graduate program with a wide variety of backgrounds—among many others, computer science/computational linguistics, phonetics/phonology, philosophy, psychology (though the backgrounds are rather less varied than when I first entered the field in 1969, when it was rare for a linguistics graduate student to have had a bachelor's degree in linguistics). Some are up on almost all of the latest developments in particular syntactic frameworks while others have had only very limited exposure to any sort of syntax. The trick is to keep it interesting to the former yet accessible to the latter. An approach I have used for many decades seems to satisfy the needs of both groups. In particular, I begin with the foundations of the field— notions of explanation in syntax, of structure, of sentence relatedness. A surprisingly large percentage of students up on, for example, the latest work on minimalism are quite unfamiliar with foundational writings such as Chomsky's *Syntactic structures* (1957) and *Aspects of the theory of syntax* (1965). So in general this old material is new to everyone in the class. This puts everyone on a relatively equal footing and provides fresh material to almost all. I suspect that were I a practitioner of generalized phrase structure grammar or its descendants I would act similarly, starting with Harmon 1963 then proceeding to the early work of Gerald Gazdar, such as Gazdar 1982 and Gazdar et al. 1985. Similarly, if I worked on lexical functional grammar, I would begin with Bres-

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nan 1982; for relational grammar, Perlmutter 1980 and 1983; for categorial grammar, Bar-Hillel 1953, Bach 1988, and Steedman 1996; for tree-adjoining grammar, Joshi et al. 1975 and Kroch & Joshi 1985. And so on. (Of course, these are just my incompletely informed suggestions. Those of you who work in these frameworks know better than I what counts as the crucial foundational work.)

There are additional reasons for starting with foundational material. First, details tend to change, often rapidly, while foundations often persist. Second, many of the terms, concepts, and analyses in recent work are much easier to understand and evaluate against a backdrop of their ancestors of a few, or several, decades ago. Third, our field is a relatively young one without a very large number of good arguments and analyses to use as models. We cannot yet afford to ignore the interesting arguments and analyses that have been developed over the years, even if we conclude that they are ultimately incorrect. Finally, sometimes old discarded analyses turn out to contain important insights, or even, on careful reinvestigation, to be correct in essence, even if not in all details. To take one among many possible examples, I have argued in Lasnik 1995 and 2000 that the core of the Chomsky 1955, 1957 analysis of English verbal morphology, an operation that came to be called affix hopping, is basically correct. More generally, I have found that consideration of old analyses, examining their virtues and defects, and then using them as a basis for examining later developments, can be a very useful teaching, and research, tool. I find it productive to think of class not just as a forum for my teaching but also as a forum for my learning. That is obvious for advanced seminars, but I find it almost equally true for introductory courses, especially because in the latter, students often question fundamental assumptions that are taken for granted in advanced courses. It also sometimes happens that when I prepare to teach a standard analysis of some phenomenon, I realize that there are gaps in the account or unstated premises. Bringing these out into the open leads, not infrequently, to new research directions. Also, naive questions from students occasionally turn out to be profound. I still distinctly remember the first day of class several decades ago when, upon my introducing the asterisk as a marker of ungrammaticality, one student asked: ‘Where do you put the asterisk?’. My initial reaction was that it is not in any particular location; it is in the metalanguage rather than part of the notation of the theory. It was a while before I thought about that question again, but it must have been simmering on a back burner of my mind. It emerged in the treatment of an adjunct-argument asymmetry in island-violating movement in Lasnik & Saito 1984, especially as further developed in Chomsky 1986, where the asterisk is part of the notation, and, like other pieces of the notation, subject to formal manipulation. Later still, when I began to explore the phenomenon, discovered by Ross (1969), of island repair by ellipsis in Lasnik 2001, the position of the asterisk again played a crucial role. (I am embarrassed to admit that it was only then that I finally remembered that Chomsky (1972) explicitly relied on formally manipulating the marker of ungrammaticality to explain Ross’s facts.)

Beginning with basic phenomena, such as acceptability and relatedness judgments for a range of examples, and how these can bear on the notion ‘knowledge of language’, the class and I cooperate in motivating analyses, with me guiding the discussion toward the classic theories alluded to above. (At this early stage I try hard to monitor my language for inadvertent use of jargon I have not yet introduced, a very easy trap to fall into. Jargon is necessary and greatly facilitates communication among the initiated. But there is no way for the uninitiated to know the jargon. You can know the English word *bind* without having the vaguest idea what binding theory is about; you can speak fluent English without knowing the term ‘noun phrase’, much less ‘determiner phrase’.) I then flesh out

the theory, arriving at essentially the Chomsky 1957 account of verbal morphology, yes-no questions, negation, and so forth, and then expand this into much of Chomsky's syntactic theory of the 1950s. I should point out that while I invariably have an agenda for each class meeting (which I indicate on the weekly update of the course website and articulate as the session begins, relating it to what went on the preceding session), I always welcome questions and suggestions from the class that might depart from that agenda. For example, when talking about passive and raising sentences (*Mary is believed to be a genius*), a student might bring up *tough*-movement (*Susan is tough to please*), which is similar in some ways, but quite different in others. The resulting detours sometimes engage the class more fully than the original plan. I do try hard to relate the detours to the agenda, though, to keep the course from becoming disjointed. At the end of each class meeting, I generally briefly summarize what went on, how it fits together, and where it all points us for the next meeting. Then I post on the website the required and suggested readings for the next week (including frequent handouts on the major topics, including phrase structure derivation, binding theory, and island constraints) and information about readings that might have come up in that meeting's detours.

I am positive that no matter how well I present the material, and how well the students think they are grasping it, the only way they can really learn syntax is by DOING syntax. For this reason, and, of course, so I can make sure the students are taking in what I am putting out, I assign frequent homework assignments calling for analysis of many examples, extensions of the analyses developed in class, and consideration of the theories underlying the analyses. I am also certain that it is extremely important to provide extensive written feedback on students' written work, and to do so very quickly, while the students still have the material on their front burners and still remember why they gave the answers they did. And I never return the work with no comments at all. If there are mistakes, I offer corrections and suggestions. If there are none, I comment on particularly good answers. It is imperative as a teacher to convey that you take the students' work at least as seriously as they do.

The main session of my class at the University of Maryland meets for three hours (with a ten minute break in the middle) on Tuesday afternoons, and I generally post the week's written assignment, if there is one, by Monday, so students can ask about things that might be unclear in class. (I also encourage students to visit me in my office, whose door is always open, or to contact me by e-mail.) On Thursdays, there is a one hour discussion section. I am fanatical about returning that week's assignment then, while the students still remember what the exercises were all about and why they gave the answers they did. On weeks with a homework, the Thursday sessions are devoted to discussing the homework in detail, exploring common mistakes and presenting surprising (especially surprisingly correct) answers. (Yes, even after all these decades, I am sometimes surprised by an answer giving a new take on a problem. For example, a couple of years ago, a student discovered an interesting glitch in the *Syntactic structures* account of apparent absence of subject-auxiliary inversion in subject WH-questions: *Who left?* rather than *Who did leave?*.) As I said in a *Glott International* interview in 2002 (Cheng & Sybesma 2002), 'I have no sympathy with teachers who assign good written assignments and then give them back a month later, because by then all the value is lost'. A couple of decades ago I started using a procedure for homework assignments that I am convinced has added to their value as learning tools. I give students the option (which the large majority take) of redoing the homework based on my comments in the margins and the Thursday discussion. For this option, I require that students turn in at the class following the one where I return the original:

- the original version (so I can see exactly what has been changed)
- the revised version
- and, crucially, for each substantial change (i.e. presenting a different phrase structure for an example, not just correcting typos), a few sentences indicating what they now know or understand that they did not before. It is this requirement that makes the revision process a good learning tool.

I then grade the revised assignment, and replace the original grade with the new grade. Yes, this is a little more work for me, but I find it to be well worth it. Many students have commented that this procedure makes the assignments much less intimidating and much more educational.

As I have mentioned, I have an agenda for each Tuesday meeting (English verbal morphology, derivation of passive sentences, distribution and interpretation of reflexives, survey of island constraints, etc.), though I happily depart from it when appropriate. I also prepare far more material than I can possibly use, and then, importantly, I do not try to use all of it. If I can present one or two points or concepts really well in a class session (the notion of syntactic derivation, X-bar theory, how syntax might interface with semantics, locality, etc.), I congratulate myself on a job well done. These points should, of course, be important, and I emphasize to the students that they are important, and just why they are. I ask myself what I realistically hope the students will still remember a week from now, a month from now, a year from now.

On the Thursdays when there is no weekly homework to discuss, I emphasize to the students that the agenda is theirs. I encourage them to come in with more questions about the material from class or from the readings, suggestions for related topics to investigate, phenomena from languages we have not looked at, and so forth. Typically, the first week is a bit slow, but after that the students realize that they really can bring up anything they want; things get pretty interesting then, with examples from other languages or sentence types we have not yet considered, or foundational questions that I had bypassed.

After developing Chomsky's classic theory of the 1950s, not as an archaeological curiosity but as a possible candidate for the truth, and examining its many virtues, I proceed to consider its shortcomings, particularly from the perspective of what Chomsky (1965) called explanatory adequacy—how it is possible for the child presented with limited data to arrive at the correct grammar. The second homework assignment provides the students a firm basis for that classic theory and paves the way for the next step. (The first assignment, reflecting chapters 3 and 4 of Chomsky 1957 and the first two-thirds of chapter 1 of Lasnik 2000, is pretty much just mathematics and technology—properties of finite-state Markov processes and context-free rewriting systems.) The interested reader can find all of the homework problem sets (as well as all of the reading assignments) at the Fall 2012 course website (<http://ling.umd.edu/~lasnik/LING610%202012/LING610%202012.htm>). (Several previous years can be found at <http://ling.umd.edu/~lasnik/>.)

I am a firm believer that every exercise must have a point and a purpose and a reasonably specific answer that could be arrived at from the material presented in class and the readings. In constructing assignments, I try, for each exercise, to know in advance what I will consider to be a good answer (but, of course, I allow for the possibility of an unexpected but nonetheless good answer). I do the exercises myself before I assign them, often discovering unclarity in my formulation. On occasion, as I am grading the students' work, I might find the same mistakes recurring over and over. My initial reaction might be, 'Oh, those stupid students'. I immediately squelch that reaction, replacing it with 'What did I do wrong in presenting the material?' or 'What was wrong with

the exercise?'. One recent instance that comes to mind concerns Case theory. Not infrequently, students would confound the rules assigning Case to NPs in particular configurations with the filter ruling out structures where an NP failed to properly receive Case. This motivated me to alter both my presentation of this aspect of the theory and the exact statement of the exercise.

In discussing the limitations of the classic theory, I solicit suggestions from the students about phenomena that are not adequately handled (foreshadowed in the last question of the second homework), and about formal properties of the theory that might cause learnability difficulties. This leads to the 'standard theory' of Chomsky 1965 and especially the introduction of a lexicon to the theory. Following this, I explore constraints on the form and functioning of transformations, ultimately leading to the 'principles and parameters' model, which I tend to develop module by module: Case theory, initially as an outgrowth of inadequacies in the classic account of passive sentences; then binding theory; and finally, locality constraints on movement, especially subadjacency. For all of these topics, I relate the arguments and analyses to the issue of explanatory adequacy, which is, in important respects, the unifying theme of the course. I also begin to relate the material of this first course to work in minimalism—Chomsky 1995, Lasnik 1999, for example—which forms the core content of the second semester course. In our program, we have no specifically required courses. Virtually all of our students do take Syntax I. A large percentage also take Syntax II, but since fewer do, I try to provide at least some familiarity with minimalist concepts and terms by the end of Syntax I.

Always, I strongly promote active participation by the students in the discussion. I have some thoughts, based on my experiences, about how to facilitate this (in addition to noting on the course website that 'I am aiming for a highly interactive class. To encourage this, I will count class participation toward your grade to some extent.').

- First, what NOT to do: You could ask a question and say 'No' or 'That's wrong' when you do not get the answer you want; you could simply ignore an undesired answer; you could get into an argument with the student giving such an answer; or you could score debating points off the student to show how clever and knowledgeable you are.
- Rather, always treat the students and their ideas with respect even if those ideas seem to you to be clearly wrong or if they lead in a direction you do not want to go. When a student suggests an incorrect analysis of a sentence, I run with it for a while, perhaps showing how it handles some other sentence but not the one at issue. Or perhaps I suggest that the account works for another language, even if not the one being examined.
- You SHOULD encourage questions from the class. (If you do not get any questions, the odds are low that it is because every student understands everything.) Never respond to a question by saying (or implying) that the question is not important or that you do not want to get into it. Sometimes I will get a question from one of the more experienced students in the class that presupposes material that will come weeks or months later. In week 2 of the course, if a student asks: 'Can't we use relativized minimality to explain the example?', I try to informally explain the notion, indicate when we will get to it, and then briefly indicate whether it can be used here.
- When a student asks a question, show that you are happy about that (even if, or especially if, you are not particularly pleased with the question). Say what a good question it is, or how it is just the right question, or how that very question inspired Chomsky (or Gazdar, or Bresnan, or Perlmutter, etc.) to ...

- Restate the question for the class, since not everyone heard it, and of those, not everyone understood it. As you restate it, you can clarify it and sharpen the point. Then answer it clearly and in an encouraging manner.
- Never try to snow the class. If a point or question comes up that you do not know how to deal with (maybe a tricky sentence you have not ever analyzed, or an unexpected gap in a paradigm, or the source of some technical term), do not bluff. Say that it is an interesting question; say why it is interesting; then maybe say to the class ‘Let’s see if we can figure it out together’ or else promise to get the answer for next time. Then DO IT. (Students would occasionally ask me why Chomsky (1957) used C for the tense inflectional element. I would speculate that it stood for ‘concord’ since that morpheme also carries agreement information. Eventually, I asked Chomsky and he shot down my speculation, telling me it stood for ‘component’, as in the ‘long components’ of American structuralism.) But if it happens repeatedly that you are stumped in class, definitely reconsider your quantity and quality of preparation.
- As your presentation continues, refer back to questions, comments, suggestions, and so forth that students have brought up: ‘Remember Rachel’s suggestion that this verb has two subcategorization frames’. That is one of the best possible ways to demonstrate respect for your students and to engage the students in the discussion.
- If you are not getting any questions from the class, ask yourself why. Perhaps you are unconsciously conveying a defensive attitude. Or perhaps you are trying to get through too much material (a very common impulse), hence not pausing to encourage questions. If you are pretty sure you are doing all the right things but are still not getting questions, you might ask the class why.
- When YOU ask a question, do not be afraid of a little silence. When you do not get an answer immediately, you will be very tempted to answer it yourself and then go on. Resist this temptation, because if you succumb to it that will indicate to the students that all of your questions are rhetorical, or, almost as bad, that you do not expect them to think before they answer. So wait a while. If still nothing happens, offer a hint: ‘Might rule ordering be relevant here?’.
- A hard one: You have just spent fifteen minutes giving a brilliant explanation of some important issue. As you are proudly finishing, someone raises their hand and asks a question whose answer would be precisely what you have just painstakingly presented. What do you do? Here’s what I do. I apologize for not being completely clear, and then I present the point in a different way. Doing this can help even the students who almost, but not quite, understood the issue.
- There is no one right way to present material. You can present material really precisely and formally, you can present it metaphorically, you can use pictures or tell stories, but always give extensive data and show just how the analyses fit the data. No matter what approach I am taking at a particular moment, I find myself making extensive use of phrase structure trees, with curved arrows illustrating movement relations. Most everything I teach depends on phrase structure, and most people find phrase structure much easier to conceptualize if they can perceive it in this visual way. But keep in mind that people do not all learn in the same way. What reaches one might not reach another. Ultimately, you want to reach all, so it is important to take a variety of approaches. One of my fundamental rules of teaching: If students do not understand, it is not their fault. If students do not understand and it is their fault, see the previous sentence. Forty years ago, Morris Halle, a superb teacher (and, interestingly, not just my first phonology teacher but also my first syntax teacher), told me that there are no bad students, just bad teachers. Perhaps that is not entirely true, but it is a lot closer to true than to false.

My greatest satisfaction is seeing the light bulb go on over a student's head. For some, it happens right away. For others, it might take the whole semester, or longer. But everything I do is directed at that goal. That makes everything else fall into place.

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