Phonology Course Design for the Contemporary Student

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1   Introduction

This paper is intended to share ideas about adapting new and/or experimental pedagogical approaches to the received canonical models that typify instruction in university-level phonology courses. I begin by acknowledging the challenges faced by young adult students as we enter the 2020's, the variance in their experience, and how it differs from that of mine and my contemporaries. I then survey the range of institutional and infrastructural resources across Linguistics programs. Both sets of circumstances suggest both a need and an opportunity to explore what we as instructors of phonology may do differently as we construct or revise our curricula, and thus I also present some specific examples of how a phonology curriculum may be adapted to suit contemporary needs of students.

This paper is organized as follows. In Section 2, I survey some basic observations about the variant role and enrolment of phonology courses within linguistics programs, and the pressures that such courses and programs face. Section 3 provides a comparison of an idealized traditional phonology curriculum and contrasts it with a more typical contemporary instantiation. In Section 4 I suggest a few paths to consider for means of improving the engagement and performance of students in phonology courses, and Section 5 offers a closer look at some of these content-oriented strategies of engagement.

2   External pressures on phonology courses

I should begin by acknowledging that my own perspective as an instructor of phonology is within the context of a Linguistics program at a large public university in the United States, but I do not mean to limit the present discussion just to local problems or solutions. Some of the challenges I face as an instructor may resonate with readers at other institutions, public or private, large or small, and in other nations, while there are additional considerations at other locations which our institution may not feel.

A unifying theme to observe is a tension between heavy instructional burdens and limited resources. The burdens include heavily-populated programs, large class sizes, diverse student interests, diverse levels of student preparedness and engagement, and a growing distraction of an environment of political and economic uncertainty.

In the department where I teach, we offer a range of undergraduate degree programs, including a Linguistics BA, a distinct BA in Language Culture & Society, and additional emphases in Human Language Technology and Speech Language Sciences & Disorders. Our Phonology course is required for some of these programs and an elective for the rest, but because of staffing constraints, we experience a structural limit on the number of courses we can offer each academic term, and as a result nearly all students across each of our programs seek to enroll in the course, one of a handful that is offered annually. Indeed, our undergraduate population has experienced such growth that our in-major courses typically have enrollments of about 75 students with additional demand; our Phonology course has endured such pressure each year at least for the past seven years..

Class size of this magnitude presents a direct challenge to the nature of curricular design and assessment for phonology courses. It is difficult to orient lectures to focus on implications of particular datasets without committing sufficient instructional time to the mastery of fundamentals like phonemic analysis and morphophonemic alternation. Likewise, course content may vary in its import for students with differing programmatic goals – that is, the components of course content that interest or engage the speech disorders major may be quite different from those that engage the speech tech major, to name just two of the range of

foci. In addition, models of assessment (whether traditional or innovative) can strain under the pressure of large enrollments, especially if a program is limited in teach assistantship support.

While the pressure of a broadly-scoped student population is perhaps self-chosen in our case, it is nevertheless a recurrent issue for Linguistics programs elsewhere in the US and worldwide. As a field, linguistics has a long history embedded as a component of arts, humanities and social sciences, and as such on any given college or university campus it is typically housed in a division or faculty along with comparable academic disciplines. In the contemporary context, universities tend to favor physical sciences, engineering, and computer science for new resources, and when forced to cut programs for lack of funding, they look to humanities and social sciences first.

As a consequence, like other Linguistics programs, ours has sought a means of preservation by expanding the appeal of the curriculum to a wider range of interests and by presenting a set of ostensible career paths (e.g., technology or speech therapy) as tangible outcomes. Thus, while the specifics of a diverse slate of degree options may not apply to all Linguistics departments, the concept of having to grow enrollments to avoid the risk of funding or personnel cuts is surely more widely resonant.

A separate issue may arise in institutions which house a small number scholars of Linguistics in other departments (such as Philosophy, Anthropology, English, or Language & Literature), or which for other reasons may simply have a small number of Linguistics faculty within a cogent department. In such scenarios, the resource strain may encourage departments to group Phonology and Phonetics as combined single-term classes, leading to a shorter timeframe in which the student may be expected to master central tenets of the discipline, and to the risk that phonology be acquired as an extension of phonetics.

Moreover, much of this current state affairs has come about irrespective of other sociopolitical upheaval, which only adds to the challenge that the contemporary student faces. In the US as elsewhere, the current college-age student has less assurance of a stable or prosperous adulthood than students of prior generations; increases in costs (including tuition, housing, and amenities) have outpaced increases in incomes, and the stress brought about by the COVID-19 pandemic and the threat of political disruption (again, in the US but also in other nations) makes the undergraduate experience a far more fraught time than it was just decades ago. These contextual concerns of course apply to all university students, not merely those of phonology or of Linguistics more broadly, but they still motivate some type of reorientation in how we teach our courses.

To narrow the discussion back to phonology and Linguistics more specifically, we can refine the current objective to focus on a fairly simple problem. Phonology as a subdiscipline is traditionally considered a central component of the field, adjacent to or overlapping with phonetics, sociolinguistics, historical linguistics, morphology, computational linguistics, psycholinguistics, discourse (via prosody), and poetics. As such, when departments decide which courses on their slate to make optional and which to require, phonology is a commonly required course for the discipline. Yet students may take the course without understanding why we consider it central and/or how it dovetails so much with other subdisciplines. It is therefore a challenge to ensure that it meets the needs of students who seek other applications of their linguistics education.

3   Reality vs. expectation in phonological pedagogy

This challenge brings us to a separate concern within phonological pedagogy – independent of field-external pressures, not every student of Linguistics approaches or engages phonology in the same way. We as instructors (readers of this paper of attendees of the Annual Meeting on Phonology) share a common love for the discipline, its methods, and its broadly fascinating scope of language data, and many of us become phonologists because it clicks for us so naturally. Others struggle with its preliminary concepts and thus never get pulled in as deeply. It is a crucial consideration in a program with large populations that require the course for a degree – much of the enrollment won't be engaged by the content so quickly.

Indeed, many students do not proceed through linguistics as those who specialize as phonologists do. Even the keenest student risks conceptualizing our methodological abstractions as realities – absorbing that the phoneme is "a sound", that IPA is an arcane but omniscient transcription system that prevocates mastery of phonology, or that the intricacies of features and rule construction are both psychologically real and epistemically reducible to simple notions of correct and incorrect.

Put in other terms, students may see phonology primarily as a notational enterprise, looking for order within phonetic scatter, and thus invest their time towards mastering notational tools without first mastering phonemic analysis or alternation as concepts that are orthogonal to how we represent them.

Another observation is that a common and canonical approach to linguistic pedagogy initiates it with phonetics, moving in a "bottom-up" fashion through progressive layers of linguistic structure (and this is reflected in phonology courses that precurse phonetics).

But many college students gravitate to linguistics because they find the study meaning to be fascinating. Indeed, it is a service our field does to the world to demonstrate that a word's semantics is socially constructed, and as such it is important to cultivate this perspective wherever possible, even in phonology, a subdiscipline so clearly focused instead on linguistic form. In more general linguistics courses (for example, Intro to Linguistics), students start off better if the first objects of their analysis are more salient notions like words or morphemes as opposed to segments or phonemes. Thus, while on the one hand phonemic analysis rests partially on the notion of the minimal pair and its innovation of semantic differentiation, as an instructor I have found it useful to rely on morphology early in a course curriculum to enhance the concepts of underlying representations, an approach I address again later in this paper.

At this point it may also help to specify what might constitute an idealized expectation of how a phonology course may proceed, and in so doing become aware of where the reality diverges. In my own case, the ideal phonology course would have an enrollment of perhaps 20 students, all of whom are there for the sake of interest in the content, irrespective of their individual goals. The class would discuss one or more sets of data in each meeting, covering a substantial range of languages and phenomena over the duration of a term. Each sequential discussion builds on the previous one, with expansions of theoretical implication and refinement of problem-solving tools proceeding in step.

Let us refer to this as the "traditional model" of phonology instruction. In this model, the student learns through discovery of phenomena; datasets are curated to foreground the discoveries that the instructor hopes to highlight. As such, although the model has long been embedded in phonology pedagogy, its approach is reflected in contemporary pedagogical proposals like the Flipped Classroom or User-Directed Learning (Boothe et al. 2018).

In keeping with the notion of learning-by-discovery, assessments would comprise graded assignments whose solutions demonstrate specific phenomena or motivate concepts like features, rules, syllabic structure, or suprasegmental representations, along with examinations in which the students tackles novel problem sets by applying the tools they have acquired along the way. Still, even in a learner-centered approach, this model's assessments use graded scales as a way of measuring the student's uptake and of recognizing more accurate or more satisfactory analysis and work.

Reality can differ from this idealized scenario in many ways. In larger programs, the enrollment of a phonology class includes students who take it for reasons other than just interest in phonology, and they may enter with different levels of preparedness, with their own priorities resting perhaps in other courses or other parts of their lives. Projecting my own undergraduate experiences into this, and perhaps those of at least some readers, it's reasonable to suggest (or at least worry) that the current student endures more distraction, stress and pressure from within and from outside the classroom context than what we endured. As a result, the traditional model itself risks not assuring a fair assessment of what the student is able to master.

It is this awareness that leads to an exploration of how to amend the structure of a phonology course. Preliminarily, I can share examples of minor adjustments – things that leave the basic structure of the traditional model with its graded assignments and exams intact, but which were meant to clear a wider path for success in the course.

For both assignments and exams, one very forgiving strategy is to widen the set of acceptable responses to a given task. For example, a problem set that demonstrates spirantization may call for a solution using rules that change a feature of [-continuant] to [+continuant]. If the goal of the dataset is to assess mastery of a highly specific and stringently defined set of abstract features, then indeed holding a student to this exact characterization of the phenomenon may be appropriate. On the other hand, if the student is instead merely working on how to detect the process in contexts of allophony or alternation, then a response that uses less conventional notation such as [stop] → [fricative] should be satisfactory as well.

While assigned work allows the student time to edit and refine their work, timed assessments are a different entity, given the traditional expectation that students finish within a short delimitation of time and by drawing only on their memory of constructs and methods. Given the sheer vastness of notational complexity in phonology, between symbol mastery, feature specifications, rule-writing procedures, and geometric representations, a student can be so overwhelmed by the tools that they lose focus on the fundamental steps of searching for systematic distributions of segments and their phonological contexts.

As a consequence, some of us have tried partially open-note exams, allowing the student access to an IPA chart or to a matrix of distinctive feature values, or circulating datasets (with or without prompts) ahead of an exam to allow the student a more focused study effort. In my own experience as an instructor, these adaptations have neither reduced the degree of anxiety nor improved exam performance.

It should be noted that these amendments do not represent drastic changes to the traditional model, because assignments and exams still proceed in their traditional way; assignments graded in a scale in terms of how close they match an expectation, and exams offered with limited time and limited access to resources. By admitting these changes to be minimal tweaks, we then can move on to search for a more effective restructuring of a phonology course.

4   Towards course (re)design: assessments and course objectives

In this section, I will acknowledge some additional trajectories to consider beyond slight changes to expectations of traditional assessments: essentially, the focus will combine means of enhancing engagement with use of assessments that reward mastery. Some of the ideas that appear here are current more widely in discussions of pedagogy (for example, Kohn 2020, Parmer 2020, Schinske & Tanner 2014), and as such are not unique solutions to unique problems of phonology curricula. Zuraw et al. (2019) offer precedent for novel models of assessment specifically adapted to phonology instruction.

Let us establish some additional premises: first, students want to succeed in their courses, and sometimes for them that reduces to receiving a good final grade. Second, as instructors, we only want to give good grades if the student's work warrants it. The open question, then, is how to rectify this potential tension: in short, is it possible to allow the student to succeed in a way that satisfies the instructor's goals, but while not assuming the traditional model of assessment? I restate this as a series of simpler but interconnected questions below:

(1)   How do we make assessments fair?

(2)   How do we make content conducive to the progressive mastery of concepts?

(3)   What do we want students to retain about phonology once they have completed the course?

These questions inform each other, in that for a student to succeed in any kind of assessment, its content needs to be something the student can master in a reasonable time frame. Meanwhile, the third question listed – regarding retention – may certainly influence how we answer the first two questions.

Once we determine what concepts we want students to retain later, we can ask questions about the level of stringency to expect for a long list of field-specific phenomena: do students need to memorize IPA or a feature chart? Can a student be a capable linguist with knowledge of phonology without having these concepts memorized? Do we teach processes and features as universals or let the data drive it? Do we always look for articulatory or acoustic support for the ntion of some feature? Do we insist upon the granularity of detecting feeding or bleeding relationships?

For a graduate level or advanced / non-introductory course, the answer to many of these more specialized questions ought to be yes, but in the phonology course that is designed to train a linguistics major in the fundamentals of phonological analysis, I think the expectations can be less stringent, and thus more feasibly mastered by a larger proportion of students.

Indeed, making the content more conducive is one way to boost the chances of assessment success, on the assumption that a more engaging range of datasets becomes more feasible for the student to retain any embedded implications, leading to a better performance in assessed work. That engagement may come in the

form of informed speculation as to why a pattern presents as it does ("why do languages employ allophony?") or in explicit linkage to adjacent subdisciplines ("the detection of these patterns is a skill that informs speech path or tech modeling or sociocultural analysis").

A separate path of engagement centers on how specific phonological topics are ordered in their presentation over the sequence of a single course's syllabus. To reaffirm a claim raised in Section 1, a large component of students in Linguistics courses are drawn to the observation and study of objects with semantic content – these can be more concretely grasped than the mechanics of articulation or the distribution of allophones.

Thus, as an instructor in introductory courses, I prefer to have morphology precede phonology, a sequencing reflected in textbooks such as Fromkin et al. (2007), unlike the phonetics-phonology-morphology sequence in other texts such as Akmajian et al. (2010), Genetti (2019), or O'Grady et al. (2017). I have in turn adapted this perspective to phonology courses, ordering alternation ahead of phonemic analysis, and this procedure is embedded in Kennedy (2017). In contrast, other phonology texts (e.g. Hayes 2009, Odden 2005) place phonemic analysis ahead of alternation, while introductory texts either do the same or introduce only phonemic analysis without stretching into alternation.

Treating course components as moveable parts allows us to identify specific objectives that we can specify for students to master, and this dovetails with the model presented by Zuraw et al. (2019), in which students are assessed in a way that acknowledges and awards their mastery of skills. Their approach includes a component that allows a student to continue working at a particular task until completing it to the instructor's satisfaction. Thus, instead of being stuck with a poor grade in some task because of an early struggle, the student has an opportunity to improve their score by improving their work, a reward for ultimately learning instead of a punishment for not learning quickly enough.

In my own case, the specific areas may reduce to four concepts (alternation, allophony, syllable structure, and tone), each of which is the locus of a specific but flexible assessment, and which together can serve as the answer to a question of "what should students retain from phonology?" Paired with a fundamental re-imagining of the assessment procedure, the student can demonstrate mastery of these concepts by completing tasks that award them for arriving at the desired level of knowledge. Then, the assessment can serve as an opportunity to circle back and discuss the implications of a particular problem set, as a sermon follows a mass, in a way that highlights again why the data has relevance to the student's experience beyond serving as a puzzle to solve.

5   Additional strategies of engagement through content

The following section offers some suggestions for how to make the content of phonology more engaging to a wider student audience.

5.1   *Topic orders*   To build upon the idea that the ordering of presentation of concepts has a role in their accessibility to a student, we can entertain a more developed deployment of sequence as a pedagogical construct. The instructor can construct a curriculum as a sequential narrative, a story in which each step is natural sequence of the last.

In phonological instruction, there is more that we can attune the course to than merely placing alternation ahead of allophony. Both can precede the introduction of binary feature notation, and indeed the more data the student sees beforehand, the easier it is to motivate the choice of features to include in the analytical toolbox. Relatedly, grounding the features in datasets gives the instructor the freedom to suggest that specific segments may exhibit different arrangements of feature makeup in different languages (in contrast to a more theory-first approach in which the feature set is invariant and to be projected upon each dataset as such).

Later stages in the narrative introduce other constructs one-by-one; perhaps syllable structure is natural next, to help tie up otherwise unexplained phenomena seen in alternation and allophony. In such a position it likewise serves as an entry point into the analysis of tone and stress, notions that are perhaps far more salient to many students (and indeed, to spoken language users more widely), but which recurrently are the areas which receive less attention in instruction (and an intro course faced with the choice of offering only segmental phonology or only stress-pattern analysis would likely choose the former).

The notion of curating and cultivating an illustrative and thoughtfully-sequenced body of datasets to draw upon in a single course brings us to an adjacent area of potential engagement – the chance to discuss the nature of phonology data and its provenance.

5.2 *Data, speakers, and decolonizing phonology*   Next, we may all acknowledge the existence of a standard canon of phonological problem sets; vowel harmony in Turkish and Yawelmani, stress in Mohawk, aspiration in English, palatalization in Ganda and Japanese, among others. These particular puzzles recur in phonology textbooks and curricula because of their pedagogical utility, but as a result characterize the discipline as one focused on a small subset of languages (albeit, not a terribly eurocentric one at least in its language selection). I sense from my contemporaries a desire to enrich this canon with a wider set of puzzles to use. I have done this with my own pedagogical work by turning to richly described published grammars as sources of novel datasets, or to fields notes from students and colleagues.

There is also, in this domain, an obligation to stretch the mechanism of citation for the established canon back to more original sources. Many of the puzzles drawn from Halle & Clements (1983) are in turn adapted from earlier secondary sources, and locating the primary source can prove to be a challenge. Nevertheless it creates an opportunity to track how a conventionally used dataset undergoes some degree of refinement in each new dissemination of its forms, masking the system and precision of transcription and glossing that may have been embedded in its earliest record.

A related and crucial next step in this process is to link data sets to the cultures of the people who speak the languages we source them from. Problem sets fit into an academic paradigm that views language data as discrete, modular chunks, removed and refined from cultural context of their users or speakers, an issue labeled as *extraction* by Davis (2017) and Tsikewa (2021). Yet our reliance on data from minoritized and oppressed speakers of threatened languages demonstrates a palpable tension over who it benefits – as discussed by Leonard (2017), certainly our discipline is richer in knowledge, but the communities we source from have not seen a commensurate benefit.

At a simple level, the typical phonology problem set misses the nuance of syntactic, cognitive, or discourse-oriented factors that may play a role in the emergence or retention of specific phonological phenomena. At a broader level, phonological systems are interweaved with a far more complex layering of linguistic structure, all of which has the potential import of serving as a crucial vessel of cultural expression.

Such complexity is foregrounded in models of collaborative research like what Leonard (2017) proposes, but is missing from the extracted dataset: much of the phonology canon is drawn from languages that are currently in or near dormancy, at the hands of forced acculturation through colonialism, missionary movements, and contemporary capitalism, or through diaspora, war, and genocide. In any of these scenarios the data may have been gleaned from speakers generations ago who served the invaluable role of providing lasting records of their language and culture, but who may have been unaware of the extent to which their contribution would live on in later work devoid of that cultural context.

I therefore believe it is appropriate to engage the student on these matters as it assigns a distinct layer of meaning to the data as a component of a culture. Thus each problem set should be accompanied by an appropriate narrative not just of the geography and demographics of its speakers, but also of the language's threat status and the conditions under which the data have been collected and recorded. This kind of acknowledgement is of minimal cost to teachers and students of phonology.

In addition, while not every student of a phonology course goes on to pursue dedicated phonological research, even the introductory student should learn that future endeavors in novel linguistic research should follow best practices in collaboration with Indigenous nations instead of the colonial mentality that at least some of the canon presents.

This philosophy also presents another bridge between the course content and the students who takes it not for phonology's sake but for the sake of a well-rounded linguistics education, because this is a lesson for linguistics students that generalizes well beyond the specifics of phonology.

6 Conclusion

This paper has presented a series of ideas aimed at situating phonology instruction more appropriately in the contemporary linguistic curriculum and with the needs and pressures of the contemporary student in mind. As a closing set of orienting thoughts, a theme maintained here is that to frame phonology as a foundational content course assumes that students will appreciate it simply on that basis alone – yet this perspective may isolate a notable component of any course enrollment. On the other hand, to frame it as a set of methods with implications for and lessons to be drawn from adjacent disciplines instead highlights its value to a wider range of student profiles.

With this perspective, I suggest a diverse list of ways to engage current students, to find ways in which the course content may interest them, which in turn yields conditions under which they may thrive in assigned work and assessment. Conversely, a more progressive model of assessment and both rewards the student for achieving mastery and creates space for the curriculum to act as a source of further interest rather than cryptic frustration.

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