



普通高等教育“十一五”国家级规划教材



Applied English Phonetics:

For Chinese EFL Learners

应用英语语音学

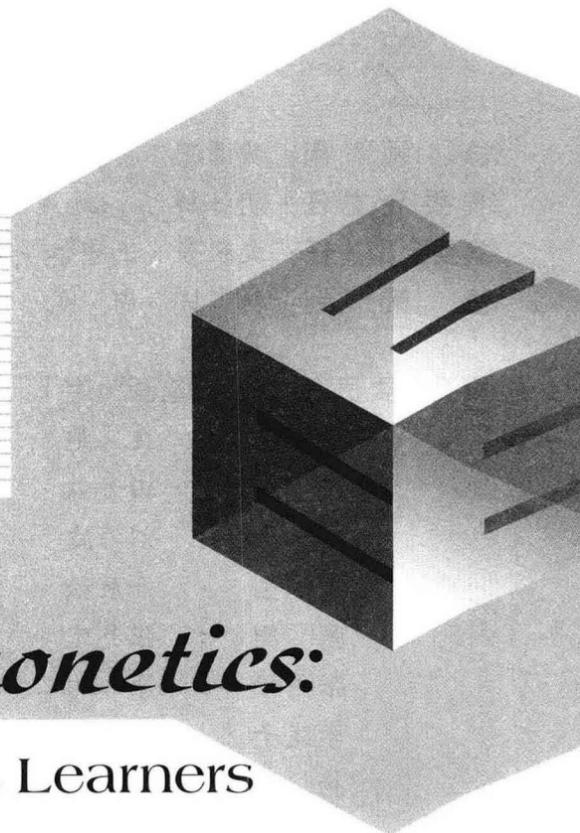
□ 王桂珍 编著



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YINGYONG YINGYU YUYINXUE



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总 序

随着全球化进程的加速发展,高等教育,特别是英语专业教育在新的历史转型期的文化交融层面越来越肩负着日益重要的社会责任。因此,为了培养具有扎实的英语基本功、相关的专业知识和文化知识、较强的英语综合应用能力和创新思维的人才,为不断深入的大学英语教学改革培养和提供师资,我们立足于中国语境,用全球化的理念和视角进行教材设计,策划了“高等学校英语专业立体化系列教材”。

实现这一具有时代意义的战略任务需要广大英语工作者树立执著的敬业精神,制订科学的、高水平的、切合实际的英语专业教学大纲,编写出版能充分体现大纲要求的有关课程(必修和选修)的配套教材,开发为课堂教学和学生自主学习服务的、与新型电子化教学仪器设备配套的教学软件系统。由高等教育出版社策划并陆续出版的“高等学校英语专业立体化系列教材”作为“普通高等教育‘十一五’国家级规划教材”,就是为实现英语专业教学改革这一历史任务服务的。

为实现以上目的和任务,本系列教材注重以下方面:

1. 注重培养学生的跨文化交际能力和文化鉴赏与批判能力。在教材设计时体现“全球视野,中国视角”的理念。这就是说,本系列教材在保持各门课程的思想性和批判性的优良传统外,既向学生提供西方文化背景知识,也引导学生鉴赏和学习我国的优秀文化传统。要让学生在多元文化的背景下,熟悉掌握中外文化的共同点和差异。在这个基础上,培养学生的鉴别和比较能力,启发和诱导学生进行创新思维。

2. 科学安排,系统设计。经过多年来对教学模式改革的探讨,我国英语专业教学已总结出良性的教学规律,一般将四年的教学过程分为两个阶段,即:基础阶段(一年级和二年级)和高年级阶段(三年级和四年级)。按照此教学规律,本系列教材分为基础阶段教材和高年级阶段教材,同时悉心设计基础阶段和高年级阶段的衔接。基础阶段的主要任务是传授英语基础知识,对学生进行全面的、严格的基本技能训练,培养学生实际运用语言的能力、良好的学风和正确的学习方法,为进入高年级学习打下扎实的专业基础。高年级阶段的主要任务是在继续打好语言基础的同时,学习英语专业知识和相关专业知识,进一步扩大知识面,增强对文化差异的敏感性,提高综合运用英语进行交际的能力。同时,根据《高等学校英语专业英语教学大纲》的课程设置,本系列教材将课程分为英语专业技能课、英语专业知识课和相关专业知识课三种类型。全面培养学生的语言能力、思维能力、终身学习能力,拓宽学生的知识面,同时帮助学生树立正确的人生观和价值观。

3. 时代性。这不仅表现在选材方面能反映当代社会、经济、文化生活,更主要的在于对教材的“立体化”要求。21世纪的教材不再拘泥于传统的纸质教材,而是

注重培养学生多元识读能力 (multiliteracy) 的基于多媒体 (multimedia) 的多模态 (multimodality) 教材。本系列教材在建设传统纸质教材的同时启动建设一个开放性、超文本化的网络系列课程, 构建全国英语专业英语自主学习体系, 使优秀教学资源共享, 充分体现“以人为本”的教学理念。本系列教材采用立体化配套, 将各种多媒体手段运用到教学中来, 这是英语专业教学发展的需要, 也将为我国英语专业教学改革和发展作出重大贡献。

4. 可教性。在编写过程中, 我们反复强调教材的可教性。在选材上, 讲究趣味性, 让学生喜欢学。在内容安排上, 融入当代先进的模块化教学思想, 力争让学生在较少的课时内学到该学的内容。在习题设计上, 做到有针对性、形式丰富, 便于教师和学生课内课外操作。充分体现教学过程以学生为中心的教学理念, 通过教师与学生互动、学生之间互动的教学活动, 把语言、文学、文化、翻译等方面的教学内容转化成为学生能掌握的技能 and 知识, 着力培养学生分析问题和解决问题的能力, 传授基本研究方法, 增强学生的研究意识和问题意识, 同时提高学生的学术素养, 提升学生的综合素质。

5. 适用性。本系列教材汇集了全国著名大学的一批专家, 凝聚了他们多年教学经验的精华, 体现了我国英语专业教学的最新理念。入选系列教材的初稿均在不同重点高校教学中使用过至少三轮, 深受学生喜爱, 能够真正反映当前英语专业教学改革的思路和教学的实际情况。

综上所述, 本系列教材反映了当代新的教学理念。为此, 编委会也做出了大量努力。一方面, 编写工作中强调协同性: 在编写策划层面, 出版社与编委会之间、编委会与编写者之间反复协商, 制订计划, 讨论样章; 在使用者层面, 充分考虑到师生之间以及学生之间的互动和协作。另一方面, 教材致力于构建良好的英语学习平台, 为学生的自主性学习、独立思考和创新思维创造条件, 同时向作为教学各环节的咨询者、组织者、监督者的教师提供指导。

多年以来, 英语专业教材, 特别是高年级教材的出版比较零散, 一直缺乏相对配套完整的系列教材。我们深信本系列教材的出版对于推动英语专业的教学改革和建设, 对于进一步提高英语专业人才的培养质量将起到积极的作用。同时, 我们衷心希望听取广大师生的意见和建议, 使本系列教材不断完善。

“高等学校英语专业立体化系列教材”编委会
2007 年 10 月

Preface

Phonetics and phonology are two branches of linguistics that deal primarily with the structure of human language sounds and it is generally believed that phonetics and phonology can help students to establish effective communication because poor pronunciation will generally lead to misunderstandings.

Phonetics focuses on the physical manifestations of speech sounds and on theories of speech production and perception; the mediation of the linguistic message from the speaker to the hearer; the segmental, prosodic and acoustic properties of speech; and the relationship between language and speech, etc. Phonetic methods and results can be applied to language teaching, speech technology, and many other areas. Much of what we take to be modern phonetic practice, for instance, began a century ago in foreign language teaching classrooms. Phonetics offers the means to develop good pronunciation through enhanced awareness of relevant aspects of speech, albeit it is not an instant remedy for all pronunciation problems in foreign language (FL) or second language (L2) learning.

The present textbook introduces students to the sounds of spoken English, with an emphasis on the articulation of English consonants and vowels, stress and rhythmic patterns of English utterances, and the use and functions of English intonation. It also aims to cover the general phonetic framework of the language and the applications of the theory into practice for the Chinese EFL (English as a foreign language) teachers and learners.

It is generally accepted that it is extremely helpful for FL or L2 teachers to have a good grasp of articulatory phonetics: a well-trained ear, and knowledge of the phonology of both the learners' mother tongue(s) and the target language that the teachers are teaching. A knowledge of comparative phonetics and phonology will help teachers to anticipate likely problems arising from the interface between the first and the target languages. They can then apply the practical phonetic skills they have acquired from their auditory training to notice and analyze actual problems learners experience as they occur. Finally, they can apply their knowledge of articulatory phonetic theory and pedagogy to remedy the situation with bespoke exercises. This is a perfect example of "applied" disciplines: the application of abstract theory to concrete problems.

Pronunciation teachers need some kind of theoretical framework. Some teachers prefer to just be practical and are not interested in theory – but being effectively

“practical” requires some kind of theory. Theory-free practice is just random. A good theory allows us to understand our successes and failures, and to expand and extend the scope of our successes to new situations.

For example, when an adult is learning a foreign language, he may come across novel sounds, some of which may be quite difficult to acquire. He may fail to distinguish the novel sounds of the target language(s) due to having somehow lost much of his innate ability to recognize the sound distinctions of human speech. Apparently for most lay speaker-hearers, only the phonetic categories used in their native language are normally usable for speech perception as adults. Indeed, when a language learner attempts to produce an L2 sound their relative success at approaching the target is reliant on their ability to disassociate their L2 utterance from their repertoire of first language (L1) phonemes and allophones. Disassociation is often necessary because two languages may contain sounds which seem to be the same but are produced by different articulatory motions. They are therefore acoustically distinct but may not be perceived to be divergent from the target by the listener.

So how do phoneticians and linguists enable learners to overcome this phonetic atrophy? Presumably the loss of general phonetic resolution may be reduced by phonetic training. The International Phonetic Alphabet (IPA) system is an example of scientific attempts to organize and list the full set of controllable aspects of speech perception and production. The IPA is supposed to contain all the features of speech that is potentially under linguistic control – whether it be contrasting words or simply controlling the motor system. Linguists and phoneticians cultivate the distinctiveness of these features in order to show how they can be produced and perceived. In principle, a strict version of the standard phonetic theory should be able to account for all possible forms of human speech perception and production. A further implication of the notion of a universal phonetic alphabet is that professional linguists and phoneticians should be able to encompass the total sum of perceptual and motor skills of native speakers of all languages.

Many people believe that L2 pronunciation problems are caused by difficulty with articulation: the learner does not know how to articulate the sounds of the target language; or the learner has lost the ability to learn the articulation of the sounds in the new system. The focus then is on the need for the learner to gain information about the articulation of sounds.

This is a reasonable interpretation of the experience of L2 pronunciation learning, and it certainly does have an element of truth to it – there are always sounds in a new sound system that are physically difficult for learners as they are new to them. Examples include the two *th* sounds in English for Chinese EFL learners.

However, this is a minor obstacle in pronunciation acquisition. Usually learners can learn to make an acceptable version of the sound they need, sometimes with a little bit of accent. What if they cannot make a particular sound? Well, he can still be reasonably comprehensible even if those particular sounds are pronounced incorrectly as the individual sounds in question are a minor part of the language. For example, there are many people who speak English intelligibly, while substituting *s* and *z* for the two *th* sounds. Of course, it is not ideal to speak this way, but it is surely a very minor infidelity compared to the huge difficulties many learners have in making themselves understood at all.

Experience also tells us that the majority of pronunciation problems stem not from physical, articulatory difficulties, but from cognitive causes. In other words, the problem is not that the person cannot physically make the individual sounds, but that they do not conceptualize the sounds appropriately – i.e. discriminate and organize them in their minds, and manipulate them as required for the sound system of English.

Here are some examples from Chinese EFL learners. Many Chinese speakers who have trouble with the /i:/ and /ɪ/ distinction actually use both sounds in their native tongues but the sounds are conceptualized differently from the way they are in English. This may be because there are no phonemic equivalents in their L1. They need to, therefore, “unlearn” the concepts they have acquired for these sounds, and replace them with the similar but different concepts they need when speaking English. The same goes for the classic *n/l* problems of some Chinese EFL learners – most can and do produce both sounds in their speech, but they need to keep the sounds mentally distinct instead of using them as free variants as in their mother tongue. This type of conceptual difficulty is behind many pronunciation problems. Many vowel problems are like this – there are few vowels that are indeed in any objective sense “more difficult to pronounce” than other vowels.

The same goes for suprasegmental issues like intonation and rhythm. Consider an English speaker learning a tone language such as the Mandarin Chinese. The tones will be one of the hardest problems they have to grapple with. The problem here is not one with the production of the tones. All English speakers can easily produce syllables with different tonal patterns, as they do when they are speaking their native tongue: consider the many connotations that can be given to a word like *Yes* or *Hello* in English by simply varying the tone. The problem is that in English, tone serves a completely different function to the one it serves in a tonal language: it is used for intonation and sentence-level meaning, rather than to distinguish word meanings, and is therefore conceptualized in a completely different way as it is in, for example, the Mandarin Chinese.

Another example is with stress and rhythmic patterns in Chinese and English. Both teachers and learners know that it is essential for speakers to control the stress system and rhythmic patterns if Chinese EFL learners are to speak English intelligibly and appropriately. The problem with the Chinese speakers is not that they cannot physically produce stressed and unstressed syllables. Both languages have some pattern of stress variation and rhythmic patterns within their sound systems but they use stress and rhythm quite differently in their phonological systems, and speakers conceptualize them in different ways. The errors that learners make are not caused by their jettisoning stress and rhythmic patterns altogether. They are caused by not using stress and rhythmic patterns appropriately when speaking English.

In order to learn to use stress and rhythm appropriately for English, they have to learn to conceptualize stress and rhythm – in other words, to know what they mean, to be able to recognize them and use them and manipulate them and play around with them. Learning this concept is just like learning any other kind of concept. It requires a combination of information, experience and time; people do not learn concepts instantly, just from being shown an example or being given information; rather, they need to use and experience them through trial and error before they are really understood.

This, then, is the importance of conceptualization. Perception is the ability to be aware of something through one of our senses, but if we had only perception, we would have no understanding. In order to understand something, we have to know what it is; that “knowing” involves applying a concept to it.

We sometimes wonder why it is that learners can’t even repeat back an English word a native speaker has just said to them. But, we should not be surprised. Imitation of speech is not a simple parroting exercise, in which the ear picks up the sounds and the tongue plays them back. Between the ear and the tongue comes conceptualization. It is generally agreed that everyone, with maybe a very few special exceptions, can learn functional pronunciation of a foreign language. However, to learn excellent native-like pronunciation requires hard work, similar to that required by an actor or a professional voice artist. It is the present writer’s hope that this textbook will help the readers in the conceptualization in the EFL pronunciation learning in the Chinese context.

There is no doubt that good EFL pronunciation requires experience and practice, not just information. As most teachers know, their role is not primarily one of telling learners information, but one of encouraging learners in activities which facilitate deep, intuitive, unconscious learning. For learners to really improve, they must spend a good proportion of their time actually speaking. Learning pronunciation involves, therefore, both conscious and subconscious conceptualization.

Indeed, for many learners, both guiding and informing play important parts in learning. The effectiveness of audio training (based on knowledge that hearing and recognition of sounds must precede attempts to make them) is supported by both theory and classroom practice. The value of theoretical understanding as part of the learning process is convincingly illustrated by many researchers. Additionally, the ability to read transcription is essential to access information in a dictionary.

It is, therefore, generally accepted that teachers must be well informed about articulatory phonetics and the phonetics both of the mother tongue and of the target language of the learners because target languages cannot be addressed in isolation. At tertiary level, it would be very helpful to begin any language programme with a short induction to articulatory phonetics, for phonetic knowledge and skills are an essential part of effective spoken language instruction.

The Purpose of the Book

The purpose of this book is therefore twofold: to introduce in the theoretical framework of English phonetics and to show how this theory can be applied to the practice of English teaching and learning in the Chinese EFL classrooms. The book aims to address the specific needs of teachers and learners in pronunciation by providing them with a mix of theoretical knowledge and practical skills and an adequate understanding of general phonetic theory, comparative phonetics and phonology, practical phonetics (transcription skills, auditory training, and speech production skills).

The primary orientation of the textbook is towards advanced Chinese EFL English learners and students of linguistics who are fluent speakers of English as L2 in the Chinese context and are highly motivated to improve their EFL pronunciation for more effective communication, English teachers (both native and nonnative English speakers) with little background in EFL pronunciation teaching in the Chinese context, students of linguistics with interest in phonetics and Chinese EFL pronunciation teaching and learning. For this reason, the textbook has been kept as straightforward and direct as possible, given that pronunciation is a very complex subject.

The Structure of the Book

The present textbook is divided into sixteen units. It follows the system of General British (GB) in its description. The general strategy is to proceed from the theory of phonetics to the application of the phonetic theory. The first section of each unit provides a broad overview of the issue under discussion. Sections two to four describe in detail the issues under discussion. The fifth section of each unit is the discussion of the applications of the theory into practice and the last section provides an opportunity

for the students to check what they have learned in the unit and to answer questions which would help them to have a better understanding of the topic under discussion.

The Use of the Book

This book may be used in a wide variety of ways. It can be used for lecture courses on a specific topic in English phonetics or a one-term course covering the entire field of English phonetics for English majors and students of linguistics in Chinese universities. It can be used for independent study by people who would like to learn about English phonetics, or by classroom teachers who would like to know more about EFL pronunciation teaching in the Chinese context. It is also intended to act as a reference book for Chinese EFL teachers and researchers in this field.

Obviously most readers will want to turn to the parts of the textbook that are most relevant to their own situations. However, there is a sequential flow to the ideas in the textbook, and so it is advisable at the first instance to look through it from beginning to end, and then to dip into the sections that seem most relevant.

It is hoped that readers will be interested enough in the material presented in this textbook to want to pursue further some issues in English pronunciation teaching and learning. Indeed pronunciation is a complex and fascinating topic involving insights from phonetics, phonology, psycholinguistics and other disciplines, as well as from education. This textbook can do no more than scratch the surface and hopefully the references provided in the textbook may allow readers to choose material suitable to themselves. It is expected that after an initial reading, most users will want to refer back and forth to the material that is particularly relevant to their own interests.

I would like to express my gratitude to the editors of Higher Education Press for their effort in the publishing process and Miss Wang Yan for her contribution in the preparation of some of the figures in this textbook.

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Wang Guizhen
March, 2011

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Phonetics – the Science of Speech

Unit Highlights

- 1.1 Overview
- 1.2 Branches of Phonetics
- 1.3 Speech Production
- 1.4 Articulation
- 1.5 Applications
- 1.6 Test Yourself

1.1 Overview

Language is the most important means for human communication and that is why we say that phonetics has considerable social value. Phonetics is one of the two subdisciplines in linguistics which deal with speech sound, and the other being phonology. In human communication, the acoustic signals are converted by the listener into a sequence of words and sentences. To language users, the most familiar language units are words. They can be divided into a sequence of smaller linguistic units called *phonemes*, which are the fundamental units of phonology.

Phonetics, a science just like engineering, psychology or dentistry, comprises the study of the sounds of human speech: or more specifically, the physical properties of speech sounds including their physiological production, acoustic properties, auditory perception, and neurophysiological status, etc.

Human speech results from a complex interaction between several systems in the body. The brain, the ears, the lungs, the larynx, the vocal tract, and tongue all work together to produce the sounds of the language. The mechanism of speech is certainly a very complex one and in order to undertake any analysis of language it is important to understand the processes that go to make up the message that a speaker transmits and a listener receives.

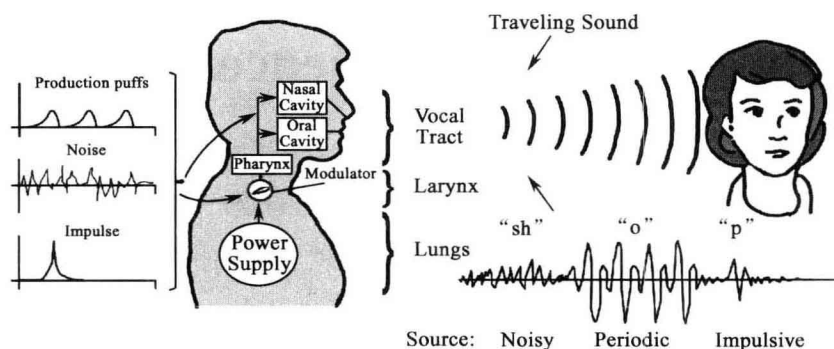


Fig.1.1 Simple view of speech production

Phoneticians study the physical and physiological aspects of human sound production and perception, covering areas such as how speech sounds are made by the vocal organs, the physical properties of speech sound, and also the perceptual responses to speech sounds, as mediated by the ear, the auditory nerve, and the brain.

1.2 Branches of Phonetics

The speech sounds can be classified according to how they are produced by the speech organs. An understanding of speech production mechanism will help us to analyze the speech sounds. When sound travels through the air from the speaker's mouth to the hearer's ear, it does so in the form of vibrations in the air. Phonetics as a research discipline therefore has three main branches: articulatory phonetics, acoustic phonetics, and auditory phonetics.

Articulatory Phonetics

The field of articulatory phonetics is a subfield of phonetics dealing with the categorization and classification of the production features of speech sounds: the position, the shape, and the movement of articulators or speech organs, such as the lips, the tongue, and the vocal folds.

Generally, articulatory phonetics is concerned with the transformation of aerodynamic energy into acoustic energy. Aerodynamic energy refers to the airflow through the vocal tract. Its potential form is air pressure; its kinetic form is the actual dynamic airflow. Acoustic energy is variation in the air pressure that can be represented as sound waves, which are then perceived by the human auditory system as sounds.

If you take the course on Articulatory Phonetics, you will be learning to do the following: recognizing various speech sounds, transcribing speech sounds using phonetic symbols, describing how the speech sounds are produced and producing