Commentary and Answer Key for *Grammar Choices for Graduate and Professional Writers, Second Edition*

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Introduction

This Commentary contains explanatory notes for each unit, teaching suggestions, and an answer key to the previews, grammar awareness tasks, and all the exercises except those writing exercises that have answers that will vary too much. Cross-references are provided to a comprehensive grammar for teachers of ESL/EFL (Keith Folse, *Keys to Teaching Grammar to English Language Learners: A Practical Handbook, Second Edition*, University of Michigan Press, 2016) for readers looking for more information about particular grammar points. Additional cross-references to *Academic Writing for Graduate Students, 3rd Edition* (Swales & Feak, 2012), and the volumes in the *English in Today's Research World* series, all also published by the University of Michigan Press, will help teachers connect the grammar to writing instruction.

One of the guiding principles behind *Grammar Choices* is indicated in its title: grammar is a system of choices available to users of the language. For this reason, it is not always possible to say with certainty which choice is correct. Therefore, in many exercises, I have indicated that answers may vary, and I have provided reasonable alternatives. However, it would be impossible to list every possible acceptable choice, and so answers that differ from the key should not necessarily be considered incorrect. In case of ambiguity, the acceptability of a phrase can often be checked using a corpus such as Google Scholar or the Corpus of Contemporary American English (Unit 7 offers more information about using both of these websites). Ungrammatical answers are marked with an asterisk (*).

Almost all the exercises that use example sentences and texts are drawn from authentic sources, which are labeled in this Commentary and listed on page 56: COCA (the Corpus of Contemporary American English; Davies, 2017); MICUSP (the Michigan Corpus of Upper-level Student Papers, created at the University of Michigan); and a selection of published academic texts (references at the end of the textbook). Some exercises are also based on papers written by my former students. Wherever possible, writing practice also draws on insights from corpus linguistics so that students can practice using the language of academic and professional writing.

Unlike some languages, English lacks an authoritative source to dictate the "rules" of correct usage or even a standardized set of terminology (metalanguage). The Commentary notes where the metalanguage of *Grammar Choices* differs from traditional grammar books, but most terms should be familiar to most readers. The major areas of divergence (the naming of

the verb tenses, the distinction between finite and non-finite clauses, the complements of a verb, and the different types of clauses) are described in the introduction to the textbook (pp. ix–xii). Where new terminology is introduced, it is done so within the framework of functional grammar, that is, a description of language as it is used to make meaning.

New in this Commentary to the second edition are suggestions for teaching speaking to graduate students. Although *Grammar Choices* deliberately focuses only on the grammar of written texts and does not claim to cover oral grammar, some of the exercises could lend themselves to speaking activities. As we have heard from users of the first edition as well as many speakers at the Consortium on Graduate Communication's summer institutes (www. gradconsortium.org), educators of graduate students need to pay at least as much attention to oral as to written language development.

I welcome feedback on the choices I have made in *Grammar Choices* via the University of Michigan Press (esladmin@umich.edu) or my website (www.nigelcaplan.com).

Teaching Suggestions

1. Each unit begins with a Preview, which can be used to gauge students' knowledge of the grammar introduced in the unit. I often have students read aloud and discuss their answers in pairs as they may be able to draw on their oral language proficiency as well as the scaffolding that comes from collaboration. These exercises can also be used as diagnostics to help teachers and self-study users decide which units to focus on. The textbook does not need to be taught in order. However, all readers are encouraged to work through Unit 1 first since it introduces much of the terminology that is used throughout *Grammar Choices*.

2. The Grammar Awareness section promotes noticing, a stage often suggested to be important for language acquisition. Each unit begins with a text from a common genre in graduate and professional academic writing, such as a summary or literature review. These tasks can be completed individually and then discussed in small groups, a useful way to build in a speaking activity. Where possible, multi-disciplinary groups often engage in rich discussions. Depending on the nature of the course, this passage can be used as an example of the grammar point in use or as a model for students' own writing. At the end of each unit, there is an assignment inviting students to write in a similar genre (Grammar in Your Discipline). These tasks are correlated in the Commentary with many of the units in *Academic Writing for Graduate Students* or the individual volumes in the *English in Today's Research World* series.

3. The units are divided into manageable chunks (1.1, 1.2, 1.3, etc.). They do not need to be taught in the order they are presented, although they do build on each other to some extent. In the notes for each unit, sections are indicated that might be omitted, especially with less advanced classes. In many cases, students can be assigned to read the explanations at home and either complete the exercises in class or bring completed exercises to class for review. Sentences are numbered for ease of reference so that teachers can easily point students to Sentence 23 in Unit 1, for example.

4. Some of the exercises can usefully be completed in pairs or small groups, especially the editing tasks. In most cases, though, it is advisable to have students do the exercises

individually and then share their answers with a peer. This is especially useful in the sentence revision and sentence writing tasks, where the number of correct solutions (and potential errors) is virtually limitless and writing practice essential.

5. Some teachers may choose to share the answer key for a unit with their class. In this case, students can do the exercises and check their answers on their own, reserving class time for discussing problems, questions, and disagreements.

6. Since this is a textbook for writers, all units ask students to write sentences, paragraphs, and longer texts. Although much can be learned from filling in gaps and editing errors, learning can only be demonstrated—and may best happen—in actual practice. Teachers are encouraged to adapt the writing assignments to their classes' needs, for example, by having students write about the topic they are currently studying, current events, or their own academic or professional interests.

7. To help students see the connections between the grammar and their own writing, it can be useful to select sentences from students' written assignments for class editing using the grammar being studied. For example, when teaching articles and quantifiers in Unit 5, I often have the class review sentences (anonymously, of course!) from their last writing task. This focuses attention on the current needs of the students and helps them set the grammar in context.

8. Vocabulary and grammar are two sides of the same coin. You will find short vocabulary lists in sections where certain lexical choices are common with a particular grammar structure (e.g., categories of linking verbs, 1.7; complement noun clauses, 3.4; verbs frequently used in the present perfect tense, 4.3). Memorizing these lists may be beneficial to your students.

9. Each unit ends with a section titled Grammar in Your Discipline. In these tasks, students are encouraged to engage in their own linguistic exploration to investigate how the grammar from the unit is used in their own fields. This is important since usage can vary between disciplines and genres and over time. Homogenous classes (such as those for MBA or engineering graduate students) can work together to build a picture of the language in their field. Classes with writers from different fields will benefit from finding similarities and differences in language use and discussing why those variations exist.

10. A new feature in the second edition is the self-editing checklist at the end of each Grammar in Your Discipline section. Each item in the checklist refers to a grammar point from the unit. Students can use this to edit their own writing and develop self-regulation strategies for independent revision in the future. The checklists also serve as summaries of the units.

11. Teachers may find it helpful to teach Units 6, 7, and 8 out of order, or to refer students to these units early in a course. Unit 6 describes the grammar of hedging and boosting (softening and strengthening claims, respectively). Unit 7 demonstrates how to use freely available online corpus tools to improve academic writing. Unit 8 looks at paragraph structure from a grammatical perspective, showing how the resources of English can be used to improve cohesion within and between paragraphs. These units all draw on grammar that is taught in Units 1 through 5, but they explain concepts that are important for all types of academic writing.

Unit 1: An Approach to Academic Written Grammar

The book begins with an overview of the structure of clauses in academic writing. Clauses are described using a system of slots, with the verb controlling the clause structure. The choices for action verbs, reporting verbs, and linking verbs are described in both the active and passive voice. Verbs are categorized in terms of the complements they require or allow. Since both subjects and complements are typically noun phrases, the structure of the noun phrase is also explained as another system of slots (determiner, qualifiers, head noun, modifiers). Finally, the three levels of meaning in functional grammar are introduced so that writers can see how each choice affects their texts.

More information about the grammar in Unit 1 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Parts of speech	pp. 46–74, pp. 281–293, p. 412
Clause structure	pp. 75–85

This chapter can be taught in conjunction with Unit 1 of *Academic Writing for Graduate Students,* which provides an overview of graduate writing tasks. The Grammar in Your Discipline writing task is a summary, which is taught in Unit 5 of *Academic Writing for Graduate Students.*

Preview (page 1)

1. Intensity is ~~a~~ significant … (Articles are not needed with adjectives; or a noun needs to be added after *significant* such as *a significant factor.*)

2. He indicated **to** me … (A preposition is required with the optional indirect object after *indicate.*) OR He indicated ~~me~~ that … (without an indirect object)

3. …. agree **with** that conclusion (*Agree* requires the preposition *with.*)

4. … focuses **on** … (*Focus* requires the preposition *on.*)

5. … suggest ~~to~~ find*ing* (Only an *–ing* clause, not a *to* infinitive, is allowed after *suggest.*)

6. … allow **us** to test spheres (An indirect object is required with *allow.*) OR allow test**ing** spheres (An *-ing* verb is another option.)

7. … **were** generated (The verb *generate* needs to be passive because *concepts* is not the agent of the verb.)

8. Our prototype cost $1500. (Linking verbs like *cost* are not reversible—the word order is not possible.)

9. …. lead to **unemployment** (A *that* noun clause is not allowed after a preposition.)

Grammar Awareness (pages 2–3)

Direct Object	Indirect Object (Prepositional Phrase)	*to* (infinitive) Clause	*-ing* Clause	*that* (Noun) Clause
studied suggested implemented proposed included generalize	were	designed need	include	concluded is

2. designed

Exercise 1 (pages 4–5)   (Source: published texts)

1. Sensory scientists from Johns Hopkins University have discovered in mice a molecular basis for non-allergic itch.

2. Using the itch-inducing compound chloroquine, an antimalarial drug, the team identified a family of proteins called Mrgprs.

3. A report on the research appears on December 24 in *Cell*. (*Appear* is intransitive, so it can't take a direct object. The two prepositional phrases are analyzed as complements because the sentence would feel incomplete without at least one of them; see Biber et al., 1999, p. 130.)

4. There are specific nerve cells dedicated for itch, different ones for pain, and still others for pleasant touch. (The embedded clause can also be analyzed for structure, with *dedicated* as the verb and the rest of the clause as complements. In traditional linguistics, the subject in a *there is/are* clause is in fact inverted and would be *specific nerve cells*.)

5. The Mrgpr-knockout mice responded specifically to chloroquine. (The prepositional phrase *to chloroquine* is a complement of the verb *respond*; this can be confirmed by trying to move it elsewhere in the sentence, which doesn't work.)

6. Success or failure of microfinance depends largely on the state of a nation's economy, according to the study. (*According to* is a preposition, so the phrase is analyzed as an adverbial that indicates the source of the claim in the clause. The prepositional phrase *on the state of a nation's economy* is a complement because the linking verb *depend* requires an indirect object using the preposition *on*.)

7. Microfinance is the practice of making small loans to farmers or business owners too poor to provide collateral.

8. The microfinance movement has exploded during the past two decades.

9. Ahlin and colleagues from New York University and the University of Minnesota examined the experiences of 373 microbanks worldwide.

10. As the larger economy grew, the microbanks' profit margins grew as well.

Exercise 2 (page 5)

(Source: MICUSP)

1. I There is no finite verb. However, this is actually the first sentence of the student's essay in MICUSP. Clearly, the so-called grammar rules (or rather, the normally accepted conventions of formal writing) can be violated for stylistic purposes.
2. I This is a noun phrase; there is no finite verb.
3. C
4. I This is a non-finite (-*ing*) clause.
5. I *Damage* is transitive and so needs a direct object as a complement.
6. I A prepositional phrase cannot fill the subject slot.
7. I An adjective cannot describe a verb (*carefully* is the correct word).
8. C

Exercise 3 (page 5)

Answers will vary. This is an exercise that will be especially helpful to learners of English or writers who draw too heavily on spoken English. More instruction on fragments and run-ons is provided in 2.7.
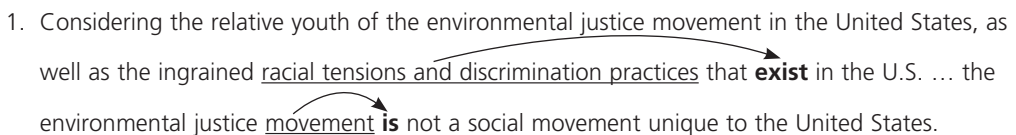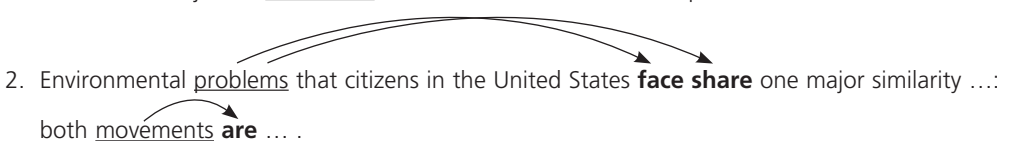
Exercise 4 (page 7)

(Source: published text)

1. cause
2. deaths
3. exposure
4. team
5. molecule
6. nAChRs
7. policies

Exercise 5 (page 8)

(Source: MICUSP)

1. Considering the relative youth of the environmental justice movement in the United States, as well as the ingrained racial tensions and discrimination practices that **exist** in the U.S. … the environmental justice movement **is** not a social movement unique to the United States.

2. Environmental problems that citizens in the United States **face share** one major similarity …: both movements **are** … .

3. One <u>problem</u> that **tends** to be very different … **is** this idea of … .

4. The second <u>way</u> that U.S. environmental justice problems often **differ** … **has** to do with … .

5. Many of the <u>victims</u> of environmental injustices in Southeast Asia **lose** their land … .

6. The all-important <u>link</u> between … **is** that … .

Exercise 6 (page 9) (Source: published text)

2. We conclude with a discussion of the implications of these findings.
3. A numerical approach to studying women's representation might establish the proportion of all characters who are female.
4. Future research ought to link other measures of gender representation to movie reviews.
5. Movie critics have many different ways of making judgments about films.
6. We link an analysis of the Bechdel Test, a measure of whether a film has an independent female presence, with reviewers' scores.

> *Speaking Activity:* The nominalized form is more common in writing than speaking. Students could take an abstract or paragraph from an academic text in their field and turn the nominalizations into clauses and prepositional phrases to present the information as if in a lecture or seminar.

Exercise 7 (page 11) (Source: COCA)

1. adequate
2. analyze; nationally
3. guarantee; guaranteed; conscientiously
4. decreasing
5. challenge
6. Finding

Exercise 8 (page 12)

Answers will vary. Note these common problems:

1. *Against* is a preposition; it cannot be used as a verb.
2. *Interested* is an adjective; one possible construction is *be interested in.*
3. *Lack* can be a noun (*there is a lack of…*) or a verb (*the paper lacks …*) but not an adjective (* *I am lack of …*)
4. *Including* is a non-finite verb, although it can be treated much like a preposition (*including A, B, and C*). Note that *including* introduces an incomplete list.
5. *Aware* is an adjective (*be aware of something/someone*).
6. *Access* is a noun (*have access to*) or verb (*access information*) – note that it is transitive as a verb (no preposition) but requires a preposition when used as a noun.
7. *Increase* is a noun or a verb with the same spelling. Learners often try to use *increasing* as a noun when *increase* would be better.
8. *Concern* can be a noun (*a concern about something*) but more commonly a verb used in the passive with two different complements (*be concerned about something* = be worried; *be concerned with something* = be about).

Exercise 9 (page 15)

Answers will vary. Sample sentences:

1. The company expanded rapidly. (adverb) The company expanded its product range. (object)
2. The change created new challenges for educators. (object)
3. The book was published in 2017. (prepositional phrase) The book was published by the University of Michigan Press. (prepositional phrase)
4. Tension in the region increased violence. (object) Tension in the region increased dramatically. (adverb) Tension in the region increased after the attack. (prepositional phrase)
5. We collected samples of river water. (object)

Exercise 10 (page 15)

Answers will vary. Sample sentences.

1. The director sent all her employees an email with the news.
2. We applied the new technique to our data.
3. The deadline for submitting proposals has changed.
4. The researcher checked that all the participants understood the directions.
5. Car manufacturers need to reduce the pollution caused by their vehicles.
6. The cold temperatures contributed to the difficulty of the expedition.

7. The database provided invaluable insights into health expenditure among the elderly population.
8. The experiments ended the study early due to ethical concerns.
9. A presentation was created to explain the results.
10. The next chapter describes the methods used for data collection.

Exercise 11 (page 16)

Answers will vary.

> *Speaking Activity:* This exercise could also be completed as a short presentation. Peers can listen specifically for problems with verbs and complements.

Exercise 12 (page 17)   (Source: student writing)

Answers will vary. Sample corrections:

1. The report implied **(to** us**)** that changes were needed.
2. We convinced **them** to try the new restaurant. OR: We were convinced to try the new restaurant.
3. The CEO denied **lying** about the company's finances.
4. The authors suggested **reforming** the tax code.
5. Scientists have warned ~~to~~ the public that sea levels are rising.
6. The article discusses **whether** music affects task performance.
7. I agree with **you** that there is a need for ongoing training.
8. Most experts **believe** that a balance is necessary.

Exercise 13 (page 18)

Answers will vary.

Exercise 14 (page 20)   (Source: COCA)

1. were defined (because other people define *star doctors* in this way)
2. refer
3. powerful
4. remain
5. seems
6. includes (note that *appear* is intransitive; it can only take a complement in the structure *it appears that*)
7. is
8. clear

Exercise 15 (page 21)

1. last
2. remain
3. means / is defined as
4. does not mean / does not appear
5. stands for
6. means
7. include
8. vary

Exercise 16 (page 21)

Answers will vary. After writing a draft, students can check to see how many *be* verbs they have used and which can be replaced with other linking verbs for more variety and greater effect.

Exercise 17 (page 23)   (Source: MICUSP)

Answers will vary. Suggested sentences:

1. b. Increased natural resource use may negatively impact the environment. (This changes the writer's commitment to the claim from a fact about what has happened to a hedged future prediction.)

2. a. The United States holds a very small fraction of total world resource reserves but accounts for a disproportionately large fraction of total resource consumption. (The writer now does not identify as American and assume that the readers are American, too.)

   b. China holds a large percentage of total world resource reserves and accounts for a large proportion of total resource consumption. (This clearly describes a different experience of the world.)

   c. The United States accounts for a disproportionately large fraction of total resource consumption but holds a very small fraction of total world resource reserves. (The focus of this new sentence is on the reserves in the U.S. and less on the consumption.)

3. a. Reserves of oil will last 36 years. (In the original sentence, the writer assigns responsibility for the claim to someone else; in the revision, the writer takes responsibility for the claim's truth.)

   b. Scientists expect reserves of oil to last 36 years. (The writer is more explicit about assigning responsibility to *scientists* and—unlike the original sentence—makes them, not oil reserves, the subject and focus of the sentence.)

   c. Reserves of oil are expected to run out in 36 years. (By using an action verb, the writer implies that the oil be used and not just somehow stop existing.)

Exercise 18 (page 24) (Source: published text)

1.

❶ <u>A major concern</u> when discussing global inequality is how to avoid an ethnocentric bias implying that less-developed nations want to be like those who have attained post-industrial global power. ❷ <u>Terms such as developing (nonindustrialized) and developed (industrialized)</u> imply that unindustrialized countries are somehow inferior and must improve to participate successfully in the global economy, a label indicating that all aspects of the economy cross national borders. ❸ <u>We</u> must take care how we delineate different countries. ❹ Over time, <u>terminology</u> has shifted to make way for a more inclusive view of the world.

Answers will vary. Suggested answers:

2. This paragraph will describe a problem because it starts with *a major concern* as its Theme (see also Unit 8).

3. The sentence is about the words rather than the countries or the people who use these terms. Thus, the writer also avoids blaming particular people.

4. This strikes me as surprising because it puts a lot of responsibility on the reader to use terminology more carefully. However, since this is from a textbook, the paragraph has a teaching function, which perhaps explains the use of the personal pronoun.

Unit 2: Clause Combination

After writers have mastered the structure of clauses, they can begin to combine them into compound and complex sentences. Unit 2 describes clause combination through coordination and one type of subordination. (Unit 3 will consider embedding in relative and noun clauses, which are other resources for forming complex sentences.) Section 2.7 points out problems that are commonly made by writers at all levels: fragments and run-ons. If time is limited, Section 2.6 may be omitted or assigned for self-study. Note that conditional clauses (a form of subordinate clause) are taught in 6.4 as part of the grammar of hedging.

The last section of this unit is new in the second edition and concerns parallel structure (2.8). This point falls somewhere between clause structure, word form, and coordination and so might be taught with Unit 1. Although parallelism is largely a style issue, it is a popular target for certain standardized tests and can lead to confusing sentences if done incorrectly.

More information about the grammar in Unit 2 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Conjunctions	pp. 66–68
Clause combination	pp. 75–85
Subordinate (adverb) clauses	pp. 354–357
-ing clauses	pp. 229–242

The grammar awareness task and some exercises in this unit refer to definitions and extended definitions, which are taught in Unit 2 of *Academic Writing for Graduate Students*. Unit 3 of that book also discusses the use of *-ing* clauses in problem-solution texts and the position of adverbs (p. 105). I also find this unit useful when teaching summary (*Academic Writing for Graduate Students,* Unit 5) since a good summary uses connectors to show understanding of the logic of the original text.

Preview (page 26) (Source: MICUSP)

1. No; this is a fragment (no finite verb).
2. No; this is a non-finite clause, which can't stand as a sentence in formal writing.
3. No; there are two subjects (*sociolinguistics* and *it*). This is a common error among speakers of certain language backgrounds.
4. No; this is a run-on sentence with two independent clauses. This is a common mistake for both first and second language learners.
5. No; this is a list of three noun phrases.
6. No; this is another run-on sentence. *However* is often confused for a conjunction, but it is a connecting adverb.
7. No; *although* is a conjunction and could be replaced here by *however*.
8. Yes.

Speaking Activity: Discuss which of these would be acceptable in spoken English. We don't speak in sentences but in clauses, which would often appear as fragments or run-ons if transcribed. For example, Item 2 in the Preview would be a natural answer to a question in a class or conversation.

Grammar Awareness (page 27) (Source: MICUSP)

For Zipes, fairy tales and folk tales reflect the values of a society, //⟨and⟩ his essay clearly demonstrates an attempt to locate fairy tales within their social and historical context //⟨while⟩ specifically highlighting the effects of fairy tales //⟨as⟩ designed by Walt Disney. Zipes places the folk tale securely in the realm of the community, //⟨as⟩ stories are passed down from generation to generation without written record. In this way, storytelling was the product of communal efforts, //⟨and⟩ folk tales thus reflected the values of an entire society //⟨and⟩ provided a means to teach those values to children. The invention of the printing press and the rise of literary folk tales resulted in sanitized versions of traditional tales for children, //⟨although⟩ fairy tales were not deemed entirely appropriate for children until the late eighteenth and early nineteenth centuries. For a time, ⟨then⟩, the printing press actually decreased the accessibility of fairy tales to children. ⟨Furthermore⟩, these printed texts

were generally accessible only to the wealthy. This resulted in an overall shift in the reception of fairy tales; // an oral, communal activity became more heavily focused upon the private realm, // althoughⁿ oral traditions did continue to an extent. These two divergent traditions resulted in a greater social schism, // as the literary fairy tale was reserved for the elite // and the oral folk tale largely became a tradition of the lower classes. As Zipes argues, however , industrialization itself was not completely negative // since literary rates spread // and the standard of living generally improved.

Exercise 1 (page 29)   (Source: MICUSP)

1. IC
2. IC
3. DC
4. IC
5. IC
6. IC
7. IC
8. DC
9. DC
10. IC
11. DC
12. DC

Exercise 2 (page 31)   (Source: published text)

Answers may vary. Original text and suggested alternatives:

1. When / As
2. though / however
3. If / When
4. then
5. and
6. such as / for example
7. also
8. because / since / as
9. though / however
10. or
11. if / when
12. and
13. On the other hand / However

Exercise 3 (page 32)

Answers will vary. Sample sentences:

1. Driving can be dangerous; therefore, traffic laws need to be enforced.
2. Air travel has become less convenient because increased security checks have increased check-in time and decreased passenger comfort.
3. High-speed trains have been highly successful in some countries, but they have failed to have an impact in many others.
4. Electric vehicles may be the future of personal travel, although they are not yet widely available.
5. The price of oil is expected to increase. As a result, the cost of many goods and services will also rise.
6. When the class is very large, students may feel uncomfortable sharing opinions.
7. Even though traditional universities dominate the higher-education market, online degrees are becoming more popular.
8. After a recent series of scandals, the honesty of corporate leaders is in question.

Exercise 4 (page 34)   (Source: published text / MICUSP)

1. (1a) "Blue haze" is a common occurrence in mountain ranges and forests around the world.
2. (2a) It is formed by natural emissions of chemicals, but a recent study suggests human activities can worsen it.
3. (3b) This could even affect weather worldwide, causing climate problems.
4. (1a) The natural way of blue haze formation is rather inefficient.
5. (2a) A mix of natural and man-made chemicals speeds up the formation of these particles in the Earth's atmosphere, and there they reflect sunlight back into space.
6. (3c) When you walk through a forest or even a large grassy area, it's not uncommon to be able to smell the plants around you.
7. (1c) This dichotomy is expressed in terms of various other oppositions. This separation, however, is fairly recent.
8. (1b) The issues call for employing the appropriate participation strategy for the situation. Therefore, the following hypothesis is proposed.
9. (1d) These classes can help students meet their academic goals. There are a few caveats to these positive findings, however.
10. (2b) The government needs wise and honest laws; thus, it needs educated and virtuous lawmakers.

Sentences 7, 8, and 9 could also be joined with a semi-colon. Sentence 10 could be broken into two sentences with a period.

Exercise 5 (page 35)

(Source: published text)

Answers will vary. This is an adaptation of the original published text:

> Often a comparison of one culture to another will reveal obvious differences, but all cultures share common elements. Cultural universals are patterns or traits that are common to all societies. For instance, one cultural universal is the family unit, which every human society recognizes because families regulate reproduction and the care of children. However, there are variations in the definition and function of the family. For instance, in many Asian cultures, family members live together, and young adults continue to live in the extended household until they marry and join their spouse's household, or they remain and raise their family within their extended family's homestead. In western cultures, by contrast, individuals are expected to leave home and live independently before they form a family unit consisting of parents and their offspring.

Speaking Activity: Ask students to revise their paragraph so they can read it as if they are giving a lecture. Did they change the sentence structure and choice of connectors? Spoken English—even in academic contexts—tends to use more coordination and less subordination. Some connectors (e.g., *for instance*) are less frequent in speaking (*for example* would be more natural).

Exercise 6 (page 37)

Answers will vary. Sample sentences:

1. The internet, which has only been widely used for about twenty years, has revolutionized personal communication.
2. Many regional newspapers have gone bankrupt, which means local stories are not always reported.
3. International students, who are usually restricted in employment opportunities, typically finish doctoral degrees faster than their classmates.
4. International students, some of whom speak English as a second language, often need additional support at the start of their studies.
5. There are many ways to solve the problem of inadequate electricity supply in the developing world, one of which is solar power.
6. Sources can be found in a library database, which provides access to a range of peer-reviewed journals.
7. Albert Einstein, who was one of the most brilliant minds of his time, famously could not find his way to his home in Princeton.
8. Many people were affected by the economic downturn, which caused an increase in unemployment.

Exercise 7 (page 38)   (Source: COCA)

1. Banks generally favor larger projects backed by government initiatives, which are considered at lower risk for default.
2. Certain factories emit large quantities of sulfur dioxide, which is responsible for acid precipitation.
3. The most popular of the linear models is ordinary least-squares regression, which allows for estimates of the effect of predictor variables on an outcome.
4. There is much variation in practice, which suggests (that) physicians are uncertain about best clinical practice.
5. Other insects were tested for parasite infection, which indicates (that) the potential exists for transmission of Chagas disease.

In the sentences that use relative clauses, the relationships between the ideas are clearer. The main idea is in the main clause with a conclusion, result, or prediction in the dependent clause. The original sentences also avoid some repetition and potentially ambiguous pronouns like *it*.

Exercise 8 (page 39)   (Source: COCA)

1. Open coding was conducted, allowing the data to drive the construction of themes.
2. Thirty-four pairs of students participated in this condition, resulting in 17 tests for scoring and analysis.
3. Clean-air standards were tightened, (thus) increasing the advantage of gas as a fuel.
4. Providing excellent quality resources has always been a goal of teacher-librarians.
5. Consumers may be reluctant to look to smaller or lesser-known suppliers, (thereby) creating a smaller market.
6. Much less political attention has focused on the more controversial idea of promoting policies that increase efficiency within the fishing sector.

Exercise 9 (page 40)

Answers will vary.

Exercise 10 (pages 42–43)   (Source: published text)

Answers will vary. Sample sentences:

2. While/Although/Even though this idea sounds good in theory, it doesn't work that way in reality.
3. Group dynamics are too complex to predict a team's effectiveness with one general factor, such as intelligence. Instead, there are a variety of factors that affect a team's performance.
4. Woolley's research supporting collective intelligence quickly gained traction in the business world when it came out in 2010.
5. Because organizations rely heavily on group work, managers are always looking for a "silver bullet" to improve team performance.
6. While/Although/Even though a military team may be great at its job, it is not going to work well performing surgery.
7. Teams can perform well even if members do not communicate with each other.
8. A lot of teams are comprised of members with different skill sets, and often one member functions as a leader.

Exercise 11 (page 44)

Answers will vary.

Exercise 12 (pages 46–47)   (Source: published text)

2. Energy use initially provided only basic individual needs such as cooking and heating.
3. Our present lifestyle is enabled by readily available inexpensive fossil fuels, (which were) concentrated by nature over millions of years into convenient high-energy deposits.
4. After the Industrial Revolution, these energy sources fueled enormous advances in quality of life and economic growth. However, in the mid-20th century, fundamental challenges emerged.
5. Even though environmental pollution was noticed in industrial regions, it was often ignored.
6. Developed countries passed legislation limiting pollutants, and gradually, air and water quality improved until many of the most visible and harmful effects were no longer evident.
7. Despite the limited availability of fossil fuels, the question is not when the resources run out but when they become too expensive to extract. (Note that *despite* is a preposition not a conjunction, so it must be followed by a noun phrase not a dependent clause.)
8. Some deposits are easily accessible; others are buried in remote locations.

Exercise 13 (pages 48–49)   (Source: published text)

Sentence 1 – *Use* → *using*

Sentence 2 – no comma before *and*

Sentence 3 – change comma to period or semi-colon

Sentence 4 – no comma after *although*; change the period to a comma at the end of the sentence

Sentence 5 – lowercase *o* when the sentence is connected to Sentence 4

Sentence 6 – period after *means*; delete *they have* or change *because of* to *because*

Sentence 7 – join to previous sentence by changing the period to a comma

Sentence 9 – remove comma or (better) change *but* to *however*

Sentence 10 – change *exploit* to *exploiting* (after a preposition, the *-ing* form is required)

Sentence 12 – omit *which* or change to *which is funneling*; change *many of which* to *many of whom*

Sentence 14 – omit semi-colon

Exercise 14 (pages 50–51)

Answers will vary. Sample sentences:

1. These results confirm the association between early exposure to English and eventual second language proficiency.
2. This paper discusses the reasons for the popularity of musical theater and the history of the movie musical.
3. Students who suffer from stress not only perform worse on assignments but also have difficulty making friends.
4. The authors concluded that neither reducing calorie intake nor eliminating carbohydrates was effective. (The singular verb is used here because non-finite clauses like *eliminating carbohydrates* are grammatically singular.)
5. Experts recommend both diet and exercise.
6. The authors attempted to identify, study, and control the phenomenon.
7. Good teachers correct errors efficiently, consistently, and quickly.
8. The purpose of this paper is to determine which intervention is most effective and whether there are implications for educational policy.

Exercise 15 (page 51)   (Source: published text)

1. reporting → report
2. they sleep well → good sleep
3. contact → contacted
4. culture → cultural
5. basketball→ playing basketball
6. insert *whether* after *or*; alternatively, omit *they*

COMMENTARY AND ANSWER KEY

Unit 3: Embedded, Noun, and Complement Clauses

The relationships between the clauses in Unit 2 were logical–they added information, explanations, conditions, reasons, or results to the main clause. Unit 3 introduces clauses that function differently: they modify or complement elements of another clause. For example, reduced relative clauses function as modifiers of a head noun, and noun clauses are often used as the complement of a reporting verb. If time is short, the sections on complement clauses (3.4) and the subjunctive (3.5) may be omitted or assigned for self-study. Note that non-restrictive relative clauses are taught in Unit 2 because they have essentially the same function as subordinate clauses beginning with *because, when, although*, etc. If you are not teaching the book in order, you may want to include Section 2.4 in this unit.

Note that some grammar textbooks refer to relative clauses as *adjective clauses*. Restrictive and non-restrictive clauses are sometimes called *identifying* and *non-identifying*.

More information about the grammar in Unit 3 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Relative clauses (adjective clauses)	pp. 229–243
Noun clauses	pp. 352–253
To infinitive clauses	pp. 243–256

Because this unit teaches grammar for reporting, quoting, and paraphrasing other people's ideas, it can be taught in conjunction with Units 5 (Summary) and 6 (Critique) of *Academic Writing for Graduate Students* (Swales & Feak, 2012); Unit 5 also discusses plagiarism and source use. More practice with writing definitions using relative clauses can be found in *Academic Writing for Graduate Students,* Unit 2; reduced relative clauses can be found in Unit 3.

Preview (page 53)   (Source: published text)

1. when
2. that
3. that/which
4. who/that; that/which; that/which
5. that
6. that/which
7. that
8. for; to

Possible reduced clauses:

4. Humans **living** in the region that is now Syria cultivated a crop **known** as *einkorn*.
6. Wild plants contain a gene **enabling** them to spread their seeds widely.

Grammar Awareness (page 54)   (Source: published text)

1. Clause 2: gradient

   Clause 4: pitfalls

   Clause 5: recommendations

   Clause 6: groups

   Clause 7: phenomena (note that this is an irregular plural noun)

   Clause 8: framework

   Clause 11: hypothesis space

2. Clause 1: Why is it frequently observed throughout the animal kingdom?

   Clause 3: How does the world work?

   Clause 12: How can decisions go wrong?

3. The clauses are the complements (direct objects) of the reporting verbs *remind* and *understand*.

4. This is the only non-restrictive relative clause. The clause doesn't tell us *which* processes happen automatically; all cognitive processes happen automatically.

Exercise 1 (page 57)   (Source: published text)

1. R (phenomena)
2. NR (Ptolemy)
3. NR (a heliocentric system)
4. R (Isaac Newton (this is an unusual example because proper nouns are almost always followed by non-restrictive relative clauses; the restrictive clause is part of the pattern *it was* + name + *who…*)
5. R (theory of relativity)
6. NR (many remarkable predictions) (the *all/some/two of which/whom* structure is always non-restrictive)

Exercise 2 (pages 57–58)   (Source: published text)

Answers will vary.

Speaking Activity: This would be a good exercise to complete both orally and in writing to practice the pronunciation and intonation of relative clauses. Learners of English should note that there is usually a pause and small change of intonation (rising or falling) before a non-restrictive clause (i.e., at the comma) to mark it as separate from the main clause.

Exercise 3 (page 60)
(Source: published text)

1. of eight people
2. sitting there
3. brought in
4. in visual judgments
5. with a single vertical line
6. with three lines
7. differing in length
8. capable of resisting conformity
9. clearly incorrect answers (This is technically not a reduction, but moving the adjective to the noun phrase is a more elegant solution.)
10. given by the group
11. no reduction (Reducing the clause would remove the modal verb *had to*, thus changing the meaning.)

Exercise 4 (pages 60–61)
(Source: published text)

Answers will vary. Original sentences:

1. The two stars, Alcor and Mizar, were the first binary stars ever known.
2. Modern telescopes have since found that Mizar is itself a pair of binaries, revealing that there are actually four stars orbiting each other.
3. Alcor has been sometimes considered a fifth member of the system, orbiting far away from the Mizar quadruplet.
4. Now, an astronomer at the University of Rochester has made the surprise discovery that Alcor is also actually two stars.
5. "Instead of finding a planet orbiting Alcor, we found a star."
6. Another group of scientists used the Multiple Mirror Telescope in Arizona, which has a secondary mirror capable of flexing slightly to compensate for the twinkling the Earth's atmosphere normally imparts to starlight.

Exercise 5 (page 62)

Answers will vary. Some options include:

1. Businesses use internet advertising to target customers who have searched for related key terms.
2. Cell phone companies are competing to produce new batteries capable of lasting longer than traditional ones.
3. Biomedical researchers working at universities and pharmaceutical companies hope to discover cures for diseases.
4. Some professors interested in increasing student engagement assign online discussion boards.
5. Experts studying public health recommend that children engage in physical activity every day at school.

6. Writing is a process that takes time.

7. The 1960s were a turbulent time when young people reacted against the values of their parents' generation.

8. This paper discusses two important theories concerning the development of the bilingual brain.

Speaking Activity: This exercise could also be completed orally, in which case full clauses may be preferred over reduced clauses in some cases for greater clarity.

Exercise 6 (page 64)   (Source: published text)

Answers will vary. Sample sentences:

1. Professor Adrian Aguilera observed that his text messages gave his patients a feeling of comfort and social connection.

2. A patient in Aguilera's cognitive behavior therapy group reported that text messages were helpful when she faced challenges.

3. The Pew Research Center found that more text messages were sent by minorities than white Americans.

4. The study asked who the most active text message users are.

5. Aguilera wondered whether he could use text messages to prompt patients to apply skills from therapy to their daily lives.

6. Researchers noted that approximately three-quarters of participants wanted the text messages to continue after the end of the study.

Exercise 7 (page 65)

Answers will vary.

Exercise 8 (page 67)

Answers will vary.

Exercise 9 (pages 69–70)

Answers will vary. Notice that the subjunctive is not usually visible with plural verbs, so to require practice of the subject, insist on singular subjects, or the use of *be*, or negatives, all of which will show the subjunctive form. Sample answers (subjunctive verbs are underlined):

1. Cars are difficult to replace entirely.

2. People are unlikely to take public transportation if it is less convenient than driving.

3. It is important to encourage the development of alternative fuels.

4. Experts urge that consumers <u>not purchase</u> gas-guzzling cars and trucks. (Avoiding the subjunctive: Experts urge consumers not to purchase gas-guzzling cars and trucks.)

5. We should demand that the government <u>invest</u> in greener alternatives. (Avoiding the subjunctive: We should demand investment in greener alternatives from the government.)

6. It is crucial that changes <u>be made</u> to our driving habits. (Avoiding the subjunctive: It is crucial to make changes to our driving habits.)

7. It is necessary that governments *raise* gasoline taxes. (Avoiding the subjunctive: It is necessary for governments to raise gasoline taxes.)

8. It is essential that car manufacturers <u>be required</u> to build more fuel-efficient vehicles. (Avoiding the subjunctive: It is essential for car manufacturers to build more fuel-efficient vehicles.)

9. It is better to buy hybrid cars.

10. Researchers recommend changing traffic light patterns to reduce emissions from idling engines.

Exercise 10 (page 73)   (Source: MICUSP)

1. The survey asked **whether/if** an unhappy marriage is preferable to divorce. (*Ask* logically requires a question word in the noun clause.)

2. This is especially true for western China, which is less developed.

3. I investigated how ~~do~~ socioeconomic factors affect attitudes toward marriage. (No inversion is necessary in a noun clause, although it would be correct in a direct question.)

4. It is crucial ~~investigating~~ **to investigate** gender disparities in attitudes toward unhappy marriages.

5. There are three types of independent variables ~~are~~ used for this study. (*Are* is the finite verb in the clause, so a second finite verb is incorrect. An alternative is *which are*, but the reduced form is more idiomatic.)

6. A set of variables ~~which~~ indicating modernity factors are included. (Or *which indicate*: omit the relative pronoun when reducing.)

7. It is harder for older people to make a marriage selection. (This is a common error for English learners: the pattern with such adjectives is *it is* + adjective + *for* someone *to* do something.)

8. Figure 1 shows ~~the pattern~~ that education affects attitude to marriage. (*Pattern* cannot be complemented by a noun clause.)

9. These variables are a test of ~~if~~ **whether** more modern respondents are more likely to prefer divorce. (Only *whether*—not *if*—can introduce a noun clause functioning as the object of a preposition.)

10. Due to **the fact** that minority ethnic groups dominate about 9% of the total population in China, Gansu is very representative. (A preposition cannot be followed by a *that* noun clause. Alternatively, start the sentence with the conjunction *because*.)

Exercise 11 (page 74)

Answers will vary.

Unit 4: Verb Forms

Unit 4 takes a practical approach to teaching verb tenses by only focusing on the three most common tenses for academic writing (present simple, past simple, and present perfect). All the other verb tenses are discussed briefly in Sections 4.4 and 4.5, but these may be omitted if time is short. A complete description of all the verb forms of English can be found in *Keys to Teaching Grammar, Second Edition* (Folse, 2016, pp. 86–104). This unit also includes other elements of verb form: passive voice, subject-verb agreement, and subject-verb inversion. The last section (4.9) is not essential for most writers.

Two decisions need a word of explanation here. First, the tenses are named using the logical convention of *time + aspect*, hence present simple, present progressive, present perfect, etc. Many textbooks (including *Keys to Teaching Grammar*) refer instead to the simple present and simple past, and readers are encouraged to mentally invert the names of these tenses if it is helpful. Second, equal attention is not paid to all verb tenses. This decision is supported by corpus research, which has found that only three tenses are common in academic writing. While all the other tenses certainly can be useful and do indeed create nuances of meaning beyond the three basic tenses, even highly proficient users of English can write very well without them. Given that verbs structure the clause while the bulk of the information is contained in the noun phrase (Unit 1), an exhaustive discussion of all the tenses does not seem a valuable use of pages or class time.

The same would not be true for a grammar of *spoken* academic English, where a greater variety of verb tenses is common. In particular, speaking classes might want to focus on the progressive tenses (also known as continuous tenses).

More information about the grammar in Unit 4 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Twelve English verb tenses	pp. 86–104
Present tenses	pp. 117–132
Present perfect tense	p. 358
Past tenses	pp. 133–161
Future forms	pp. 162–176
Passive voice	pp. 293–306
Subject-verb inversion	pp. 341–342
Irregular verbs	pp. 414–418

I have found it useful to teach this unit in conjunction with Unit 4 (Data Commentary) in *Academic Writing for Graduate Students, 3rd edition* (Swales & Feak, 2012). When writing about data—especially graphs that show change over time—students need to pay close attention to their choices of verb tenses. Verb tenses are also important in a literature review, which can be found in *Academic Writing for Graduate Students*, Unit 8, or in more detail in *Telling a Research Story: Writing a Literature Review* (Feak & Swales, 2009). Passive voice occurs throughout academic writing and can be integrated with writing methods sections (e.g., Unit 7 of *Academic Writing for Graduate Students*).

Preview (pages 76–77) (Source: COCA)

Answers may vary. Original answers with grammatical alternatives noted. Later in this unit, the difference in meaning between the verb tenses is discussed. It is helpful to point out how several choices of tense are often grammatically possible with different meanings or effects.

1. d (*Note* and *have noted* are grammatically correct, too.)
2. c (All the choices are possible depending on the wider context; present perfect is a common choice with general subjects like researchers.)
3. c (The adverbial *to date* fits the meaning of the present perfect: before now.)
4. b (This is a rare natural example of the present progressive; *become* is also correct.)
5. a (Unless there is a reason to choose a different tense, the present simple is usually the default choice for academic writers.)
6. d (*Indicate* and *have indicated* are also possible. The past simple is often chosen to express specific results of an experiment.)

Grammar Awareness (pages 77–78) (Source: MICUSP)

1. past simple, present simple, present perfect
2. In the first paragraph, the writer starts in the present tense even though she is referring to a paper from 1975, perhaps because this paper is still important today. This is a common choice in academic writing. She switches to the past simple (*began*) to make a historical observation about the 1970s, and then returns to the present simple to introduce a quotation from the article. Later, she shifts to the present progressive (*has made*) to show the progress that has been achieved in the last thirty years, connecting the 1970s to her present day.
3. The present perfect is used for broad statements about research and developments in the field.
4. There is very little consistency between the verb in the main clause and the verb in the dependent (noun) clause. For example, the second paragraph opens with *showed … earn*.
5. There are no progressive tenses, future forms, or examples of the past perfect tense. This is in fact typical of academic writing.

Exercise 1 (page 80) (Source: published text)

NOTE: The purpose of this exercise is to raise students' awareness of the verb tenses and forms. Although writers do not need to know the name of the tenses to use them correctly, there is value in a class sharing common terminology. English learners in particular will benefit from this exercise since some common errors may be caused by misidentification of tenses, especially in the passive voice.

2. present perfect (passive)
3. present perfect (active)
4. present simple (passive)
5. past simple (active)
6. present perfect (active)

7. past perfect (active)

8. past simple (passive)

9. present simple (active)

10. present progressive (active)

Exercise 2 (pages 82–83)   (Source: published text)

Note that the exercise only asks for past and present simple tenses.

1. led (irregular past tense form.)

2. declined

3. continued

4. compares (Shift to present tense because the writer is moving to the perspective of the present day.)

5. call (They still call it this.)

6. promoted (Use the past because of *the post-World War II global economic order*.)

7. was

8. means (Present tense for analysis, although past simple is possible, too.)

9. exhibited

10. were

11. inhabit (This is a timeless fact.)

12. has (General fact, although this could also be past simple if referring just to past deforestation.)

13. converted (The time marker *over the century* is at the end of the sentence.)

14. increased

15. is committed (The time marker *now* shifts the perspective back to the present.)

Exercise 3 (page 83)

Answers will vary.

Exercise 4 (page 84)

Answers will vary.

Speaking Activity: This exercise could be completed orally in pairs or small groups. When working with learners of English, ensure they are aware of the different pronunciations of the *-ed* ending (see also Folse, 2016, pp. 217–219). Ask them to set a goal of producing past tense forms correctly and ask their partners to listen for errors and correct them.

Exercise 5 (page 86)

Answers will vary. Sample answers:

1. become, change, increase, develop, begin, result, experience, cause, undergo, decline, rise, evolve
2. develop, provide, work, suggest, focus, write demonstrate, prove, contribute, note, try, examine, identify, establish, attempt, seek, indicate, study, teach
3. become, make, find, develop, begin, learn, create, fail, remain, establish, happen, seek, pass, spend, complete, adopt, hold, publish

Exercise 6 (pages 86–87)

Answers will vary.

> *Speaking Activity:* This exercise could be completed orally in pairs or small groups. When working with learners of English, ensure they know how to produce and understand the contracted form of *have* (*they've found that …, she's said that …, it's changed because …*). Even if students choose not to use these forms, they are very common in natural speech, including in formal contexts, so they are important for listening comprehension.

Exercise 7 (page 87)   (Source: MICUSP)

1. has increased (in the past 20 years)
2. have expanded (in that period, not at any specific point in time)
3. has developed
4. reviews / has been found (Note the passive because the subject is not the agent of *find*.)
5. were suggested (because of the specific time marker.)
6. coincided (The meaning of the verb suggests a specific point in time.), received
7. recommended (at that time)
8. have not decreased (The meaning is "since then," although *decreased* is also grammatically correct.)

Exercise 8 (page 89)

Answers will vary. Notice that Question 4 calls for future-in-the-past forms (e.g., *I thought I was going to be a professor of French literature*).

> *Speaking Activity:* This is another good exercise for a discussion task. Learners of English should be aware of the natural reduction of *going to* so that it sounds like *gonna*; the verb *be* will also be contracted, so *it is going to develop* becomes *it's gonna develop*. The modal verb *will* is also contracted in speech (*she will → she'll; they will → they'll*).

Exercise 9 (page 92)

Answers may vary. Original verbs:

1. b (*had worked* and *worked* are possible; the progressive aspect implies that their work was ongoing at the end of the 10 years)
2. b (*came* and *would come* are also possible; there is a preference for using *would* in the past habitual form only after one clause with *used to*)
3. c (*experienced* is also possible; the past perfect makes the time sequence clearer)
4. d (all four forms are possible depending on the context; the original text emphasizes the ongoing increases in violence)
5. d (again, all four answers could be used; the writer's choice suggests that the plans have been in progress for some time but are not yet finalized)

> *Speaking Activity:* Since progressive verb forms are more common in speaking than writing, this exercise could be completed orally as a discussion to hear how the different choices sound.

Exercise 10 (page 93)

Answers will vary.

Exercise 11 (page 96)

1. The internet can be used to conduct library research. (The passive avoids the redundancy of *users use*.)
2. Online ads are often ignored. (The passive omits the empty agent *people* which does not add any useful information to the sentence.)
3. The internet is used for both good and bad purposes. (This passive not only omits the unnecessary agent *people*, it also makes *the internet* the subject of the sentence, which is better for focus.)
4. It is believed that the internet has dramatically changed society. OR: The internet is believed to have dramatically changed society. (Unless the experts are important, they are not adding anything to the sentence. The second sentence is probably better if the internet has already been mentioned in the text.)
5. Students should be allowed to use smartphones in class. (Only schools can make this decision, so stating the agent is unnecessary, and this sentence puts the focus back on the students. If the smartphones are more important, the sentence could read: *Smartphones should be allowed in class.*)

6. Tracking technology is being used to collect customers' data. (*Customers* implies that the agent must be businesses; this sentence also focuses on the tracking technologies better.)

7. Children should be taught about the responsible use of the internet. (Depending on the context, it may be obvious that teachers teach, although the active sentence would be better if the writer is contrasting teachers' and parents' responsibilities.)

8. The website was designed. (If the agent is not known, the passive sentence is better.)

9. It has been claimed that using a smartphone at night disrupts sleep patterns. OR: Using a smartphone at night has been claimed to disrupt sleep patterns. (Presumably this claim comes from scientists; if their names are important, they should be used, but in scientific writing, they would likely be named in a parenthetical citation rather than as the subject of the sentence.)

10. The intervention was based on the principles of universal design. (In many fields, authors do not use personal pronouns to describe their methods, thus emphasizing the intervention rather than their decision-making process.)

Exercise 12 (page 97)

1. Healthy eating is thought **to lead** to a longer life.
2. Foods that have **been** processed are generally less nutritious.
3. Eating fish **is linked** to higher IQ, according to a recent study.
4. Parents **answered** (OR: **were asked**) questions about their children's diet.
5. The researchers counted the number of meals which **included** fish.
6. Children should be **introduced** to fish at an early age.
7. A small improvement in sleep quality **was detected**. (The difference in form between the present perfect and the past simple passive may need extra attention for some English learners.)
8. It **is known** that sleep quality is linked to intelligence.

Exercise 13 (page 97)

Answers will vary.

Speaking Activity: The passive is less common in speaking than writing. However, Questions 1 and 2 might be answered in a research presentation. Question 3 could be turned into a fun activity where students present awards to famous scholars, celebrities, or each other. English learners should be encouraged to monitor themselves and each other for errors in passive form.

Exercise 14 (pages 98–99)   (Source: published text)

1. Since the first publication on the subject, the "broken windows" theory **has been** influential in explaining neighborhood crime and deterioration. (The conjunction *since* triggers the present perfect in the main clause.)
2. The theory assumes that minor signs of disorder, such as a broken window, **attract** social disorders, such as street violence or robbery. (Theories are usually described in the present tense.)
3. In his famous experiment in the 1960s, Zimbardo **showed** that neighborhood status and composition have a clear effect on people's reactions to cues. (The time marker *in the 1960s* requires a past tense verb.)
4. Furthermore, a large body of literature has ~~**been**~~ argued that social contexts affect many individual behaviors. (The literature can be the agent of a reporting verb like *argue*.)
5. This article **investigates** the effects of contextual characteristics on disorder cues while considering individual differences. (Purpose statements like these are usually written in the present tense since the paper is present for the reader.)
6. In the first experiment, a stamped letter was dropped on the sidewalk close to a public mailbox. In the "order" condition, the environment around the mailbox **was** clean. In the "disorder" condition, two or three garbage cans were left close to the mailbox, and empty cans **were** visible. (The past tense is needed for consistency when describing the method.)
7. The neighborhoods in the experiment were defined by postal codes. In the Netherlands, postal codes **consist** of up to six digits. (This is a fact and so should be in the present simple)
8. The findings show that the effects of a cue or signal **depend** heavily on the context in which it is presented. (Results that are generalizable are usually reported in the present tense.)

Exercise 15 (page 101)   (Source: published text)

1. finds, were
2. were
3. talk, are, talk, are
4. sounds
5. is
6. was
7. were, were
8. is

Exercise 16 (page 102)

Answers will vary. Sample responses:

1. There have been few studies that investigate professors' writing processes.
2. Investigating these issues is difficult because the data are not openly available.
3. Neither the authors nor the reviewer is responsible for the error.

4. None of the stolen computers was found.

5. Experts who have studied this question are divided on the best solution.

6. There are several reasons for the growth of for-profit universities.

7. Further research is needed, which is only possible if government restrictions are lifted.

8. In the future, there may be catastrophic impacts on coastal communities from global warming.

9. There is evidence that sea levels are rising.

10. There are two ways that cancer is treated after surgery.

Exercise 17 (page 104)   (Source: MICUSP/COCA)

1. Not only does technology interrupt the learning process, but it also affects social relationships. (The word *but* is optional in the second clause.)

2. Rarely did women own land without a husband to share ownership. (*Rarely* causes inversion; *did* is used because the original sentence is in the past simple tense.)

3. Sometimes, their management style was misinterpreted. (*Sometimes* can move to sentence-initial (theme) position, but like most adverbs of frequency, it does not cause inversion.)

4. Only then will true economic growth occur. (*Only then* has a somewhat negative meaning—not until then—which is why it triggers the inversion here.)

5. Not only should we consider the cost, but also other relevant issues.

6. Especially useful is the capability to keep stored data.

Unit 5: The Noun Phrase

This unit explains the grammar of the noun phrase, including count (countable) and non-count (uncountable) nouns, articles, and quantifiers. Adjectives are useful in academic writing, but this section (5.7) may be omitted if time is short. If possible, do not completely omit nominalization (5.8) since this is a very productive feature of English in academic writing. Native speakers of English will probably not need to study articles and quantifiers (5.1–5.6), although a reminder of the use of specific reference (5.5) may be useful. Articles are among the last features of English to be acquired by learners, and entirely native-like use is often elusive. Therefore, this unit is limited to guidelines that will be helpful in most cases and focuses on choices that are most salient for meaning. The University of Michigan Press published an entire book on articles (*The Article Book: Practice Toward Mastering* a, an, *and* the, by Tom Cole) to which readers are referred for 128 pages of further details! New in the second edition of *Grammar Choices* is a section on possessives (5.9). This may be assigned for reference.

More information about the grammar in Unit 5 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Count and non-count nouns	pp. 177–188
Articles	pp. 209–216
Possessive forms	p. 359

The text type in the Grammar Awareness and Grammar in Your Discipline sections is an abstract; detailed directions can be found in *Abstracts and the Writing of Abstracts* (Swales & Feak, 2009), as well as Unit 8 of *Academic Writing for Graduate Students, 3rd edition* (Swales & Feak, 2012). The latter has more exercises on article use in definitions in Unit 2 and in Appendix 1. Nominalization is also discussed in Unit 1 of *Academic Writing for Graduate Students.*

Preview (page 106) (Source MICUSP)

Answers may vary. Answers from the original text with reasonable alternatives in parentheses:

1. Ø	13. Ø
2. Ø	14. the
3. a	15. the
4. Ø	16. its
5. Ø	17. Ø
6. Ø	18. Ø (the)
7. Ø	19. the
8. a	20. the
9. the	21. these
10. the	22. the
11. the (Ø)	23. Ø (the)
12. Ø	

Grammar Awareness (pages 107–108) (Source: published text)

1. The title is not a sentence: it is actually two noun phrases connected with a colon; the second (longer) phrase explains the meaning of the first one. This is a very typical strategy for writers of academic research papers and presentations.

2. a. No article because *attrition* is a non-count noun and it has a general meaning here.
   b. No article because it refers to higher education institutions (plural) in general.
   c. The definite article is used because it refers to a specific challenge, described in the previous sentence.
   d. There are many priorities; this is one of them, so the indefinite article is appropriate.
   e. This is the first mention of an approach to the problem, so the indefinite article is used.
   f. Although this could mean any institution, the definite article is common in academic writing to mean any one.
   g. *Experience* is non-count, but the writer refers to a specific type of experience, so the definite article is used.
   h. The demonstrative *this* refers to the paper in front of the reader.
   i. The superlative *first* requires the definite article because there can only be one first year.
   j. The study is new information so is introduced with an indefinite article.

3. a. N +N
   b. N + N
   c. adj + N
   d. adj N + N
   e. adj + N
   f. N + N
   g. adj + N
   h. adj + N

Exercise 1 (page 110)

1. C
2. Both (Count with meaning of multiple occasions; non-count when referring to hours and minutes.)
3. C
4. C
5. C
6. C
7. C
8. Both (Usually non-count, but count with the meaning of a type of education or an individual's education.)
9. NC
10. C
11. C
12. C
13. NC
14. Both (Count with the meaning of a particular event; non-count when meaning everything you have done in the past.)
15. NC
16. NC (Although in some specialized fields, *behaviors* means different actions.)
17. NC (Although *a history* can mean the narrative of a particular event.)
18. Both (Count when meaning a government's rule; non-count when meaning the study of law, or legal rules in general.)
19. C
20. Both (Count when meaning ideals or beliefs; non-count when meaning value-for-money.)

Exercise 2 (page 111)   (Source: COCA)

1. b
2. a
3. b
4. b
5. a

Exercise 3 (page 112)

Answers will vary. Sample sentences:

1. a. There was not enough time to finish the lecture.

   b. The experiment was repeated three times.

2. a. After studying law, she ran for political office.

   b. There is a law against identity fraud.

3. a. Nuclear waste is a potential threat to the environment.

   b. A good manager creates an environment of trust and cooperation.

4. a. The partners went into business to market their idea.

   b. Businesses should be responsible for their employees.

5. a. Politicians complain about the quality of education.

   b. Vocational high schools offer a very different education.

Exercise 4 (page 114)   (Source: MICUSP)

	Reader Knows?	Writer Knows?	Generic, Indefinite, Definite?
1. This paper shows **a practical application**	N	Y	I
2. of **a general factorial experiment**	N	Y	I
3. to analyze **the interactions**	Y	Y	D
4. between **important controllable factors**	N	Y	I
5. in **the creation**	Y	Y	D
6. of **high quality compressed (MP3) music files**.	N	N	G
7. **Traditional sound quality experiments**	N	N	G
8. depend on **listeners' subjective opinions**	N	N	G
9. and this experiment instead utilizes **an objective measure**	N	Y	I
10. of **fidelity**	N	N	G
11. based on **digital signal analysis**	N	Y	I
12. of **an encoded and decoded music file**	N	Y	I
13. compared with **the original clip**.	Y	Y	D

Exercise 5 (page 116)   (Source: MICUSP)

A. 1. gender stereotypes; women; men

   2. creativity; work

   3. Divergent thinking; the individual (This is an example of *the* + singular with generic meaning for groups of people.)

   4. Gender identity development; a child

   5. Turbulence; internal combustion engines

B. 1. an individual / individuals (Sentence 3)

   2. that children make / that the child makes (Sentence 4)

   3. in the internal combustion engine (Sentence 5)

Exercise 6 (page 117)

Answers will vary. Students may need to be reminded to write nouns with generic rather than specific meaning. Sample sentences:

1. The client is always right. OR: Clients are always right.
2. Writers need to provide evidence to support their claims.
3. Leaders need to be aware of their employees' needs.
4. Playing chess at a high level requires a great deal of skill.
5. Practice makes perfect.

Exercise 7 (page 118)   (Source: MICUSP)

1. Ø	11. an
2. a	12. A
3. a	13. a
4. a	14. a
5. a	15. a
6. a	16. a
7. a	17. Ø
8. Ø	18. A
9. Ø	19. Ø
10. Ø	20. a

Exercise 8 (page 120)   (Source: published text)

	Reader Knows?	Writer Knows?	Generic, Indefinite, Definite?
1. Applying **a** tiny coat of costly platinum	N	N	G
2. to **a** core of much cheaper cobalt	N	N	G
3. could bring down **the** cost	Y	Y	D
4. of **Ø** fuel cells	N	N	G
5. **The** new fuel cell design would require	Y	Y	D
6. far less platinum, **a** very rare metal.	N	Y	I
7. **The** researchers tip their hats	Y	Y	D
8. to **Ø** ancient Egyptian artisans	N	N	G
9. who used **a** similar technique	N	Y	I
10. to coat **Ø** copper masks.	N	N	G

Exercise 9 (page 120)

Answers will vary.

Speaking Activity: English learners may benefit from reading aloud their paragraphs slowly to a partner. This may help them monitor their use of articles.

Exercise 10 (page 123) (Source: COCA)

1. many
2. too (*Too many* means that the roads are not big enough for the number of cars.)
3. a great deal
4. reasons (Some learners of English may make this common error; the meaning is *one out of many reasons.*); is
5. few (meaning *almost nobody*)
6. a little (meaning *some time*)
7. hardly any (Notice the conjunction *but*, which contrasts *grown enormously* with *hardly any progress*.)
8. is (The head noun is *the number* not *animals.*)
9. a large amount
10. the large (After *some of* an article is required.)

Exercise 11 (page 124) (Source: COCA)

Answers will vary. Sample sentences:

1. Few experts believe that students can learn a second language just by listening to it.
2. There are a number of reasons for the decline of the manufacturing industry.
3. International students spend a great deal of time getting a visa.
4. Prosecutors provided hardly any evidence of the defendant's location at the time of the crime.
5. The emergence of first-year writing courses can be explained in several ways.
6. Welsh is one of the best examples of language revitalization.
7. The researchers collected a large amount of information about the patients.
8. Some of the research was published in a paper last year.
9. The media pays too much attention to celebrity scandals.
10. With a little help, children can often achieve surprising results.

Exercise 12 (page 126)

1. dramatic
2. traditional
3. Other (Since *research* is non-count, it is impossible to use *another*.)
4. Active social (A *social network* is a type of network.)
5. modern educational (*Modern* is a descriptive adjective, which comes before the classifying adjective *educational*.)

Exercise 13 (page 126)

Answers will vary. Sample sentences:
1. Some television programs become important cultural events.
2. Protesters raised specific environmental concerns about the proposal to drill for natural gas.
3. The debate over public funding for health care is a common political issue.
4. When multiple treatment options exist, doctors often have different individual preferences.
5. The results of the drug trial were promising.
6. Some psychological experiments are potentially dangerous for participants.

Exercise 14 (page 128)

Answers will vary. Sample sentences:
1. This **analysis** will then inform policy recommendations.
2. The **acceleration** is partly due to a breakthrough in the design.
3. The **difficulty** stems from the cost of the new programs.
4. **Computerization** has increased demand for workers with technical skills.
5. This **deterioration** is not noticeable at first.
6. This **finding** has implications for equal access to online services.
7. The **argument** is not popular with the pharmaceutical industry.
8. **Management** skills, however, are rarely taught in science doctoral programs.

Exercise 15 (page 129) (Source: published text)

Answers may vary. The original sentences contained the following nominalizations:
1. The **construction** of such an integrative theory is a worthy goal.
2. The **acquisition** of speech is of major **importance** to the **growing** child.
3. The **invention** of writing was a great human **achievement**.
4. **Verbal self-regulation** helps us understand **personality development** more broadly.

Exercise 16 (page 129)

Answers will vary.

Exercise 17 (page 131)   (Source: published text)

1. the museum of Italian mountaineer Reinhold Messner (The form with the apostrophe is grammatically possible but leads to a very clumsy noun phrase)
2. researchers' (There are multiple researchers.)
3. species of bear (There is no possession in this phrase.)
4. species' (Plural common noun, so the -s is not repeated.)
5. DNAs (This is a plural, not a possessive.)
6. bears' genes (Apostrophes can be used with animals, although the form with *of* would also be correct.)
7. Himalayas' (Since the proper noun is plural, no additional -s can be added.)
8. Sykes's (in American English) / Sykes' (in British English because it would sound unnatural to add an extra syllable; see footnote on p. 130 of the textbook)
9. the existence of a hybrid of a brown bear and a polar bear (The noun *hybrid* is too abstract to use an apostrophe, and the resulting noun phrase would be very awkward.)
10. its (Possessive pronoun, not the contracted *it is* form)

> *Speaking Activity*: It would be worth asking students who are English learners to read aloud these sentences to ensure they are pronouncing the plurals and possessives correctly.

Unit 6: Hedging, Boosting, and Positioning

In this unit, attention shifts to the interpersonal function of language, that is, the ways that language can express evaluation, hedging, and boosting. The grammatical resources introduced here are modal verbs (including *would*), adverbs, conditionals, comparatives, superlatives, and equatives. The most important sections to cover are modal verbs (6.1, 6.2) and conditionals (6.4), although most users will also find the discussion of evaluation language (6.6) valuable. My explanations in this unit draw on the theoretical work of Hood (2010) and Hyland (2000).

More information about the grammar in Unit 6 can be found in these sections of *Keys to Teaching Grammar, Second Edition* (Folse, 2016):

Modals	pp. 271–280
Conditionals	pp. 307–319
Adverbs	pp. 347, 363
Comparatives	p. 360

This unit can be taught in conjunction with the discussion of positioning in Unit 1 of *Academic Writing for Graduate Students, 3rd Edition* (Swales & Feak, 2012). There are several other connections: passive voice for describing processes (pp. 119–125); word order with adverbs (p. 105); unreal conditionals as a hedging device (Unit 6); and evaluative adjectives across different disciplines (pp. 262–265). Hedging is important in many writing tasks, including data commentary (Unit 4 of *Academic Writing for Graduate Students*) and critique (Unit 6).

Preview (page 133) (Source: COCA)

1. Choice b is stronger because of the intensifying adverb *very* (compared to *somewhat*).
2. Choice b is stronger because of the verb *be*, which presents facts with absolute confidence.
3. Choice b is usually stronger because *highly* is absolute (there is no doubt that technology is playing a very important rule), whereas *more* is relative (technology is playing a more important role than in the past, but it might still not reach the level of highly important).
4. Choice a is the most confident, followed by c and then b. The present simple tense makes very confident predictions by presenting them as facts with no room for alternative outcomes.
5. Choice b is a more confident prediction because *will* is real whereas *would* is unreal.
6. Choice a is stronger because *show* is used for confident results, whereas *suggest* is more tentative.

Grammar Awareness (pages 134–136) (Source: published text)

1. a. I (The use of *we* and *also* indicates that this is the authors' interpretation, which is in line with previous findings.)

   b. E (This opens up the discussion to include other researchers' work.)

   c. I (Although this is hedged—*difficult* not *impossible*—the authors are shutting down alternative interpretations.)

   d. I (The reporting verb introduces the authors' interpretation.)

   e. I (The modal verb *should* indicates the authors' opinion and discourages the reader from expressing surprise.)

   f. E (This is a form of concessive: The authors acknowledge the issue of online promotion, but by using *whether or not* they suggest that it is not relevant to their interpretation.)

2. a. S (*Just* suggests surprise at how little time it took.)

   b. S

   c. W (The modal *may* hedges the claim.)

   d. W

   e. S

   f. W

   g. S (*Worthy* is strongly evaluative.)

   h. W (*Likely* is confident but not certain.)

3. a. This opens the discussion to an alternative idea—even though their research did not confirm a strong connection between online mentions and future citations, they concede that there may be other benefits to having a strong online presence.

    b. The authors both hedge (*may*) and boost (*particularly*), suggesting perhaps that they strongly believe this statement is true but they can't yet prove it.

    c. After bringing in two other voices (funding bodies and non-governmental organizations), the authors narrow the perspective to their conclusion and prediction.

Exercise 1 (page 138) <div align="right">(Source: MICUSP)</div>

1. may
2. should
3. be seen
4. should
5. have contributed
6. by changing
7. do not have to
8. were able to

Exercise 2 (page 139) <div align="right">(Source: MICUSP)</div>

1. a (*Can* refers to the ability of gardens to improve health, whereas *might* only suggests the possibility of this effect.)
2. a
3. a (*Will* is already stronger, and the adverb *certainly* intensifies its meaning.)
4. b (In the first sentence, it is sometimes possible to generalize.)
5. b (A clause without any modal verb will usually be the most confident.)
6. a (*Can* is not a hedging modal in this case; it means the writer is sure women are able to support their families.)
7. b (The boosting modal makes this sentence even stronger than the simple present verb in the first sentence.)
8. a

Exercise 3 (page 140)

Answers will vary.

> *Speaking Activity:* This would be a good exercise for pairwork or a class discussion. Hedging and boosting are also important in academic speaking using similar techniques.

Exercise 4 (page 141)

(Source: COCA)

1. would
2. will (This assumes the rules have been implemented; if the rules are only proposed, then *would* is a better choice.)
3. will (This assumes that the writer accepts the mainstream scientific view of the effects of climate change on the environment; a more skeptical writer might choose *would*.)
4. will
5. would like
6. would (Since the future study has not been planned yet, it remains unreal.)

Exercise 5 (page 144)

(Source: student writing)

Answers will vary. Sample sentences:

1. Machines **are likely to** replace humans for dangerous and repetitive tasks
2. **It is possible** that humanity **would** be in danger **if** computers **were** able to think for themselves.
3. Recent technological advances have **mostly** been for entertainment not life enhancement.
4. Smartphones have brought **few** benefits **and many** distractions.
5. Because **many** children **in the U.S. and other countries** watch more TV and have more access to the internet, they **may be** growing up to be antisocial and **even** violent.
6. Machines are **extremely** useful for **dramatically accelerating** productivity.
7. Technology **can certainly** be prevented from threatening human existence.
8. The **vast** amounts of information now available **inevitably** improve decision making.
9. It is **virtually always** efficient to search the internet.
10. Technological inventions have **revolutionized** our quality of life.

Exercise 6 (page 145)

Answers will vary.

Exercise 7 (page 148)

(Source: COCA)

1. I Television soap operas are interesting, **even though** they mainly serve to distract audiences from their real lives.
2. C
3. I It would be desirable if students **were** able to move through college faster. (*Would* is not used in the *if* clause in formal writing.)
4. I **If** this were to occur, major businesses would quietly leave the country.

5. C (According to traditional grammar textbooks, the past perfect should be chosen to complement the past unreal form of the main clause; however, in practice the past simple—present/future unreal conditional—is often used in the *if* clause.)

6. C

7. C (This is a past real conditional, hence the matching past simple tenses in both clauses.)

8. I Classroom sizes should be minimized if ~~is~~ possible.

Exercise 8 (pages 148–149)

Answers will vary. Sample responses:

2. If the students in the experimental class started with higher proficiency, their scores would not be due to the intervention. A control group with similar proficiency would be necessary to demonstrate a causal relationship.

3. If the authors explained why there were unable to use a larger sample, their results might be acceptable.

4. It is not clear why the Daily News is losing readers. If readers prefer the quality of the new newspaper, they will not be attracted by a lower price. The writer would need to give more information about the newspapers and the demographics of the two towns.

5. If the students who were not satisfied with the class did not respond to the survey, the results would be skewed. The authors would need to explain why the response rate was low if they wanted to make a claim about the effectiveness of the course.

Exercise 9 (page 149)

Answers will vary. Sample sentences:

1. If technology is used responsibly, it can be advantageous to the people who use it.

2. If hospitals did not have access to medical technology, some patients would certainly die.

3. If robots replaced teachers, the school year could be made longer.

4. Before cell phones, if an emergency happened on campus, it sometimes took a long time to alert the authorities.

5. Even if some machines are only designed for entertainment, they can still be used for educational purposes.

6. If made available for ordinary customers, the product's formula could be easily copied.

7. If true, the allegations about toxic gases emitted from certain plastics are very worrying.

8. If the warnings of climate scientists are accepted, the only sensible action is to abandon certain coastal communities.

Exercise 10 (page 150)

Answers will vary.

Exercise 11 (page 152)

Answers will vary. If you are teaching with *Academic Writing for Graduate Students, 3rd Edition*, this is an example of a data commentary (Unit 4). Sample response:

Table 6.5 illustrates differences in the source of news preferred by Americans of different generations. More baby boomers get their news from television than younger generations. In contrast, millennials are much more likely to read about national and international issues on the internet. Their parents' generation also chooses internet sources more than other media. Radio is not as popular as television or the internet for any age group. Far fewer millennials read newspapers than Gen Xers and boomers, although perhaps more people are reading newspapers online.

Speaking Activity: Ask students to give a short presentation of a figure or table from their field of study or current research. The language for comparing data will still be useful. This is also a good opportunity to review verb tenses and the vocabulary for describing graphs (e.g., *axes, peak, rise, fall,* etc.).

Exercise 12 (page 155)   (Source: COCA)

1. - bias
2. + comprehensive
3. - distort
4. - unwilling
5. - exploit
6. - inadequate
7. - violates
8. + revolution

Exercise 13 (page 156)   (Source: published text)

A. In 2013/14, the U.S. hosted a <u>record high</u> of <u>over</u> 886, 000 international students (Open Doors, 2014). Although the U.S. market share has declined in the last decade, the U.S. <u>nevertheless</u> hosted <u>far more</u> international students <u>than any other destination</u>. The United Kingdom, <u>the second most popular</u> international study destination, hosted <u>about</u> 489,000 international students, <u>less than two-thirds</u> of the U.S. total.

The boosting language stresses the popularity of the U.S. both in absolute terms (over 886,000 students) and through comparisons with all other destinations and the second most popular destination, the U.K., which although popular still only accounts for "two-thirds of the U.S. total." Notice also the concessive *although* clause, which acknowledges the decline in numbers; the main clause, however, once more boosts the popularity of the U.S.

B. Original word choices, with commentary in parentheses:

1. quite small (This acknowledges the low enrollment, but hedges it to make the effect less critical—in fact, it is a selling point of U.S. higher education that there is capacity for growth; *almost insignificant* boosts the meaning, which would not be true; *unacceptably low* is a negative evaluation that does not match the meaning of the paragraph.)

2. although (This recognizes the higher proportion of graduate students but focuses the paragraph on undergraduate and non-degree students; *and* would be confusing because the second clause does not continue the meaning of the first one; *while* would attach too much importance to graduate students in contrast to undergraduate students, which is irrelevant to the paragraph.)

3. more than 4,000 (This is a booster, but not an exaggeration, as *thousands of* would be; *many* is rather weaker because the average reader would not have a sense of how many colleges there are in the country.)

4. tremendous potential (As the paragraph reaches its conclusion, this intensified booster tries to convince the reader of the capacity for expansion; the other two choices would hedge the outlook.)

5. particularly (Of the three, this is the only boosting word; the other choices would suggest weaker growth or less probable expansion.)

Unit 7: Collocation and Corpus Searching

This unit helps writers use five free online tools (Google, the Michigan Corpus of Upper-level Student Writing, the Corpus of Contemporary American English, the Manchester Academic Phrasebank, and www.wordandphrase.info) to find phrases that co-occur frequently in academic English (collocations). This unit can be taught at any time or used for reference. For example, when studying clause structure in Unit 1, it may be helpful to investigate verb/noun collocations (7.3), and when studying noun phrases in Unit 5, noun/noun collocations (7.4) can be introduced. Prepositions are a late-acquired form for most learners of English, so 7.2 may not be essential for some courses. As with articles (Unit 5), the University of Michigan Press publishes an entire book about prepositions, to which readers are referred for in-depth coverage (*The Preposition Book: Practice Toward Mastering English Prepositions* by Tom Cole). They are also discussed in *Keys to Teaching Grammar, Second Edition* pp. 161–178.

Since the websites described in this unit may change as new features are added, interfaces are updated, links change, or services become unavailable, only general directions for using these tools are given. To some extent, the corpora are interchangeable; for example, a search on MICUSP can also be conducted on the Corpus of Contemporary American English, the only difference being that the results will come from professional writing and not student writing. Comprehensive tutorials were available for all the corpora when this book went to press, which will be useful to students and teachers wishing to learn more about these powerful tools.

This unit can be taught in conjunction with any unit in *Academic Writing for Graduate Students, 3rd Edition*; skeletal sentences are introduced on page 258.

Preview (page 158)   (Source: COCA)

1. conduct
2. strong
3. raises
4. to
5. thus

Grammar Awareness (pages 159–160)   (Source: MICUSP)

1. a. by summarizing
   b. advances in
   c. piece of information
   d. on
   e. heavily

As an additional exercise, students can be asked to identify the structure of each collocation (noun + noun, noun + preposition, etc.)

2. Answers will vary. Sample sentences:

   a. The effects of globalization on small businesses have been extensively studied.

   b. Patients' attitude toward their treatment matters to experts in the field of health policy.

   c. One of the most important unresolved questions in the history of mathematics is who invented calculus.

   d. This paper illustrates how the international community reacts to natural disasters.

   e. The larger context in which doctors work affects their ability to deliver the highest quality of care.

   f. Future research is needed to determine the most efficient way to learn vocabulary.

Exercise 1 (page 161)

1. The exact frequencies will vary from day to day, but you should find that *different from* is more frequent than *different than* in American English or *different to* in British English.

2. *A bunch of* is highly infrequent in academic writing, whereas *a lot of* and *a number of* are both frequently used. There are three instances of *a bunch of* in MICUSP—one is a quotation and can be ignored. The other two seem to be unusual.

3. This is a commonly used phrase and is not usually followed by a citation, which implies that it is an acceptable chunk of language to use in writing. Some other phrases that you might investigate, depending on your field, include: *the results are (not) statistically significant; previous studies have found; with such a large/small sample size*.

Speaking Activity: Repeat these searches using the *Chart* function of COCA (see Exercise 3) to see the difference between the frequency of these phrases in spoken and written English.

Exercise 2 (page 162)

1. *Actually* is used to introduce a surprising fact or to disagree with an incorrect assumption. There are some interesting collocations with words like *instead* or *rather* as well as noun clauses and direct questions (*what is actually happening…*).

2. Swales & Feak (2012) predict that the past tense will be used more frequently after *the purpose of this study* and the present tense after *the purpose of this paper*. However, you will find many examples in MICUSP where this pattern is not followed. There may be variations between disciplines. You can continue this research on COCA, which is a much larger corpus representing a wider range of disciplines.

Speaking Activity: MICASE is the Michigan Corpus of Academic Spoken English, which could be found at the time of printing at https://quod.lib.umich.edu/cgi/c/corpus/corpus?c=micase;page=simple. Encourage students to search for keywords from this and other exercises to see whether they have the same usage in spoken English. Speakers of British English may find the British National Corpus 2014 (BNC2014) relevant. It is currently designed for researchers more than for learners (http://corpora.lancs.ac.uk/bnc2014/).

Exercise 3 (pages 162–163)

1. You should find that *in the absence of* is a very useful phrase. In fact, it is only used with any frequency in academic writing and rarely in other forms of English.

2. *Evidence of* is the most common collocation, meaning evidence of an activity, fact, or event that happens/happened. *Evidence for* is used a little differently with theories, explanations, or ideas that the evidence supports but does not perhaps prove. *Evidence from* gives the source or discipline (e.g., *evidence from primatology*). *Evidence in* is used with literature, research, citations, or the phrase *evidence in support of*.

3. *Research* is not usually countable in American English, but when it is used in the plural, it is almost always in academic writing. If you look at the results screen, you can compare the search in the BNC (the British National Corpus), which will show you that the countable form *researches* is slightly more frequent in British English.

Exercise 4 (pages 163–164)

1. a. You should notice that *evidence* is far more common as a noun than as a verb.

   b. *Evidence* is only used as a verb in academic writing and not other registers of English.

   c. When you look at the example sentences, you should see that it is almost only ever used in the passive voice and mostly with an accompanying *by* or *in* phrase that gives the source of the evidence.

   d. The verb is most commonly used in the social sciences (education, sociology), less commonly in the humanities, and rarely in the sciences.

   e. The most common verbs (at the time of writing) include: *find, suggest, provide*, and *show*; the adjectives include: *physical, scientific, strong*, and *empirical*. Most of the collocations seem strong, although *base* is a bit misleading because it is either used with the phrase *based on*, which is either a prepositional phrase or a reduced relative clause, or the noun phrase *the evidence base*.

2. Most of the synonyms provided are useful, although *hitch* and *snag* are more for spoken English and *hindrance* is more appropriate for academic writing. *Setback* is rather journalistic, although it is still a choice available to academic writers.

Exercise 5 (page 165)   (Source: published text)

1. in	8. of
2. of	9. in
3. to	10. of
4. for	11. among
5. in	12. as
6. of	13. for
7. from	14. of

Exercise 6 (page 165)

Answers will vary. Search for the phrase in MICUSP or COCA to see models of sentences using the collocations. A newer corpus from the COCA team called iWeb allows users to search in particular disciplines to find ways that phrases are used in their own academic fields. The corpus can be accessed at https://corpus.byu.edu/iweb/, and it has a good tutorial.

Speaking Activity: An exciting feature of iWeb is the ability to search for words by their pronunciation and syllable stress.

Exercise 7 (page 167)   (Source: COCA)

1. influence
2. exceed
3. expose
4. help
5. justify
6. risk
7. profits
8. provide

Exercise 8 (page 167)

Answers will vary.

Exercise 9 (page 169) (Source: COCA)

1. rapid
2. Scientific
3. larger
4. understanding
5. economic
6. culture

Exercise 10 (page 170) (Source: published text)

2. cellphone records
3. satellite data (Note that noun modifiers are nearly always singular, so *satellite* not *satellites.*)
4. policymakers (This is often written as one word.)
5. census data
6. human necessities
7. Engineering Department
8. data sources
9. diagnostic nature (*Diagnostic* is a noun although it has a suffix, which is typical of adjectives.)

Exercise 11 (page 171)

Answers will vary.

Exercise 12 (page 173) (Source: COCA/MICUSP)

Answers may vary. Sample answers:

1. a. may help explain / clarify / reduce / identify / improve / prevent / provide / alleviate / determine
   b. may lead to development(s) / change(s) / conclusion(s) / problem(s) / improvement(s) / failure
   c. may provide insight / information / clue / opportunity / explanation / basis / evidence / guidance
   d. can be used / seen / found / applied / said / considered / achieved / understood / expected
   e. will continue to be / grow / play (a role) / increase / exist

2. based on the + results / assumption / premise / idea / findings (Note that there are nouns from two broad groups of meanings here: results and ideas/theories.)
   based on + data / research / race / information / gender (As with the first list, these phrases often seem to be used as reduced clauses or prepositional phrases at the start of sentences, or as the complement of linking verbs.)
   based on the assumption / premise / idea / fact / belief that (plus complement noun clause)

3. There seem to be two common patterns with *encourage*: encourage someone to do something and encourage (the) development / use / implementation / participation of.

    Discourage is similar: discourage someone from doing something and discourage (the) use / formation / practice / emergence / investment / innovation.

Speaking Activity: Repeat these searches using only the spoken English section of COCA, MICASE, or the BNC 2014 (see note on Exercise 2). Invite students to use the collocations found in spoken English in a discussion or short presentation.

Exercise 13 (page 174)

Answers will vary.

Unit 8: Beyond the Sentence

The final unit turns to the textual function of language, the grammatical resources used to organize information in sentences, paragraphs, and longer texts. Although traditionally the domain of writing textbooks, cohesion is the result of choices in grammar and vocabulary. For example, most English sentences follow an old-new information pattern, and to create this, writers use techniques such as prepositional phrases, passive voice, and clause combination (8.3). If time is short, the section on paragraph patterns (8.4) is the most important.

This unit can be taught in conjunction with any unit in *Academic Writing for Graduate Students, 3rd Edition*. One of the choices in the writing task in Exercise 6 is to write the introduction to a research paper, which is explained in Unit 8 of *Academic Writing for Graduate Students* and in *Creating Contexts* (Feak & Swales, 2011).

Grammar Awareness (pages 176–177)

1. Hopefully, you prefer Version 1, as this is the original text (from Shiraev & Boyd, 2008).
2. The information flows more smoothly in Version 1.
3. In Version 2, new information has been consistently moved to the start of each clause or sentence, which is confusing because most readers expect sentences to start with familiar information. This means the sentences do not link together smoothly, but instead appear to jump from one idea to the next.

Exercise 1 (page 178)   (Source: published text)

1. New information is in bold.
2. Old information is underlined.

$_1$Over the past fifty years and with increasing frequency, **innovative programs have appeared around the world with the aim of revitalizing languages that are at risk of disappearing due to declining numbers of native speakers**. $_2$<u>The nature of these initiatives</u> **varies as greatly as the languages that are their targets**. $_{3i}$In some instances, <u>they</u> **are nearly national in scope, such as the efforts to preserve Irish**, $_{3ii}$yet in other instances <u>they</u> **involve small communities or even a handful of motivated individuals**. $_{4i}$<u>Many of these programs</u> **are connected to claims of territorial sovereignty**, $_{4ii}$though **cultural sovereignty or a desire to maintain a unique ethnic identity** is just as often <u>the explicit goal</u>. $_{5i}$While in one context <u>a revitalization effort</u> **may be centered around formal education**, $_{5ii}$<u>in another</u> **it may be focused on creating environments in which the language can be used on a regular basis**.

$_{6i}$<u>Although tremendous variety characterizes the methods of and motives for reinvigorating languages</u>, $_{6ii}$**revitalization, as a general phenomenon, is growing and has become an issue of global proportion**. $_{7i}$There are now **hundreds of endangered languages**, $_{7ii}$and **there are few regions of the world** <u>where one will not find at least nascent attempts at language revitalization</u>. $_8$<u>This</u> **comes as little surprise when considered in light of the confluence of several socio-historical factors**. $_9$<u>First</u>, **language death and moribundity (i.e. the cessation of children learning a language) are occurring at an exceptionally rapid rate**. (Grenoble & Whaley, 2005, p. 1)

3. Most sentences start with old information and continue with new information, as expected. For example, Sentence 2 picks up the idea of *these initiatives* and expands it by saying they are very varied. In Sentence 9, *this* refers back to the entire previous sentence. The writer also uses some listing and contrasting language in the "old" information slot to orient the reader to the new information, e.g., *in some instances* and *yet in others*, or *while in one context* and *in another*." At the end of the quoted passage, the writer introduces *several factors*, and we can expect the following sentences to develop these. There are also some examples of new information appearing unexpectedly at the start of clauses, for example in Clause 4ii, which stresses the concession, as if to prevent readers objecting too strongly to the writer's claim in the main clause.

Exercise 2 (pages 180–181)

1. Old information is circled. New information is underlined.

   ❶ (Science and technology) are <u>embedded in virtually every aspect of modern life</u>.

   ❷ (For this reason, people increasingly) face the need <u>to integrate information from science with their personal values and other considerations as they make important life decisions, such as those about medical care, the safety of foods, and a changing climate</u>. ❸ (The practice of science) always <u>involves some degree of uncertainty, and as a human endeavor, it is inevitably subject to occasional errors and to the potential influence of personal values, biases, and professional interests</u>. ❹ (Nonetheless, science) <u>helps explain and predict the world using a unique, rule-governed process to produce factual knowledge, and in the long run, the practices and norms of science result in a robust base of knowledge</u>.

   ❺ (Many) believe <u>the scientific community has a duty to engage with society to disseminate this knowledge and provide a return on society's investment in the science enterprise</u> (Dewey, 1927; Lubchenco, 1998). ❻ (Society in general) expects <u>scientists to help solve its major problems</u> (such as maintaining people's health or safeguarding national security) <u>and to discover ways of improving quality of life, expanding economic opportunities, and informing decisions</u>. ❼ Yet <u>communicating science effectively</u> does not come easily; it is an acquired skill.

2. At the beginning
3. At the end
4. Sentence 7. The text so far has discussed science and scientists, but the new idea here is about communicating science. The conjunction *yet* at the start of the sentence stands out (it is unusual but not ungrammatical to start sentences with coordinating conjunctions) and signals a change in topic. By fronting the new information, the writer draws readers' attention to the main topic of the rest of the text, scientific communication.
5. Sentence 3, *it = the practice of science*. Sentence 7, *it = communicating science effectively*. In both cases, the pronoun connects the information in the second clause to the first clause.
6. Sentences 4 and 7. In both sentences, the connection word highlights the contrast or change in topic. Note that Sentence 2 might be considered to start with a connecting phrase (*for this reason*), which contains the old information that creates cohesion with the previous sentence (the reason is that science is part of our daily lives).

Exercise 3 (page 183)

Answers will vary. Sample sentences:

1. These <u>difficulties</u> can affect their academic performance.
2. This <u>pattern</u> is also making graduate degrees more expensive.
3. These <u>characteristics</u> have improved the validity of the results.
4. In this <u>step</u>, a survey was administered to all previous consumers.

Exercise 4 (page 183)   (Source: student writing)

1. and 2.

In neuroscience, <u>the disorders of the central nervous system (CNS)</u>, which controls mechanical, physical, and biochemical functions of humans, have been one of the largest research areas. The research showed <u>understanding the complex functionality of the human brain would be beneficial</u> for degenerative CNS diseases such as Alzheimer's or Parkinson's. We used <u>Functional Magnetic Resonance Imaging (fMRI)</u>, which is a noninvasive imaging technique for the human brain mapping field. Since the early 1990s, it has been a powerful tool in both <u>research and clinical areas</u>, helping further the understanding of brain functions.

3. Answers will vary. When I read this paragraph in a graduate writing group, I quickly got confused, which I think is because almost every sentence proceeds new-old. One possible revision. One of the clues is that CNS disease is introduced at the start of Sentence 1 and then picked up at the end of Sentence 2, where we would usually expect something new.

   Here is one possible revision:

> ❶ One of the most important areas of neuroscience research in recent years has been disorders of the central nervous system (CNS), which controls mechanical, physical, and biochemical functions of humans. ❷ The research into degenerative CNS diseases such as Alzheimer's or Parkinson's would benefit from understanding the complex functionality of the human brain. ❸ Human brain mapping has been made possible by a noninvasive imaging technique called Functional Magnetic Resonance Imaging (fMRI). ❹ Since the early 1990s, fMRI has helped the further understanding of brain functions in both research and clinical areas.

In my revision, I changed the subject of Sentence 2 to move CNS into the "old" position, and I also used a non-human agent for the verb *benefit*. Sentence 3 works better in the passive voice, moving the new information, fMRI, to the end of the sentence. I wanted *research and clinical areas* to have the focus at the end of the paragraph to help the writer continue with the literature review by discussing the clinical implications of the statistics described later in the paper.

Exercise 5 (pages 188–189)

1. <u>The anti-Gmail bill</u> would forbid the technology from being used other than as a real-time analysis that would leave no trace or record. <u>Specifically, the measure</u> forbids an email provider from retaining personally identifiable information derived from the use of the technology. <u>It also</u> forbids human access to such information and forbids the transfer of such information to third parties. <u>The bill also</u> requires that when a consumer deletes an email, it must be physically, permanently deleted so no person or machine can ever retrieve it.

Pattern: Repeated theme
Each sentence begins with a theme that means *the anti-Gmail bill*. Notice that the writer achieves cohesion in this way without much actual repetition. The bill is named only once, and then referred to as *the measure* (synonym), *it* (pronoun), and then as simply *the bill*. The use of definite articles (*the*) are a clue that each theme has an identifiable referent earlier in the text, showing how determiners can themselves create cohesion.

2. <u>But what evidence</u> is there that <u>the lone innovator</u> is the source of most of our important discoveries?

   <u>Business researchers</u> have attempted to address that question by studying patent data derived from the U.S. Patent and Trademarks Office. <u>This data set</u> is unique because it allows the study of teams versus individuals, is robust over a long period of time, and contains many data points across multiple types of inventions. <u>Using an end point of how many times an individual patent is cited by future patents as a measure of its influence and success, investigators</u> evaluated the success of lone versus team inventors. <u>The number of citations for an individual invention</u> has been shown to correlate with patent value and renewal rates.

Pattern: Linking
In answering the question posed at the end of a paragraph (the first sentence of this extract), the writer turns to patent data. The characteristics of the data set are explored, and then the use of the particular "end point" is explained. The last sentence also flows old to new, and ends with a partial answer to the question: yes, the lone inventor does seem to be more successful.

3. <u>The cultural shaping of personhood</u> can be most obviously revealed and appreciated in Asian cultural contexts, where interdependent models of person are elaborated. […] <u>Children</u> are taught to appreciate the virtues of group life. <u>Instead of celebrating individual accomplishments</u>, <u>special events</u> recognize the accomplishments or growth of the whole group. <u>Attention to and sympathy for others</u> is among the primary goals of elementary education and <u>it</u> is crafted and fostered in many routine practices. <u>Media and workplace practices</u> also encourage being like others, being connected to others, and knowing not one's self, but others.

Pattern: Super-theme
The super-theme is in the new information of the first sentence: *interdependent models of person*, or in other words, ways in which people are connected. Children learn about social connections; group not individual accomplishments are valued; care for others is the focus of education; and interdependence is valued in the media and workplace.

4. <u>Theories</u> vary in scope depending on the scale of the issues they are meant to explain. <u>Grand theories, also described as macro-level,</u> are attempts to explain large-scale relationships and answer fundamental questions such as why societies form and why they change. <u>These theories</u> tend to be abstract and can be difficult if not impossible to test empirically. <u>Micro-level theories</u> are at the other end of the scale and cover very specific relationships between individuals or small groups. <u>They</u> are dependent on their context and are more concrete. <u>This</u> means they are more scientifically testable.

Patterns: (a) Theme preview: The theme of the first sentence (*theories*) introduces the two types of theory in Sentences 2 and 4 (macro and micro).
                    (b) Linking: After each theory is introduced, it is developed in a linking pattern.

Exercise 6 (page 190)

Answers will vary.

Speaking Activity: Ask students to adapt one of their two texts for a presentation. Discuss which patterns of organization are more appropriate for a presentation or for writing. For example, theme preview is often very useful in a presentation or lecture because the audience only hears the speech once and cannot review earlier text, as in writing (e.g., *Today I'm going to talk about three types of bilingualism*). Super-theme patterns might be hard to follow, and repeated theme could become boring. Linking is still important, but care needs to be taken that listeners can follow pronoun reference easily.

Sources for Example Sentences/Texts

Full references can be found on pages 203–204 of the textbook. The numbers after each source are sentence/example numbers.

Unit 1
COCA: 9, 10, 25–31, 39–44
MICUSP: 1–6, 11–13, 24, 34
"Superstrong," 2010: 7, 8
NIH, 2011: 50

Unit 2
COCA: 2–4, 10, 25–27, 29–32, 36–40, 43–46, 51–56
MICUSP: 15, 28, 34, 35, 41, 42
"Online Social Networks," 2010: 5–9, 11
"Childhood Obesity," 2010: 17–18, 20–24

Unit 3
COCA: 1–6, 24–50, 53, 62
MICUSP: 7–19, 51–52, 54, 57, 61

Unit 4
COCA: 15–18, 27, 28, 33, 38, 47–52, 54–59, 67
MICUSP: 1–14, 19–26, 29–32, 34–37, 39–42, 46, 53, 60–66

Unit 5
COCA: 7, 16–28, 33–35, 37–40
MICUSP: 5, 6, 8, 9, 13–15, 29–32
Matsuda, 1999: 4, 10, 11
Swim et al., 2011: 36

Unit 6
COCA: 1, 4–6, 8–21, 23–32, 34–40, 45–48, 50–55, 61–65
MICUSP: 2, 3, 7, 22, 41–44, 49, 57–60
Finch et al., 2017: 33
"To Ignite Economy," 2011: 56

Unit 7
MICUSP: 1, 2, 8, 9, 14
COCA: 3–7, 10–13, 15, 16

Unit 8
Martin, Matthiessen, & Painter, 1997: 1
Crain, 2000: 6, 9, 10
MICUSP: 7
COCA: 8
Shiraev & Boyd, 2008: 11, 13, 14
Bryson, 1996: 12
Pinker, 1994: 15
Eggins, 2004: 16 (adapted)
Robbins, 2003: 17