

An Approach to Academic Written Grammar

This unit describes the building blocks of written grammar: word forms, phrases, and clauses. Unit 1 provides a way of talking about grammar (a metalanguage) and introduces three important ideas:

- Sentences can be broken into “slots.” A sentence is comprised of clauses, and each clause has slots for a subject, verb, and usually a complement or two. Only certain word forms can fill those slots.
- Grammar is more than a set of rules for what you *must* write; it is a range of choices for what you *can* write.
- Your choices create three levels of meaning at the same time—the content of your sentence, your attitude or relationship with the reader, and the organization of the text.

Michael Halliday, whose functional description of grammar underlies these principles, wrote: “Everything has to be described before everything else” (Halliday & Matthiessen, 2004, p. 62); therefore, you will see many cross-references to other parts of this textbook, and you may refer to this unit when you are studying a later section. In this book, a cross-reference in this format (2.5) means you should refer to Unit 2, Section 5.

UNIT 1 Preview

These sentences are not grammatical in written academic English. Find the errors and correct them.

1. Intensity is a significant in stress production.
2. He indicated me that he always chose the second syllable.
3. I do not agree that conclusion.
4. This experiment focuses the role of pitch.
5. We suggest to find a better connector piece.
6. This would allow to test spheres.
7. Five main design concepts generated.
8. \$1500 cost our prototype.
9. Lower rates of high school graduation lead to that more people are unemployed.

Grammar Awareness: Report

Read the excerpt from a report written by a student in a psychology course included in the Michigan Corpus of Upper-level Student Papers (MICUSP). Like all the writing in MICUSP, it received an A grade. Then complete the tasks on page 3.

1 Researchers have previously studied and suggested interventions designed to increase women in math and science and change the environment and attitudes. Steele (1997) implemented a program called “wise” schooling, Nauta et al. (1998) suggested interventions designed to increase self-efficacy in math and science, and Gavin and Reis (2003) proposed guidelines for teachers in the classroom.

2 Steele’s (1997) “wise” schooling was implemented at the University of Michigan as changes in the learning environment that were designed to reduce the stereotype threat of African American students. Some of the changes implemented included optimistic teacher-student relationships, giving challenging work, stressing the “expandability of intelligence,” providing role models, and building self-efficacy (Steele, 1997, p. 625). Steele (1997) concluded that the program was effective because these students did have higher achievement compared to similar students who were not in the program. This study, however, had limitations. One limitation is that it studied a group of African-American college students who may not accurately represent all individuals facing stereotype threats; specifically, it may be hard to generalize these results to all women in math and science.

3 Others have proposed guidelines and suggestions for interventions but have not empirically tested their ideas themselves. For example, in their study on predictors of high-level career choices of women, Nauta et al. (1998) suggested several ideas for interventions aimed at increasing the number of women in math and science. Their ideas for interventions included increasing self-efficacy, providing role models, and reducing role conflict that the students experience, for example balancing work and family (Nauta et al.). Similarly, Gavin and Reis (2003) proposed guidelines for teachers in the classroom that are aimed at encouraging girls in math. Their guidelines include taking personal responsibility to encourage talented girls, creating a safe and supportive learning environment, providing single-sex learning opportunities, using language and activities that are relevant to girls, creating a challenging environment, and providing role models for girls. Both of these suggested interventions have limitations because they have not been empirically evaluated. Future studies need to examine the effectiveness of these intervention ideas.

- Write the underlined verbs from the text in the correct column in the chart depending on what follows each verb. Note that the same verb might appear in more than one column.

Direct Object	Indirect Object (Prepositional Phrase)	to (Infinitive) Clause	-ing Clause	that (Noun) Clause

- Write the only verb from the chart that is used in the passive voice.

1.1 Clause Structure

A. A **finite clause** is at minimum a subject, a verb, and any objects or complements that the verb requires. A finite clause expresses a complete idea (*finite* means “bounded or limited”) and can stand alone as a complete sentence. Table 1.1 shows the basic structure of finite clauses in English. Notice that many slots are empty but optional, whereas the shaded slots cannot be filled. This table does not show every possible combination, but it can help you analyze and control academic writing.

	Adverb / Prepositional Phrase	Subject	Finite Verb	Other Verbs	Complement(s)	Adverb / Prepositional Phrase
(1)		The frequency	increased.			
(2)		Researchers	have	studied	interventions.	
(3)		The marker	gave		us additional information.	
(4)	However,	the differences	can	be explained		by several factors.
(5)		Their ideas for interventions	included		increasing self-efficacy	as a first step.

B. Only the **subject** and verb slots are required in all finite clauses.¹ In affirmative statements in the present simple and past simple tenses in the active voice (Sentences 1, 3, 5), there is only one verb (that is, the **main verb** is finite), but in all other finite clauses, the verb is an **auxiliary (helping) verb**, such as *be*, *do*, *have*, or *get* and is followed by another verb (Sentence 2). Modal verbs (such as *can*, *may*, *will*) are a type of auxiliary and can also fill the **finite verb** slot (Sentence 4) (6.1).

C. Each slot has limits on the type of word, phrase, or clause that can fill it. The subject slot can be a noun, pronoun, *-ing* clause, or sometimes a *to* infinitive, but not a prepositional phrase (*in the study*), an adverb (*quickly*), or a **bare infinitive** clause (*do research*).

D. **Complements** are the elements that come after the verb and are controlled by the verb. Different types of verbs allow or require different types of complements. For example, transitive verbs require a direct **object**, while linking verbs like *include* (Sentence 5) allow *-ing* clauses as complements, although a noun phrase would also be possible (e.g., *an increase in self-efficiency*). It is not always easy to guess which complements are possible after any particular verb; if English is not your first language, a good learner's dictionary will be very helpful.

E. **Non-finite clauses** have the same basic structure as finite clauses, but they do not have a finite verb that is bound or limited, and they do not usually have a subject. This means the verb is in the **infinitive** or *-ing* form. The complement in Sentence 5 is a non-finite clause, for example, because it has an *-ing* verb and no subject. When a non-finite clause is used as a subject or object, it is usually in the *-ing* form, although a *to* infinitive is often possible.

(6a) INCORRECT: **Provide** role models was another suggestion.

(6b) CORRECT: **Providing** role models was another suggestion.

Exercise 1: Sentence Analysis

Circle the verbs, underline the subjects, and double underline the complements in these sentences from a research report about itching called "A Little to the Left" (2009) (1–5) and about microfinance, giving small loans to individuals ("Microfinance," 2010) (6–10).

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*.

¹ The subject is required in all finite clauses *except* imperative (command) clauses. However, imperatives are unusual in academic writing, except in mathematical contexts such as *Let x denote . . .* or *Assume y is constant*.

4. There are specific nerve cells dedicated for itch, different ones for pain, and still others for pleasant touch.
5. The Mrgpr-knockout mice responded specifically to chloroquine.
6. Success or failure of microfinance depends largely on the state of a nation's economy, according to a new study.
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: Grammatical Judgment

Which of these are correct and complete (C) finite clauses in academic writing? What is missing from or wrong in the incomplete or incorrect (I) clauses?

1. C / I Thirty-five seconds from start to finish.
2. C / I Over the centuries of development of the industrial agriculture described above.
3. C / I These systems damaged natural watersheds.
4. C / I Turning a continent of rich ecological diversity into a factory for uniform production of a few generic crops.
5. C / I These systems damaged.
6. C / I In the 1600s foreshadowed a trend in corn growing.
7. C / I Chicago was planned careful.
8. C / I The Europeans began by mapping the continent.

Exercise 3: Writing

Take a recent piece of your own writing that has not been edited or corrected. Analyze your clause and sentence structure using Table 1.1 (see page 3). Correct any errors of clause structure or word form.

1.2 Noun Phrase Structure

A. **Noun phrases** can be used as subjects, objects, or objects of prepositions. In academic writing, the noun phrase is often long and complex, containing the substance of the sentence. The verb may be relatively simple, but it controls the structure of the clause.

B. Like clauses, noun phrases have a structure of slots, which can be filled by different types of words. Only the main noun (called the **head noun**) is always required. Every other slot depends on the type and meaning of the head noun (see Table 1.2).

Modifiers				Head Noun	Qualifiers	
Quantifier	Determiner	(Adverb +) Adjective(s)	Noun Modifier		Prepositional Phrase	(Reduced) Embedded Clause
				Florida		
			college	choice		
	a	simple dynamic		model		
	the			problem	of college choice	
a few of	the			problems		facing the panther
		initially identical		institutions		
most			Florida	panthers		

C. Prepositions (such as *in, on, to, by, for*) have certain restrictions:

Prepositions can be followed by:

- noun phrases (*in the experiment*)
- pronouns (*for them*)
- *-ing* non-finite verbs and clauses (*by increasing the volume; such as drawing*)
- *wh-* noun clauses (*advertisers are interested in who is watching certain shows*)

Prepositions cannot be followed by:

- *that* noun clauses and other finite clauses (NOT *nutritionists agree with consumption of sugar should be reduced*)
- *to* infinitives (NOT *colleges worry about to retain students*)
- adjectives (NOT *a problem of frustrated*)

Notice that noun phrases inside prepositional phrases follow the same structure as any other noun phrase. The noun phrase is, therefore, very flexible and is used in academic writing to “pack” large amounts of information.

D. It is possible to write very long noun phrases by using all the available slots. The head nouns in Examples 7–9 are in bold.

- (7) the **development** of innovative, superstrong, yet light and damage-tolerant materials
- (8) the building **blocks** of larger hierarchical structures with the strength and ductility of the smaller objects
- (9) the **relationship** between self-esteem, coping strategies, and changes in self-efficacy following defeat in a tie-break competition

These long noun phrases are common in professional academic writing but should be used cautiously and only when the meaning is clear.

E. Identifying the head noun is especially important in the subject slot because the verb agrees with the head noun (4.8). Looking at the head noun also helps choose the correct article, *a*, *an*, *the*, if needed (articles are discussed further in Unit 3).

Exercise 4: Grammar Analysis

Circle the head noun in the underlined noun phrases from a research report by the National Institutes of Health titled *How Secondhand Smoke Affects the Brain* (NIH, 2011a).

1. Tobacco is the leading cause of preventable death nationwide.
 2. Up to 90% of lung cancer deaths are attributed to smoking.
 3. Previous research has shown that exposure to secondhand smoke increases the likelihood that children will become teenage smokers.
 4. A team led by Dr. Arthur Brody of the University of California, Los Angeles, set out to study how secondhand smoke affects the human brain.
 5. The method depends on a special tracer molecule that binds specifically to nAChRs [nicotinic acetylcholine receptors].
 6. The researchers found that nAChRs in the brains of both smokers and non-smokers became occupied by nicotine after 1 hour of exposure to secondhand smoke.
 7. This study gives concrete evidence to support policies that ban smoking in public places.
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Exercise 5: Sentence Completion

Underline the head noun and draw an arrow to its verb. Then circle the correct form of the verb in parentheses to complete each sentence.

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 (exists / exist) in the U.S. as opposed to many other countries, it may come as a surprise to some that the environmental justice movement (is / are) not a social movement unique to the United States.
 2. Environmental problems that citizens in the United States (faces / face) (shares / share) one major similarity with those in Southeast Asia: both movements (is / are) almost always addressing a negative change to the status quo.
 3. One problem that (tends / tend) to be very different between the cases in Southeast Asia as compared to cases in the United States (is / are) this idea of land use vs. land preservation.
 4. The second way that U.S. environmental justice problems often (differs / differ) from those in Southeast Asia (has / have) to do with the nature of the problems themselves.
 5. Many of the victims of environmental injustices in Southeast Asia (loses / lose) their land, their homes, or their occupation when they give way to government or industry.
 6. The all-important link between the causes of environmental justice issues both domestically and in developing countries (is / are) that industry and government often have shared interest in pursuing the path of least resistance.
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