Author's Toolkit

Writing Better Technical Papers

Ron Read

Kurdyla and Associates Co., Ltd.

One of the most difficult areas of English writing to understand—and to explain—is article (a/an/the/no article) usage. Let's take a look at some specific problems with “the.”

Special Problems with “the”

The concept expressed by “the” is simply not expressed by a corresponding word in many languages. For those raised in such “non-the” languages, this creates a significant challenge in writing technical papers in English.

Here, I'd like to discuss three particular problems involving “the” in technical writing.

1) Introducing the current paper's research

A common problem I've encountered when reviewing technical papers is the use of “the” to introduce this, the current paper:

× This paper presents the new method to...

○ This paper presents a new method to...

Logically, the method is being *introduced* for the first time, so “the” would incorrectly suggest something already known to your readers. However, in subsequent sentences, “the” is entirely appropriate:

○ ...a new method to align signals. The method uses a routing process that...

Use this “introductory the” at the proposal's first mention in the Abstract/Summary, Introduction, and Conclusions sections, since each of these parts introduces your new idea.

2) Describing “performance” in general

When you are describing a general change in *performance* due to some effect or action, “the” is not needed:

× ...and this greatly increased the efficiency.

○ ...and this greatly increased efficiency.

× It improved the durability in rough terrain.

○ It improved durability in rough terrain.

× ...and decreased the robustness to friction.

○ ...and decreased robustness to friction.

However, if the performance is *specified* by “of” or possessive use, then “the” is correct:

○ ...and increased the efficiency of the node.

○ ...and improved the casing's durability.

3) Using proper nouns, especially possessives

When you use a name as a noun in your sentence, “the” should generally not precede it:

× This conference will be held in the Osaka.

○ This conference will be held in Osaka.

When a person's name is used as an adjective for a concept, such as a theory or principle, use *either* “the” before the name *or* the name's possessive (by convention), but not both:

× This is supported by the Hosoda's theorem.

○ This is supported by the Hosoda theorem.

○ This is supported by Hosoda's theorem.

Using articles remains difficult even after learning “rules.” Experience from reading scientific articles or living in a native-speaking environment can be helpful, but always think before using, or not using, a/an/the.

Challenged by “Challenge”

The word “challenge” is more likely to be used, especially in business writing, by non-native than by native English speakers. The word is fine when carefully used as a noun:

○ We took on the challenge of blind sensing.

On the other hand, as a verb it sounds strange because this usage typically involves an invitation to an old-fashioned man-to-man fight:

○ I challenged Lord Farquhar to a duel after his indelicate comments about Lady Ashdown.

× We challenged the difficulty of blind sensing.

A simple rule for “challenge” in modern technical writing? Just don't use it as a verb.

Grammar Questions? read@kurdyla.com

Mini Quiz: What's Wrong?

1) Our lab studies many advance technologies...

2) Lab purchases require advanced approval...

3) Purchases must be approved in advance...

(Answers: 1) “advanced”; 2) “advance”; 3) OK)