

## DEXIS IN SCIENTIFIC TEXTS

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**Abstract.** This article discusses the concept of dexis in scientific texts. Dexis, also known as deixis, refers to words and phrases that point to time, place, or person, and its use is different in scientific writing compared to spoken or informal language. In scientific texts, the use of dexis is more limited and often carefully controlled. However, some deictic expressions are still used to help guide readers through arguments, data, and interpretations. This paper shows how dexis works in scientific texts and why it matters for clarity and academic tone. It also includes examples and analysis from recent scientific articles. The goal is to help students and young researchers understand the role of dexis and improve their academic writing skills.

**Key words:** Dexis, deixis, scientific writing, academic style, discourse analysis, reference in texts

Dexis, or deixis, is a linguistic term that means pointing through language. It includes words like “this,” “that,” “here,” “there,” “now,” and “then,” and personal pronouns like “I,” “you,” “we.” In everyday conversation, these words are used often and naturally, because the speaker and listener share the same situation and context. However, in scientific texts, the use of dexis becomes more complicated. Scientific writing tries to be clear, objective, and formal. For this reason, the use of personal and situational references is usually reduced or changed.

In general, scientific texts avoid first-person pronouns like “I” or “we,” especially in some disciplines such as physics or chemistry, because the focus is on the research, not the researcher. But in some fields like social sciences or humanities, using “we” is more accepted, especially when referring to the research team or the academic community. According to Hyland (2002), self-mention is a way of showing responsibility and guiding the reader through the argument. This is one example of how dexis can have a role even in formal academic texts.

Spatial and temporal dexis are also used in scientific writing, but in different ways than in casual language. For example, the word “this” is common in academic writing to refer to figures, tables, or previous statements. A sentence like “This result supports the hypothesis” uses “this” to point back to specific data or analysis. Without deictic words like “this” or “these,” it would be harder for readers to follow the logical flow of information. However, it is important to use them carefully, so their reference is always clear. According to Hinkel (2004), unclear use of deictic terms is a common problem for non-native speakers in academic writing.

In a study by Salager-Meyer (1994), she found that authors of scientific articles use deictic expressions to create cohesion and coherence in the text. For example, “as shown above” or “in the previous section” are ways to guide the reader through the structure of the paper. These expressions are both deictic and metadiscursive, because they refer to the text itself and help organize it. This type of dexis is very useful in long and complex texts like journal articles or theses.

Also, the use of demonstratives like “this” and “that” can show the writer’s attitude. For example, “this important finding” shows a positive evaluation, while “that assumption” might create distance. These small choices have rhetorical effects, even in technical writing. According to Charles (2003), demonstrative dexis in academic writing is not only for reference, but also for showing stance and evaluation. The selection of a near or far demonstrative can express whether the author agrees or disagrees with an idea, or whether the information is central or marginal to the main argument.

Another kind of dexis that is used carefully in scientific texts is temporal dexis. Words such as “now,” “currently,” “previously,” and “recently” help to place the study in time. For example, a sentence like “Currently, many researchers focus on climate resilience” shows the relevance of the topic in the present time. However, overuse of such expressions can make writing less precise, especially when the time reference is vague. In scientific writing, exact dates and clear time frames are preferred when possible, as this improves accuracy and allows replication or comparison.

Dexis also varies across cultures, and this can influence how international students approach academic writing in English. In some languages, especially those with rich verbal inflection like Japanese or Korean, deixis can be less explicit because contextual meaning is inferred more from the situation or social cues. In contrast, English tends to require more direct clarification in writing. This difference means that students from such backgrounds may unintentionally underuse or misuse deictic expressions in English academic texts. According to Scollon and Scollon (2001), intercultural discourse awareness is essential when students move between academic systems, as subtle choices like demonstratives or pronouns can affect how arguments are received. For example, an author writing “this problem is urgent” in a Western academic context is expected to clearly define what “this problem” refers to, while in some other academic traditions, this may be implied from previous discussion or shared knowledge.

In today’s academic world, a growing number of scientific texts are written and shared digitally. This new context affects how deictic expressions function. In online publications, hyperlinked references, digital figures, and interactive elements allow writers to point readers to additional information in ways that are not possible in traditional printed texts. This can reduce reliance on vague deictic terms, as authors may link directly to data, figures, or external sources. However, when texts are read on screens, layout and navigation can create challenges. A sentence like “as mentioned above” might not be clear if the reader is scrolling

or jumping between sections. Writers must now consider not only linguistic clarity, but also user experience. As research by Bondi and Lorés-Sanz (2021) shows, digital academic genres are reshaping textual coherence strategies, including how writers use and signal deictic references.

To support student writers in mastering daxis, educators can introduce targeted writing exercises. One effective activity is “reference tracing,” where students identify what each deictic word refers to in a sample text and explain its function. Another useful method is peer review focusing only on cohesion and clarity. Students can exchange papers and mark places where “this” or “that” is used without a clear referent. Teachers can also show discipline-specific examples to highlight how daxis is handled in engineering papers versus philosophy essays. Combining linguistic awareness with genre-based instruction helps students internalize not only the grammar of daxis but also its rhetorical purpose. As Johns (2008) points out, writing development is most effective when students are actively engaged with real academic texts and reflect on the choices authors make.

In recent years, the importance of writer-reader interaction in academic writing has been highlighted more. Writers are encouraged not only to report information, but to help readers understand how the information connects. Deictic expressions help this process, as they build bridges between sentences and sections. As Flowerdew (2015) points out, writers must be aware of genre expectations and discourse features in their field, which includes the appropriate use of daxis. For example, a paper in engineering might avoid “we” completely, while a paper in education studies might use “we” to build solidarity with the reader.

Non-native English speakers, especially at B2 level, may find it difficult to use daxis correctly in academic writing. One reason is that in many languages, the rules and uses of deictic expressions are different. For example, in some languages, it is common to use “we” or “our study” in all situations, while in English scientific writing this may sound too personal or informal. Also, deictic expressions like “here” or “now” may be confusing in written texts, because the time and space of writing is not the same as the time and space of reading. That is why careful use of these expressions is important.

Another challenge is ambiguity. If a student writes “this shows the results,” it might not be clear what “this” refers to. It could be the sentence before, a table, or a paragraph. To avoid confusion, it is better to write, for example, “This trend in Figure 3 shows the results” or “This pattern, discussed above, shows the results.” Such clarification makes the writing more reader-friendly. Clarity is especially important in scientific texts where misunderstanding can lead to wrong interpretation of data or arguments. To improve, students can pay attention to how daxis is used in published papers in their field. They can also practice rewriting sentences to make deictic references more clear. Tools like corpus analysis can help show patterns in professional writing. Also, using peer feedback

or writing tutors can help identify unclear or confusing uses of daxis. As Flowerdew (2015) explains, genre awareness and discourse analysis are key for mastering academic writing.

In conclusion, daxis in scientific texts is different from its use in everyday speech. It is more limited, but still plays a key role in creating cohesion, structure, and clarity. Understanding daxis can help students write better, clearer, and more professional academic texts. Paying attention to reference, reader guidance, and discipline conventions will support more successful writing, especially for non-native speakers preparing for conferences or publications.

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