

# Product Efficacy Argument for ETS's *Criterion*® Online Writing Evaluation Service: Information for International K–12 Schools and Higher Education Institutions

## Product Efficacy Argument (PEAr)

ETS, a not-for-profit organization, invests substantial resources to ensure that the products and services offered are of the highest technical quality. The development of a Product Efficacy Argument (PEAr) is an important step in this process. The PEAR helps product developers make informed decisions about the structure and scope of the product and helps educators and clients make informed decisions about the product's use.

A PEAR begins with a description of the product's underlying theory of action, which indicates how a product is intended to work when implemented appropriately. The theory of action is illustrated through a diagram that connects the product to both student and instructor outcomes, as appropriate. The theory of action is then followed by summaries of relevant research that support the theory.

In order to better understand the PEAR for this product, a brief product description and research summary are provided. The description and summary are followed by the theory of action diagram and supporting research.

## Product Description

The *Criterion*® service is a web-based application that can help to improve English writing skills by providing instructional tools that help with the planning, writing, and revising of essays. This writing service provides 35 essay *prompts*\* written specifically for nonnative learners of English and an additional 170 topics for use with beginning writers. Thus, the *Criterion* service supports nonnative learners of English by giving them frequent writing practice opportunities that help build confidence to improve their English writing skills.

This online service provides instant *holistic scores*\* and annotated *feedback*\*. These evaluations allow instructors and students to focus their instructional and writing practice efforts respectively on specific areas identified as needing improvement. The *Criterion* service does *not* grade essay content and cannot take the place of instruction and instructor feedback. However, the English Language training section of the *Criterion Online Writing Evaluation Service* offers 14 essay topic areas: grades/levels 4–12, College 1 and 2, as well as retired *GRE*® and *TOEFL*® prompts and associated scoring guides.

This document presents a theory, based on research, of how the *Criterion* service might improve the English writing skills of nonnative learners of English if used regularly and appropriately. While the teaching and learning styles for K–12 and higher education students vary from country to country, our assumption is that international users have some knowledge and experience writing English to make the best use of the *Criterion* service.

## The Theory of Action

The diagram on page 2 displays the theory of action for the *Criterion*® service. The diagram begins with a list of the product components. A series of numbered arrows then connects the product to intermediate outcomes and a final outcome.

Each arrow represents a specific hypothesis for what is expected to happen when the product is implemented. A summary of salient, relevant research for each hypothesis is then detailed in the following sections. The research evidence presented is from studies that may or may not have used the product but that generally support the theory of action. The arrows and research summaries are numbered and color-coded for easy identification (green represents student outcomes; purple, instructor outcomes; and blue, outcomes resulting in improved English writing skills).

\* represents a Criterion component included in the diagram (i.e., planning tools, prompts, feedback, scores, etc.)



### Criterion® Components\*

#### Tools for Students

The service provides:

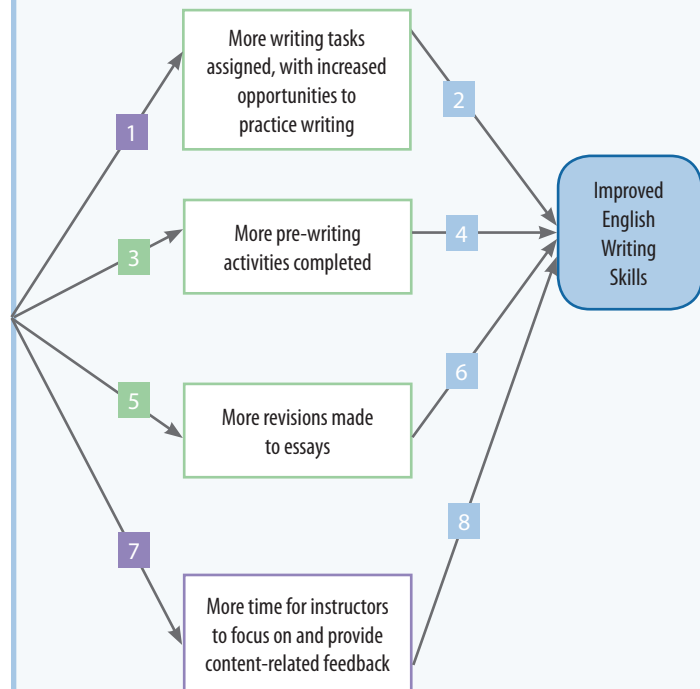
- **Prompts:** A library of over 400 essay topics with multiple opportunities for revision and resubmission to allow for iterative improvement
- **Planning tools:** Eight templates with space to enter notes to print, save, or paste into writing screen
- **Feedback:** Automated trait feedback analysis on grammar, usage, mechanics, style, and organization and development, as well as a summary of errors; access to instructor notes and comments
- **Holistic scores:** Instantaneous score with guidance on how student essays compare to others written at the same level
- **Supporting resources:** English Language Learner writer and bilingual handbooks, essay examples for each score point, access to a context-sensitive handbook to correct errors, and tools to facilitate dialogue between instructors and students
- **Portfolios:** the development of and access to their writing samples, with option for instructors to view
- **Portability:** with an Internet connection, online access anywhere, anytime

#### Tools for Instructors

The service offers time-saving tools via:

- **Prompts:** a library of over 400 essay topics at various levels of difficulty, different genres, with the ability to create customized topics
- **Feedback:** personalized feedback options including individual notes, general comments, or frequently used comments saved to a Comments Library
- **Accounting:** tools for tracking which students have written and revised their essays
- **Reports:** class-level summaries to gauge student progress including error reports, holistic score summaries, class roster reports, and feedback analysis
- **Portfolios:** instructors can view student writing samples and share essays with students and parents
- **Portability:** with an Internet connection, online access anywhere, anytime

### Outcomes



\* represents a Criterion component included in the diagram (i.e., planning tools, prompts, feedback, scores, etc.)

## Outcomes/Claims that align to the numbers above:

1. When nonnative learners of English are provided with automated *feedback\** from a computer, instructors can assign more writing tasks
2. When nonnative learners of English complete more writing tasks more often, writing skills improve
3. When nonnative learners of English are provided with prewriting strategies and materials (e.g., online *planning tools\**), they complete prewriting activities
4. When nonnative learners of English are presented with increased prewriting opportunities, their writing improves
5. When nonnative learners of English receive immediate *feedback\** and have access to *supporting resources\**, they are more likely to make revisions to their essay
6. When nonnative learners of English make more revisions to their essays, their writing skills improve
7. When nonnative learners of English are provided with automated *feedback\** from a computer, instructors can focus on and provide additional feedback including content-related feedback
8. When nonnative learners of English receive meaningful, content-related feedback on their assignments from their instructors, writing skills improve

## Research Summary

The literature summarized here, and further explicated below, discusses writing studies of nonnative learners of English learning to write in English, representing China, Egypt, Iran, Japan, Korea, Malaysia, Taiwan, and Tanzania. Research shows that when nonnative learners of English have access to prewriting strategies they employ more prewriting activities when writing in English (Bailey, 1993). In addition, nonnative learners of English have found online *planning tools\** helpful when learning to write in English (Sun, 2007). Furthermore, when nonnative learners of English are provided with increased prewriting opportunities, their ability to write in English improves (Ellis & Yuan, 2004; Farahani & Meraji, 2011; Liu, 2011).

Additionally, receiving immediate *feedback\** can positively impact the writing of nonnative learners of English (i.e., automated feedback provides immediate diagnostic information that has been shown to encourage nonnative learners of English students to make more revisions to their writing; Ebyary & Windeatt, 2010; Fang, 2010). Moreover, as nonnative learners of English engage in more revisions to their writing, their writing skills improve (Ebyary & Windeatt, 2010; Lee, 2006). The use of automated *feedback\** has also shown potential for facilitating the assignment of more writing tasks (Chen, Chiu, & Liao, 2009; Grimes & Warschauer, 2010; Kim, 2011), which in turn leads to improved writing skills as nonnative learners of English have increased opportunities to engage in writing (Ebyary & Windeatt, 2010; Veerappan, Suan, & Sulaiman, 2011).

Finally, receiving content-related feedback has also been shown to positively impact nonnative learners of English writing; research has shown that writing improves when nonnative learners of English receive instructor feedback that addresses the content and organization of their writing (Mikume & Oyoo, 2010; Storch & Tapper, 2009), explicitly comments on content and coherence, or is more meaning focused (e.g., focusing on fluency and content as opposed to focusing on grammatical errors only; Nordin, Halib, Ghazali, & Ali, 2010). Lastly, the use of automated *feedback\** has also shown potential for enabling instructors to address the higher-level writing concerns of their students by providing additional types of feedback including content-related feedback (Chen & Cheng, 2008; Grimes & Warschauer, 2010).

**For more details of this summary, see the Full Description of the Research Foundation.**

\* represents a Criterion component included in the diagram (i.e., *planning tools, prompts, feedback, scores, etc.*)

# ETS's *Criterion*<sup>®</sup> Online Writing Evaluation Service: Information for International K–12 Schools and Higher Education Institutions: Full Description of the Research Foundation

For each hypothesis, three pieces of information are presented: (a) specific research that supports how the product may lead to the identified outcome, (b) a generalization about the current educational environment and/or the associated issues or challenges, and (c) how the product addresses both the research and the challenges.

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## When nonnative learners of English are provided with automated *feedback*\* from a computer, instructors can assign more writing tasks

While a number of studies have been conducted to examine the automated feedback features of various automated writing evaluation (AWE) systems as they relate to the needs of nonnative learners of English, little to no research has specifically examined how the use of these systems impacts the assignment of writing tasks by instructors who are nonnative learners of English. However, interest in this area of research is fueled in part by the acknowledgment that many of these instructors are burdened by heavy workloads as they routinely struggle to find ways to provide both useful and timely feedback to ever increasing numbers of students seeking to develop their English writing skills.

In a **research** study examining the grammar feedback generated by two AWE systems (The *Criterion* service and a second program), Chen et al. (2009) noted both the increasing demand to improve the writing of nonnative learners of English, as well as the challenges nonnative learners of English instructors face trying to find adequate time to provide feedback on student writing given their heavy workloads. The study involved analysis of Taiwanese student essays automatically graded by one of two AWE systems (n = 119 and 150, respectively). The researchers randomly selected essays and studied various error feedback data finding that both programs can provide roughly 30 differing types of feedback messages. While the researchers identified numerous limitations, including a variety of areas where improvements in these systems were needed to address nonnative learners of English populations, they noted in their conclusion: “The new AWE systems have great potential to alleviate some of the workload on writing instructors as well as provide students more opportunities for writing” (p. 35–36). However, “language teachers should not assume that AWE systems can, or will, replace human teachers . . . only writing teachers and tutors can provide valuable suggestions to individual students” (p. 37–38).

Similarly, in a study specifically examining the strengths and limitations of the *Criterion* service’s automated feedback features for nonnative learners of English in a Korean university, Kim (2011) also noted the demands placed on instructors to provide feedback to large numbers of nonnative learners of English students in a timely manner. The study involved analysis of 129 essays that received automated *feedback*\* using this service. Although this study focused on a detailed analysis of the feedback generated by the *Criterion* service, it also suggested areas for improvements to better address the specific needs of nonnative learners of English writers. Kim concluded that the *Criterion* service “provides very speedy, automatic feedback for countless writings simultaneously, which is impossible for writing teachers, making it possible to relieve them of an enormous and stressful workload to provide feedback for each student’s writing” (p. 133). But, “teacher’s hands could not be absolutely replaced by an even state-of-the-art technology” (p. 134–135).

\* represents a Criterion component included in the diagram (i.e., planning tools, prompts, feedback, scores, etc.)



Grimes and Warschauer (2010) examined the use of an AWE system in eight U.S. middle schools, some of which included students who were nonnative learners of English. This three-year, mixed methods, embedded case study included the collection of data from classrooms that served a number of nonnative learners of English students from Southern California. Focusing on instructor and student attitudes associated with the use of one particular AWE system, researchers found it freed up instructor time and increased student motivation to write and revise. The researchers attributed this increased motivation to write to student preferences for receiving immediate automated *scores\** of their essays instead of waiting for extended periods of time to receive instructor feedback. Finally, this study found that the AWE system saved instructors time. Instructor survey responses to “saves me time” had a mean score of 4.10 on a 5-point scale (5 is *strongly agree*).

While these studies did not specifically examine the extent to which the use of automated *feedback\** increases the frequency with which writing tasks are assigned, this research does lend support to the notion that the quality of the feedback provided by automated scoring systems has the potential to save instructors time in some instances. Additionally, while these studies do not provide clear evidence that a reduction in instructor workload will lead to the assignment of additional writing tasks, the researchers’ conclusions about the potential of AWE systems to reduce instructor workload lend support to the notion that as instructors’ time is freed up they can attend to additional writing instruction and activities that in turn may provide more opportunities for students to engage in additional writing tasks.

In general, a growing body of literature is emerging to investigate the use of computerized, automated writing feedback with nonnative learners of English, including the burden many nonnative learners of English instructors face in providing detailed feedback. Given time constraints, and in the absence of an AWE system, it is often unrealistic for instructors to provide detailed feedback on every writing assignment, therefore the number of writing opportunities that can be assigned may be limited.

The *Criterion* service provides individualized *feedback\** and instant *holistic scores\** within 20 seconds to help nonnative learners of English reflect upon their writing. The service provides essay *prompts\** developed specifically for this population, with 170 essay topics available for use with beginning writers. Instructors can also view multiple *reports\** (e.g., submitted essays, student reports, class reports, etc.). With the quick turnaround provided by *Criterion*, more writing tasks can be assigned.



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## When nonnative learners of English complete more writing tasks more often, writing skills improve

Research by Ebyary and Wendeatt (2010) investigated the impact of computer-based *feedback*\* on nonnative learners of English writing using the *Criterion* service. A group of 24 Egyptian instructor trainees who were preparing to teach nonnative learners of English used *Criterion* to write and revise essays on four separate topics over an eight-week period. Reviewing data provided by the system, researchers found that the quality of trainees' final submissions showed improvements over essays completed earlier in the study. When comparing the *holistic scores*\* of the first and fourth essays the researchers found that only 8.6 percent of the trainees' first essays obtained a holistic score of 5 or 6 (*doing fine*) compared to 77.2 percent by the end of the fourth essay suggesting a noticeable improvement in student writing.

In a study investigating the use of scaffolding to improve the writing skills of three nonnative learners of English undergraduate students studying at a Malaysian college, Veerappan et al. (2011) observed notable improvements in the written journal entries of the students in this study after five weeks. The writing intervention included the use of daily journal writing, instructions on journal writing, and various interactive writing techniques. The students submitted a total of seven entries but had more opportunities to write throughout the intervention as students submitted drafts for feedback and revised their work. A comparison of journal entries from Weeks 1 and 5 indicated improvements in areas of grammar, sentence structure, punctuation, spelling, and overall coherence as well as their ability to relate their ideas in writing. While this study provides very limited support for this claim given it only examines improvements in the writing of three students, the researchers' focus on daily writing over a five-week period and documented improvements in student writing between Weeks 1 and 5 lend support to the assertion that as nonnative learners of English have more opportunities to write, their writing skills improve.

**In general**, nonnative learners of English need practice and opportunities for their writing to grow and develop. However, they are unlikely to practice unless a formal writing assignment is given.

The *Criterion* service provides nonnative learners of English with increased opportunities for writing practice and evaluation. In addition to a large library of essay *prompts*\*, the Text Editor feature includes short writing assignments (paragraphs) and journaling and provides feedback (no scores) in four trait areas.



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## When nonnative learners of English are provided with prewriting strategies and materials (e.g., online *planning tools*\*), they complete prewriting activities

**Research** by Sun (2007) examined the use of an online template by 20 nonnative learners of English graduate students enrolled in a course on academic writing in Taiwan. Data included surveys designed to elicit student attitudes about the writing tool. This template scaffolds academic writing and includes an information-template and language-template support. Students are aided during both their prewriting and writing stages by the information template, which matches the paper outline in the paper-writing zone. The graduate students responded to a 17-item, 5-point Likert-scale survey that inquired about varying aspects such as the system's helpfulness as a writing aid and the possibility of future usage. Results showed that students found the tool to be beneficial for scholarly writing and would use it again in the future.

Bailey (1993) investigated the use of a variety of prewriting techniques by nonnative learners of English participating in a freshman composition class. One focus of the study examined whether students would choose to use prewriting strategies when not required by their instructor; to examine this, Bailey collected writing samples that had been assigned to 11 students (eight of whom were Japanese) as part of their coursework. After receiving preliminary training on a number of prewriting techniques, which included free-writing, brainstorming/listing, grouping, and clustering, students were required to choose two techniques during the drafting of their first essay. During the drafting of their second and third essays students were not required to employ any prewriting strategies. Analyzing the second and third essays, Bailey found all of the students still engaged in some type of prewriting with the majority using more than one type of strategy. While this study did not involve the use of online planning templates, it did specifically examine the use of prewriting techniques for nonnative learners of English learning to write in English.

**In general**, nonnative learners of English need ongoing guidance to help them effectively plan their writing. Providing prewriting tools encourages them to plan before they write and helps them to organize their writing.

The *Criterion* service provides a variety of *planning tools*\* that can be used to assist with the organization and planning of a piece of writing. Eight prewriting templates are provided to help nonnative learners of English write more clearly. Instructors can assign a template or allow students to choose their own. Students can copy the text from their prewriting directly into the essay they start.



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## When nonnative learners of English are presented with increased prewriting opportunities, their writing improves

As part of a **research** study examining cognitive task complexity on nonnative learners of English writing, Farahani and Meraji (2011) studied the impact of four conditions involving the use or absence of pretask planning time and access to a series of 12 picture strips (prompts) during the writing task. One hundred twenty-three Iranian intermediate nonnative learners of English ranging in age from 18 to 45 were placed in one of four conditions designed to study the interplay between pretask planning and immediacy on written output/performance. In all four conditions students were given 14 minutes to perform a writing task based on one of two prompt conditions (present and past tense) aligned with the picture strips. However in two of the conditions students had 10 additional minutes to plan before engaging in the writing task while two other groups of students only had 50 seconds of pre-task planning time. Examining a number of aspects of written production, the researchers found pre-task planning positively impacted a number of features such as grammatical accuracy, syntactic complexity, and fluency. Although there was a small effect size, results indicated that only pre-task planning significantly supported grammatical accuracy. However a much larger effect size tied to syntactic complexity indicated that students engaged in pretask planning had more complex discourse when compared to their peers who did not have the opportunity to engage in any prewriting activity. Finally, measures of fluency revealed pre-task planners produced longer texts with decreased instances of dysfluencies (corrected or changed text).

In a similar study that examined various planning conditions on nonnative learners of English written narratives, Ellis and Yuan (2004) found positive impacts on both the quality and quantity of writers who engaged in pretask planning. Forty-two undergraduate Chinese nonnative learners of English were divided into three groups of 14 and then placed within one of three conditions: no planning, pre-task planning, or online planning (within-task planning). Results indicated that the written narratives of those who engaged in pretask planning had increased fluency, fewer dysfluencies, and marked increases in syntactic complexity and variety.

Research by Liu (2011) examined the impacts on the writing performance of nonnative learners of English students who used computerized concept maps when engaging in prewriting over a nine-week period. During the prewriting planning phase of writing for three writing assignments, 94 Taiwanese university students of varying writing proficiency levels (high, middle, or low level) took part in three treatment scenarios: no mapping, individual computerized mapping, and cooperative computerized mapping (where multiple students work on a group map together rather than individually). The study utilized a concept mapping software system as well as a scoring system that examined features such as inclusion of a meaningful topic, hierarchical levels, links, and examples within a concept map. A writing rubric was used to assess the quality of five categories within the student writing samples: communicative quality, organization, argumentation, linguistic accuracy, and linguistic appropriacy. Results indicated positive impacts on student writing when students used computerized concept mapping during the prewriting planning phase of an assignment as compared to no mapping. Additionally, when specifically examining the impacts resulting from the individual mapping treatment, the researchers found all three proficiency levels outperformed the no-mapping treatment.

**In general**, when nonnative learners of English are provided with effective planning tools they are more likely to organize their thoughts and their essays ahead of time, which leads to a higher-quality writing performance.

The *Criterion* service provides *planning tools*\* that include templates for the following: free writing, which allow nonnative learners of English to jot down random ideas; lists, which allow them to list specific ideas for their essay; traditional outline with main and supporting ideas; more sophisticated templates such as the idea tree and idea web; and three templates for different modes of writing, including compare and contrast, cause and effect, or persuasive writing. These templates provide the diverse tools needed to cater to individual approaches to planning and writing, which help to build a repertoire of writing strategies for nonnative learners of English.

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## When nonnative learners of English receive immediate *feedback\** and have access to *supporting resources\**; they are more likely to make revisions to their essay

**Research** suggests that giving nonnative learners of English feedback results in more revisions to their writing. Ebyary and Wendeatt (2010) investigated the impact of computer-based *feedback\** (CBF) on nonnative learners of English writing using the Criterion service. To better understand the role instructor feedback plays in student writing and student attitudes toward the use of computerized feedback, qualitative and quantitative data about feedback practice, including pre- and post-treatment questionnaires, were collected from 24 trainees at an Egyptian university who were preparing to teach nonnative learners of English. The trainees used the *Criterion* service to write and revise essays on four separate topics over an eight-week period, receiving CBF between Drafts 1 and 2 of each essay. Results indicated that the *Criterion* service effectively encourages students to make revisions to their essays across all four essay assignments. Furthermore the researchers noted a resubmission rate of 100 percent. This finding is significant given that pretreatment data suggested that the students rarely produced revised versions of essays before this intervention.

Fang (2010) examined student perceptions on using computer-mediated feedback for the revision of essays and skill development of writers who are nonnative learners of English. Forty-five Mandarin-speaking Taiwanese college students enrolled in an intermediate English writing course used a computer-assisted writing program as part of a composition class. Using a mixed methods design, Fang analyzed data from both surveys ( $n = 45$ ) and follow up interviews ( $n = 9$ ). The survey comprised 23 questions and was divided into two sections with one section focused on eliciting student perceptions around using this program. Three questions focused on student responses to using this program as a writing tool, specifically inquiring about student plans to read automated feedback, correct grammar, and revise essays after using specific features of the program. Survey data revealed that the majority of students would either revise their essays according to all or part of the automated feedback they received with only one student reporting that s/he would ignore the computer-generated feedback.

**In general**, when nonnative learners of English receive timely feedback and are given the opportunity to revise their writing, they are more likely to use the feedback to make revisions.

The *Criterion* service provides instant *holistic scores\** on writing as well as offers nonnative learners of English and their instructors individualized, annotated diagnostic *feedback\** on each essay and each revision that the students submit, specifically in the areas of organization and development; style; and grammar, usage, and mechanics. Also provided are free online *supporting resources\** like an English Language Learner writer and bilingual handbooks that help nonnative learners of English translate and interpret feedback and provide strategies for improving their skills. A dictionary and thesaurus are also available. Use of these resources allows nonnative learners of English to increase their linguistic competence based on the specific suggestions provided in the usage feedback. Additionally, by having access to sample student essays, nonnative learners of English can gain knowledge of academic English-writing style.



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## When nonnative learners of English make more revisions to their essays, their writing skills improve

Research by Lee (2006) examined the effects of a process-oriented nonnative speaker of English writing assessment used at a major U.S. university specifically focusing on the level of revision employed by students and changes between first and second drafts. One hundred graduate students (with the majority's first language being Chinese, Korean, or Spanish) engaged in a daylong writing assessment. Based on a process-oriented approach to writing, students received structured peer feedback and then spent up to 50 minutes revising their initial essay in Microsoft Word using the copy and paste functions. Focusing on the level of revision between Drafts 1 and 2, Lee examined the changes made between drafts using the Track Changes function in Microsoft Word. Overall, holistic scores revealed that second drafts were better than first drafts (second drafts of 58 essays scored were on average 0.293 higher than first drafts). Similarly, analytic scores on second drafts were higher than first drafts. Additionally, quantitative analysis showed that second drafts contained more words and complex sentences than first drafts. Finally, evidence that second drafts were more coherent and organized was attributed in part to students' ability to attend to paragraph and sentence level revisions that impacted the content and organization of the entire essay as well as revisions at the word or mechanics level of revision.

Ebyary and Wendeatt (2010) investigated the impact of computer-based *feedback\** on nonnative learners of English writing using the *Criterion* service. A group of 24 instructor trainees who were preparing to teach nonnative learners of English used this writing service to write and revise essays on four separate topics over an eight-week period. Reviewing data provided by the *Criterion* service, researchers found that the quality of students' second drafts showed improvements over initial drafts; particularly, researchers noted that the number of errors found in various categories assessed by the *Criterion* service tended to decrease in the second drafts of essays.

**In general**, the more revisions nonnative learners of English make, the better their writing. However, most instructors are unable to provide feedback on multiple drafts for every assignment, which may limit the number of revisions they make.

The *Criterion* service provides individualized *feedback\** to help nonnative learners of English reflect on their own writing, giving them the opportunity to revise and resubmit their writing for further evaluation. The Trait Feedback Analysis given provides both a summary and an in-depth analysis of errors in an effort to pinpoint specific areas that require attention. Also provided is a 6-point scoring guide which allows nonnative English learners to review the evaluation criteria at each score point.



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## When nonnative learners of English are provided with automated *feedback\** from a computer, instructors can focus on and provide additional feedback including content-related feedback

**Research** by Grimes and Warschauer (2010) examined the use of an AWE system in eight U.S. middle schools, some of which included students who were nonnative learners of English. This three-year, mixed methods, embedded case study included the collection of data from classrooms that served a number of nonnative learners of English from Southern California. Researchers found that the AWE system helped instructors attend to other aspects of student writing rather than solely on mechanics. Instructor survey responses to the item stem “lets me focus on higher concerns of writing instead of mechanics” had a mean score of 3.51 on a 5-point scale (where 5 is *strongly agree*). At the conclusion of this study, which examined a variety of impacts tied to instructor and student attitudes and use of the AWE system, researchers found “that mindful use of AWE can allow teachers to focus on higher-level concerns instead of writing mechanics” (p. 34).

In a study examining student perceptions on the effectiveness of an AWE system in one of three pedagogical conditions, Chen and Cheng (2008) found students in one of the conditions preferred the combination of AWE during the initial phases of writing and revising a text followed by instructor feedback that addressed higher-level writing concerns such as form and meaning. This study examined the implementation of one specific AWE system in three writing classes for nonnative learners of English at a college in Taiwan. Each class (A, B, and C) implemented the system for one semester, however each varied in purpose, ways and duration of use, grading, incorporation of human feedback, and number of written essays using the system. Fifty-three Taiwanese college English majors participated in one of the three classrooms. Data derived from interviews, surveys, writing samples, and automated feedback revealed that overall the use of AWE in these contexts was not viewed positively. However, evidence suggests that student dissatisfaction may have been influenced to a larger degree by the implementations of the AWE system. In their conclusion the researchers noted the need for the development of effective pedagogical practices when using AWE systems given that instructor attitudes toward AWE systems and technological skills as well as various conditions tied to learners can impact the effectiveness of an AWE system.

**In general**, writing can be improved through the provision of feedback related to the content and the grammatical features of the writing. This can be achieved through the combination of automated and instructor initiated feedback. Automated writing evaluation systems can provide feedback on the majority of errors related to mechanics, allowing motivated instructors more time to focus on the provision of feedback related to the content of the writing.

The *Criterion* service provides nonnative learners of English with instant, individualized *feedback\** on a number of errors, which gives instructors the time and attention to focus on providing content-related feedback and spend more time working with them on higher-level writing skills. The *Criterion* service allows instructors to gauge their class’s essay-writing skills online, generate a variety of *reports\**, and adjust their instruction accordingly.



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## When nonnative learners of English receive meaningful, content-related feedback on their assignments from their instructors, writing skills improve

In a research study investigating the impact of varying forms of feedback on nonnative learners of English written compositions, Mikume and Oyoo (2010) found improvements in student writing of English after receiving an intervention that included content-related feedback and individual conferencing sessions designed to focus on that feedback. This action research study focused on four high school students and their instructor in a Tanzanian class. Various feedback strategies were introduced during one of three cycles during the intervention phase of this study. In Cycle 1, errors involving spelling and punctuation were underlined or coded, while written comments were used to address the content and organizational aspects of a composition drawing attention to strengths or areas of concern within the student's writing. Additionally, when the student conferenced with the instructor, a peer or a researcher was also present to discuss the content-related written feedback. In Cycle 3, the intervention focused on expanding on the feedback provided during conferencing by encouraging critical thinking when reviewing and revising writing compositions. Qualitative data in the form of interviews, observations, feedback exit slips and document analysis was collected at different stages throughout the intervention. By the end of the final phase of this study the researchers found both the ability to construct a coherent argument and write an introduction in many compositions had improved. Furthermore the researchers noted a reduction in grammatical errors and a shift in students' attention from a primary concern with those errors to those that involved the content and organization of their essays.

Storch and Tapper (2009) examined an English for Academic Purposes (EAP) course at an Australian university, which was specifically designed for international postgraduate students attempting to improve their academic writing in English. Sixty-nine students took part in the course and research study. The central focus of the course is focusing student attention on structure, accuracy, and academic writing through course materials, assigned tasks, and feedback. As part of the course, students write a draft that is submitted to their instructor for feedback. Feedback provided on student drafts focused on content-related items such as structure and language. Additionally, as part of the seminar tasks, students engaged in activities such as text analysis — analyzing texts for structure, language, and content. In-class writing tasks were collected from the students at the beginning and end of the semester along with a brief survey to assess student perceptions of the course as a tool to help their academic writing. Texts were analyzed for language use, structure, and rhetorical quality. Results from this study showed improvements in the writing of all 69 students in one or more areas such as accuracy (a reduction in 17 error categories), use of academic vocabulary (increased and appropriate use of words from the Academic Word List), and structure (clearer thesis statements, restructuring of paragraphs, and links between paragraphs and conclusions). In their concluding remarks, the authors of this study emphasized the important role feedback (which is systematic, focused on language matters, and applied to writing deemed relevant to the learner) plays within the EAP arena.



\* represents a Criterion component included in the diagram (i.e., planning tools, prompts, feedback, scores, etc.)

Nordin et al. (2010) conducted a study to investigate student perceptions of an instructor-written feedback process that synthesized two established approaches: meaning-focused feedback (which concentrates on fluency and content) and form-focused feedback (which concentrates on grammar and overall accuracy). Sixty-nine nonnative learners of English at a Malaysian university took part in this study. The participants produced two texts over a two-month period that revolved around technical and professional writing and then completed a post treatment survey to assess their perceptions of the impact the intervention had on their writing ability and skills. The texts either had to be formatted as a set of instructions or as recommendation reports, and students were required to address the format, purpose, tone, and content of their texts. In the course of this study, the participants received both peer and instructor feedback on their initial drafts and then revised their texts based on that feedback. The feedback not only addressed grammar and accuracy but content and fluency as well. A 6-point scale was used to survey participants' perceptions of the feedback; most relevant were questions focused on the perceived impact of the feedback on writing. The results of the survey indicated that the participants felt the feedback made them better writers and effectively improved their writing.

**In general**, when nonnative learners of English are given opportunities to interact with others regarding their writing, the overall quality of their writing improves. However, instructors are often unable to create these interactions due to large class sizes, a packed curriculum, and other school factors.

The *Criterion* service provides instant *holistic scores\** and *feedback\** on grammar, usage, mechanics, style, and organization and development, thereby allowing instructors to focus on providing feedback about content, to discuss writing in depth, and to provide direct guidance in the critical stages of the writing and revising processes. While the *Criterion* service supports all stages of nonnative learners of English writing, the service does not grade essay content and cannot take the place of instructor teaching and feedback.



\* represents a Criterion component included in the diagram (i.e., planning tools, prompts, feedback, scores, etc.)

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# Notes

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