

Toward Pedagogically-Informed Automated Writing Feedback for Language Learners

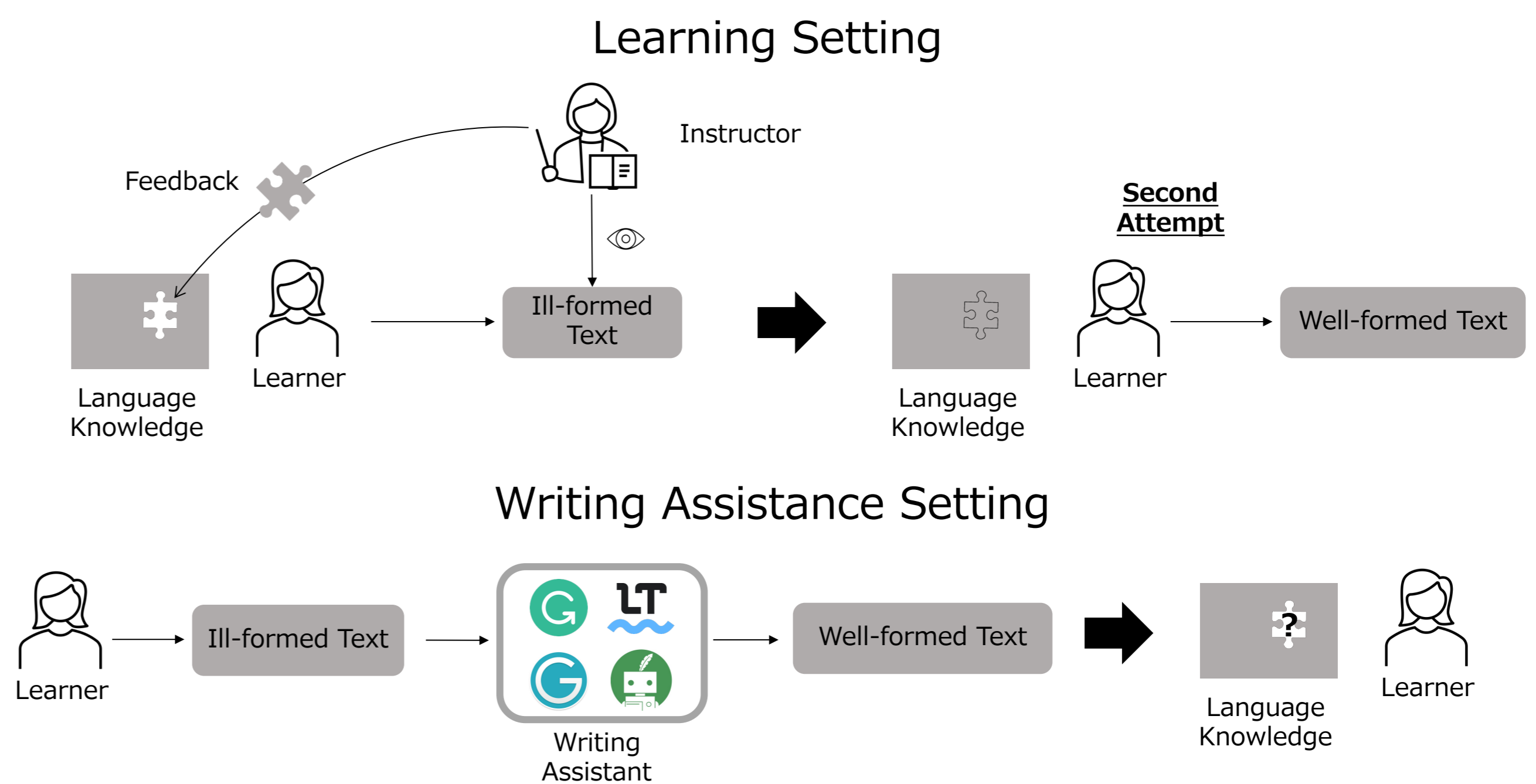
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Summary

- **Writing in the target language** is an important part of language education.
- Learners benefit from feedback on their errors, but this feedback is labor-intensive.
- We annotate a learner writing corpus to enable **better-targeted AI feedback comments**.
- Errors are labeled by **pedagogical feedback point** and **whether they rely on a grammatical rule**.
- We add example comments labeled as either **hints** or **direct corrections**.

Background

- Learners benefit from elaborated and specific formative feedback.
- Teachers can identify knowledge gaps and address them with strategic hints.
- AI writing assistants provide direct, "one-click" corrections for all errors.
- What if a tool worked similarly but gave more teacher-like feedback?



Factors of Feedback

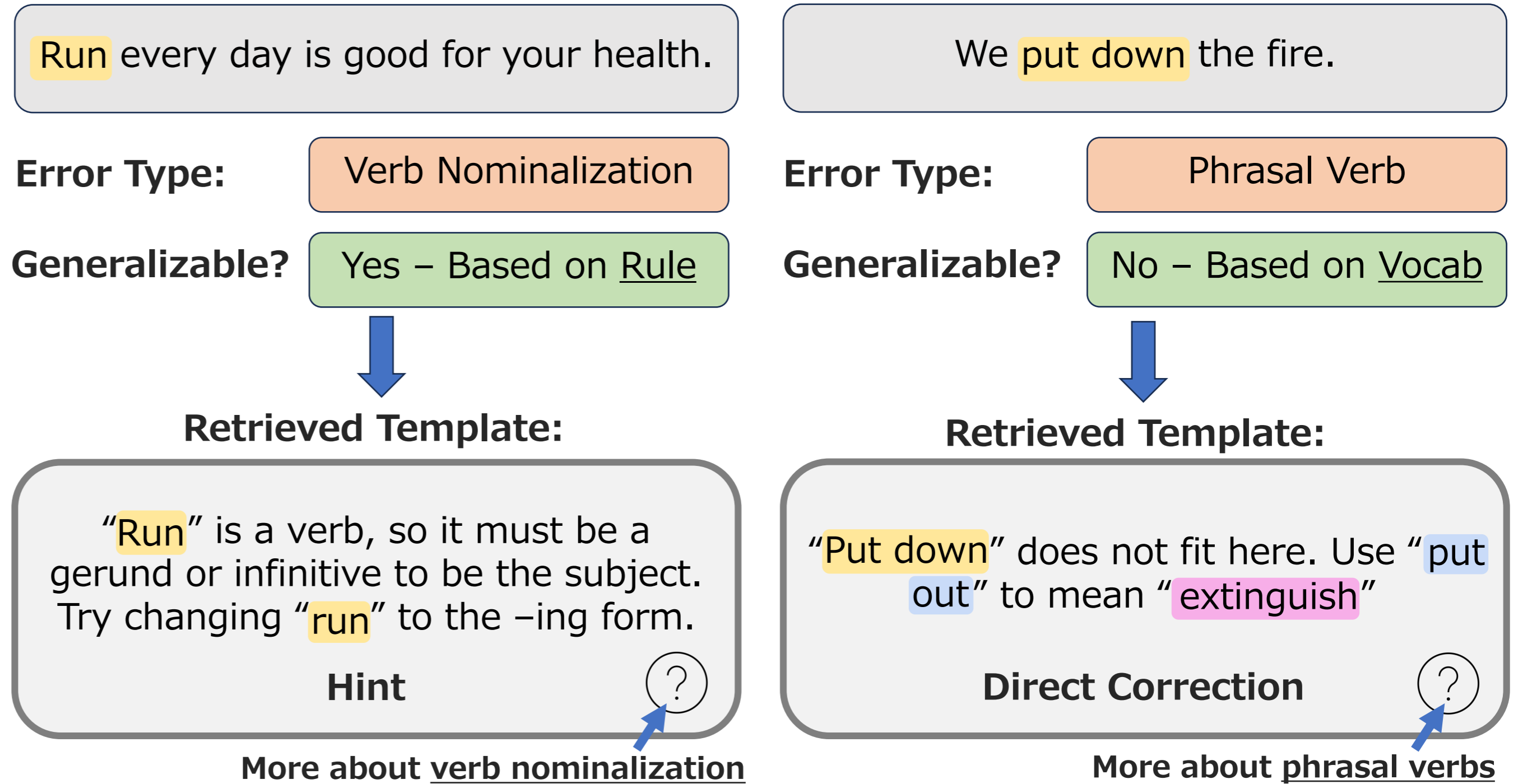
What Teachers Consider

- Setting Factors
- Task Factors
- Error Type In our data
- Generalizable Rule? Future work
- Learner Level Future work

Impact on Feedback

- Directness In our data
- What to review/link Future work
- Complexity Level Future work

Approach: Decide feedback based on error type and grammatical generalizability:



Annotation Process

- Existing grammatical error typologies are not suited for the error-to-feedback task, so we define our own.
- Carefully developing annotation guidelines with pilot annotators (100+ pages, including examples).
- We collect a mix of categorical and span annotations plus example feedback comments for all errors.
- Planning to publicly release the dataset, annotation guidelines, and custom annotation interface tool.

- Relative Clause
- Result Clause
- Subject-Verb Agreement
- Tense: Continuous Aspect
- Tense: Future Formation
- Tense: Past Formation
- Tense: Perfect
- Tense: Tense Choice
- That Clause
- Verb Nominalization
- Word Order
- Punctuation, Spelling, and Me...
- Capitalization
- Colons
- Commas
- Contractions
- Parentheses
- Semicolon

Tense: Perfect

Issues with perfect tenses, such as "have ever/have never" constructions.

Includes past, present, and future perfect formation issues.

Examples:

Omission of have/has:
 incorrect: I never eaten Thai curry.
 correct: I **have** never eaten Thai curry.
 error_tag: "Tense: Perfect"
 feedback_explanation: When describing experiences or whether something ever happened, use the present perfect tense (have/has + past participle of the verb).
 feedback_suggestion: Add "have" before "eaten" to form the present perfect here.

Incorrect formation of a verb in a perfect:
 incorrect: She **has** play basketball for ten years.
 correct: She has **played** basketball for ten years.
 error_tag: "Tense: Perfect"
 feedback_explanation: When you talk about something that started in the past and continues until now, use the present perfect tense (have/has + past participle of the verb).
 feedback_suggestion: Change "play" to the past participle to form the present perfect here.

Exceptions: