Complexity, Accuracy, Fluency:
A New Paradigm for Language Education and Cross-Cultural Communication

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Introduction

The question of this (ongoing) research is: can we help language learners (L2 learners) to become more proficient on the basis of the CAF construct (Complexity, Accuracy, Fluency)?

Background

The notion of what it means to be proficient in a language has advanced significantly in recent years, with L2 proficiency seen not as a unitary construct but rather multi-componential and captured by notions of complexity, accuracy and fluency (Housen, Kuiken, and Vetter, 2012). As the simplest level, complexity is characterized as the ability to use a wide and varied range of sophisticated structures and vocabulary in the L2, accuracy as the ability to produce target-like and error-free language, and fluency as the ability to produce the L2 with native-like rapidity, pausing, hesitation, or reformulation (cf. Ellis, 2003, 2008; Ellis & Barkhuizen, 2005; Lennon, 1990). With the cognitive turn in L2 research, the status of CAF as principal and distinct dimensions of L2 performance and proficiency has now been justified both theoretically and empirically. However, the CAF construct has largely been used in L2 instructional settings as a language-performance assessment tool, a means of assessing a learner's language ability or improvement, rather than in a manner that can be considered "instructional."

There are many debates about the fundamental conceptualizations of complexity, accuracy and fluency, both separately and in combination and many research-related questions remain problematic. The questions regarding CAF that Housen, Kuiken, and Vetter (2012) identify include:

(1) the definition of complexity, accuracy and fluency conceptualized and defined as scientific constructs;
(2) the nature of the linguistic correlates and cognitive underpinnings of CAF;
(3) the connections and interdependency of CAF in both L2 performance and L2 development;
(4) the empirical operationalization and measurement of CAF; and
(5) the factors that affect the manifestation and development of CAF in L2 use and learning.

While these are important questions, this paper takes the position that the conceptualization of a combinative model of complexity, accuracy and fluency is most meaningful when organized and applied in a means that both contributes to language development in an instructional paradigm while also guiding effective communication. This is a reflection of the potential found in theoretical claims regarding the major states of change in the L2 system that accompany increasingly adept manipulation of CAF as found in internalization, modification and proceduralization. Internalization of new and more L2 elements means that more elaborate and more sophisticated L2 knowledge systems are developed, contributing to complexity. Modification of L2 knowledge implies that learners restructure and fine-tune their L2 knowledge, meaning that they become not only more complex, but also more accurate. Finally, proceduralization of L2 knowledge—which is to say routinization, lexicalization and automatization—leads to greater performance control

and fluency.

Definitions and Relevant Constructs

Complexity as a notion has been used in reference to two different notions: linguistic complexity and cognitive complexity. Linguistic complexity is an objective given, independent from the learner and referring to the intrinsic formal or semantic-functional properties of the L2 elements (forms, meanings, and form-meaning mappings). Cognitive complexity is relative and subjective, referring to the difficulty with which language elements are processed during L2 learning and L2 performance, as determined in part by the teaching approaches and the learners' individual background. Accuracy, or correctness, refers to the extent to which an L2 learner's performance (and the L2 system that underlies this performance) deviates from a norm (usually the native speaker) (Hammerly, 1990; Wolfe-Quintero et al., 1998). Such deviations have been traditionally labeled 'errors.' Questions include the nature of the error and the criteria for evaluating accuracy and identifying deviations. Therefore, Housen, Kuiken, and Vetter (2012) argue that accuracy should be interpreted narrowly on the one hand and incorporate aspects of (contextual) appropriateness and (situational) acceptability on the other. Fluency has been used to refer to a user's global language proficiency, particularly in terms of ease, eloquence, 'smoothness' and native-likeness of speech or writing. A multi-dimensional definition of fluency would also include: speed fluency (rate and density of linguistic units), breakdown fluency (the number, length and local of pauses), and repair fluency (the false starts, misformulations, self-corrections and repetitions). In this sense, fluency is usually viewed solely as a phonological element (as opposed to including lexical, morphological, syntactic, socio-pragmatic, etc.).

The question is how these three components operate together in the area of communicative language production is also important. Two major models have been offered to explain the cognitive, linguistic and psycholinguistic aspects of CAF, based on the role of attention, working memory, automatization, reasoning and other cognitive processing mechanisms. The Limited Attentional Capacity Model (Skehan, 1998) argues that humans have a limited information processing capability and L2 users must therefore prioritize allocation of attentional resources during task performance; attention focused on one area of CAF will lead to a loss in other areas – a 'trade-off' model. In contrast, the Multiple Resources Attentional Model (Robinson, 2001, 2005) assumes no such limits. Rather, users draw on multiple attention pools simultaneously and therefore L2 complexity and L2 accuracy combine and act together – a 'rich get richer' model.

The factors that affect CAF are linguistically internal and external. Internal linguistic factors include: linguistic features (items, patterns, constructions, rules that control or influence various forms of syntactic linking or multi-word constructions and so on). External factors include: learner variables (extraversion or anxiety, socio-affective factors such as motivation, cognitive factors such as aptitude); type of pedagogic intervention (explicit versus implicit instruction, different types of feedback) and other contextual factors. Of particular interest is task variables, such as the conditions under which the task was performed (monologic, dialogic, multilogic, oral or written, task objective and task complexity). Robinson (2005) outlines cognitive resource-directing versus resource-dispersing in such elements as amount of planning

time, reference to ‘here and now’ versus ‘there and then.’ The sheer number of CAF measures available is thus daunting and reflects the lack of consensus on how complexity, accuracy and fluency are defined as constructs. Moreover, questions arise as to computation of CAF metrics and their reliability and validity, as well as comparability, both in terms of measures of performance and development. Norris and Ortega (2009) have called for more organic and sustainable measurement practices and Ortega and Iberri-Shea (2005) pointed to very little longitudinal research – to which might be added approaches that are more instructional. Vercellotti (2012) found that development in an instructed environment yielded similar growth trajectories regardless of differences in starting points.

In terms of learner development, a possible scenario has been offered in the following cyclical overall development sequence: complexity > accuracy > fluency. The internalization of more complex structures leaders to more complex interlanguage systems – resulting in greater complexity, followed by modification of the internalized structures – leading to greater accuracy, and finally, the development of performance control – resulting in more fluency. However, this is intuitive, speculative and likely simplistic.

The Present Research

Language proficiency and effective communication, whether as L1 or L2, is multi-componential, manifest in the complexity of content, the accuracy of language and the fluency of communication. It is in the simultaneous regulation and variation of these three components that we provide for different combinations of concentration and focus on content, language and communication, respectively. This paper will define these three fundamental concepts independently and then consider them in combination, contrasting the normative ideal circumstance of high content complexity, high language accuracy and high communicative fluency with various scenarios that necessitate and accommodate different complexity-accuracy-fluency combinations, whether by design or by limitation. It is in this recognition of the variability of communication scenarios that both users and learners can better their communicative use of language, whether as L1 or L2, in its fullest capacity.

While based in an EFL/TEFL environment (Japan), this paper also speaks to the conference sub-themes as well. In terms of identity, language is a significant component of identity for both of L1 language speakers and L2 language learners. In terms of construction of knowledge, the research relates to understanding how knowledge is constructed by a speaker both in its purely linguistic form and through the challenge of communicative exchange. Finally, in terms of transformation, the research accepts the premise of multiple global ‘Englishes’ as well as cultural patterns of communication that act as factors in social and political development.

In the present Instructional Design, operationalization of CAF follows introduction and familiarization (internalization, modification, consolidation and proceduralization) of content through a ‘text.’ The CAF model is expanded to include ‘content complexity,’ ‘language complexity,’ ‘language accuracy’ and ‘various fluencies,’ as below.

The ‘Complexity of Original Content’ is composed of ‘Content Complexity’ in which

the TOPIC and TEXT can have either high complexity (e.g. nuclear power generation or globalization and free trade) or low complexity (e.g. school uniforms or vacation plans. The 'Complexity of the Language' reflects the TOPIC and TEXT in either high complexity (e.g. nuclear power as a highly technical topic or multiple justifications for company uniforms) versus low complexity (e.g. nuclear power explained simply or the relatively transparent reasons I liked my school uniform). The 'Accuracy of the Language' is similar to the 'Complexity of the Language and relatively straightforward in TOPIC and TEXT in communicative transformations from complex source to complex communication (e.g. nuclear power: technical source and technical explanation) and from complex source to simple communication (e.g. nuclear power: technical source but simple explanation). Finally, the 'Fluency of Delivery' reflects, for example, variations in 'Time,' usually in the form of limited preparation time versus abundant preparation time or limited presentation time versus unlimited presentation time, 'Objective,' as in an overview versus a more detailed view, and finally, in 'Sociality,' as in smooth and eloquent or very clear and highly articulated.

The Research

Objective: identify general instructional activities that combine a 'text' with 'communication of text content' and will provide for 'experiencing / experimenting' with CAF. Multiple and variable CAF activities were undertaken across different classes (five classes; N from 12 to 35 students) over the course of a university academic term. Interaction with TEXT versus TOPIC varied extensively and responses were in written form to facilitate high participation and feedback.

The complexity characteristics were a function of the TEXT (use of original vocabulary and structures) and the TOPIC (detail of explanation and language level). The accuracy characteristics were evaluated on the basis of lexical miss-choices and grammatical errors. Fluency characteristics were a function of time limitations in combination with the resulting complexity and accuracy as evaluated by the researcher and complexity, accuracy and fluency on the basis of self-evaluations.

Results Summary

This data collection and assessment scheme is ethnographically rich and includes quantitative assessments and qualitative implications. It is longitudinal and varied in form and practice. It is outcome-oriented as well as instructional.

DATA SET KEY:	
Descriptive Information	1. date/group
	2. Text or *Extended Reading Aloud* (experimental text)
	3. Faculty of Education; General Education
CAF Descriptions	CC: Content Complexity; CL: Language Complexity
	AV: Accuracy: Vocabulary; AG: Accuracy: Grammar
	FTP: Fluency Time Pressure; FTNP: Fluency Time No Pressure
Assessments	tchr (teacher assessed) versus stu (student self-assessed); high, moderate, low

Data Set No. 1

This exercise used *CLIL Global Issues* (Sanshusha), Chapter 4, which focused on

'healthy eating habits.' The activity consisted three steps. The first was listening to a conversation and making notes on the content in Japanese and then rendering these notes in English (a; five minutes). For this section, teacher assessment of complexity, accuracy and fluency was moderate. Then students were allowed to read the transcript of the conversation while listening to it. With the transcript in view, students are again asked to outline the content of the conversation (three minutes). Although all students self-reported that the time constraint was slightly negatively influential, complexity also improved dramatically. The second step of the activity was to allow students to read a long text on the topic written in Japanese. They were then asked to write a brief summary of the main ideas in English (b; 10 minutes), with teacher assessment indicating high content complexity – understandable given that students should have full understanding of the complex content in Japanese – with lower assessments for language complexity and use of accurate vocabulary. Use of a dictionary was inhibited by the time constraint that covered both the reading and the summarizing of the text. The third activity was to read the same text in English, for which a summary was written (c). For this no limit was imposed and the CAF assessments were high (completion was generally 20 minutes). This activity is an example of CAF applied to a multi-modal treatment of content through different communicative genres – a conversation, a Japanese text and an English text. It reveals the power of viewing and the potential for content complexity across languages.

Task	Source	Factors	CAF characteristics
1. summary	a. conversation	a-a. no view	a-a. C mod., A mod., F mod.
5/26	(English; w/transcript)	a-b. with view of text	a-b. C (complexity) improves
FacEd 2	b. Japanese text	b. with view of text	b. CC very high, CL/AV low
	c. same text in English	c. summary 7-12 sent. no time limit	c. all CAF high

Implication: repeated exposure to similar texts improves complexity.

Data Set No. 2

This activity involved the reading of 'content text' by the teacher, with the students imagining retelling the content to a partner. Preparation time was five minutes. Initial student self-assessment was that their content coverage and complexity was high. Further assessment with viewing of the original text revealed to students that their summary was highly original in terms of accuracy to vocabulary and grammar of the 'content text.' This activity is an example of 'content text' introduced orally followed by retelling. It also reveals high originality when focusing on content.

Task	Source	Factors	CAF characteristics
2. story retelling 1	a content story	one oral reading	CC high, but highly original
5/30	(new material;	by teacher	i.e. AV/AG to original text low
FacEd 1	in English)		

Implication: there is tension between complexity of individual expression versus adherence to the vocabulary and patterns of the original text.

Data Set No. 3

This exercise has three summarizing/opinion tasks, allowing students to choose three

different units from the *Extended Reading Aloud* text being used in class and, after having time to read the passages, summarize and offer an opinion on the contents under three different time constraints. For each of the three, students were asked to indicate their 'satisfaction' with content, accuracy (vocabulary and grammar) and fluency (time constraints). The teacher then assessed the summaries/opinions. For the first summary/opinion (five minutes), content was judged 'satisfied' by both students and teacher, accuracy was judged 'satisfactory' by the teacher, and time constraint was not a factor. For the second summary/opinion (three minutes), the levels of 'satisfaction' for content and time constraint decreased, whereas accuracy remained at the level of the first summary/opinion. The third summary/opinion (90 seconds) was a speed test, with students generally 'unsatisfied' about content while the teacher was and students generally 'satisfied' about accuracy while the teacher was not. This activity reveals how students react to different time constraints as a fluency control, with students 'satisfied' with their accuracy across the three time constraints (while the teacher was not) but with 'satisfaction' regarding content decreasing with increasing time constraint on the part of students (but not for the teacher).

Task	Source	Factors	CAF characteristics
3. summary/ opinion 6/6 FacEd 1	choice of text unit *Extended Reading Aloud* (studied content)	3 summaries 3 different time constraints	AG (stu) high both FTNP and FTP for tcher AG low(er) for FTP: stu CC decreases tchr CC mod-high

Implication: time constraints have potential to act as a fluency indicator.

Data Set No. 4

This exercise is similar to that of Data Set No.3, however, undertaken with students in a General Education course and limited to one summarizing/opinion task together with slight changes in the self-assessments. Students were allowed to choose a unit from the *Extended Reading Aloud* text being used in class and, after having time to read the passage, summarize and offer an opinion on the contents. The assessments included 'content complexity satisfaction,' 'time pressure' and 'delivery confidence' (if asked to give an oral presentation using the prepared notes). High 'content complexity satisfaction' was associated with lower 'time pressure' self-assessments and lower 'content complexity satisfaction' was associated with higher 'time pressure' assessments. This confirms the content complexity-fluency relationship. Interestingly, students who self-assessed their content to be high indicated lower confidence in oral delivery and those who self-assessed their content to be low indicated higher confidence in oral delivery, indicative of a self-regulating mechanism regarding the transition from written to spoken performance.

Task	Source	Factors	CAF characteristics
4. summary/ opinion 6/10-11 GenEd 1-2	choice of text unit *Extended Reading Aloud* (studied content)	5 min. preparation with text; 5 min. writing	FTNP=high stu CC (tchr CC high) lower stu CC (tchr agrees) = FTP

Implication: there is a link between complexity and fluency; either both as high or both as low.

Data Set No. 5

This exercise partially repeated that of Data Set No. 1, with a first step consisting of a reading of a highly 'content complex' text in Japanese, with the task being an English summary under no time constraints but a target of 7-12 key sentences. This produced high similarity of content countered by high variability of sentence patterns. The second part of the task was to simultaneously 'listen and read' an English text of the same content, after which students could 'rewrite' their original summaries. This yielded three different revision patterns. The first was a rewriting of the original in terms of content, but with higher focus on accuracy. The second was a reformulation of the original content, with a focus on the complex language of the English text along a focus on the sentence patterns. The third pattern revealed very little revision of the original text, but rather a focus on adding new content, constituting a focus on complex content.

Task	Source	Factors	CAF characteristics
5. summary 6/16 FacEd 2	a. extended Japanese text (high CC): summarize in English	no time limit target: 7-12 sent.	content highly similar, CC high forms varied, CL,AV/AG
	b. same content in Engl. English text-rewritting	no time limit target: 7-12 sent.	three patterns: (1) original rewritten, focus on AG; (2) reformulation same content, focus on CL/AV-AG; (3) additional sentences, focus on CC

Implication: the combination of a Japanese language source (rich comprehension) to an English language summary (with no time limit) yields both content and language complexity.

Data Set No. 6

This activity involved the re-telling of an illustrated children's story after the story had been read aloud to students along with being shown on an OHP projector. The content complexity and language complexity of the story was low and the 're-telling' included preparation of notes and an oral performance. Comparing student self-assessments with teacher assessments, the teacher judged the content complexity of the re-tellings higher than students, meaning that the teacher felt the re-tellings were sufficiently complex whereas students did not. However, on all other assessment criteria (language complexity, accuracy, and fluency: performance smoothness and fluency: speaking clarity) found that students assessed their performances higher than the teacher. This seems to contradict the self-regulation assertion from Data Set No. X above, as students didn't feel their re-tellings were sufficiently complex – whereas the teacher did – while they felt all other aspects were more successful than the teacher's assessment.

Task	Source	Factors	CAF characteristics
6. story retelling 2 6/30 FacEd 2	children's story (in English)	one reading (text+pictures) notes allowed	CC: tchr assess higher than stu for CL/A: tchr assess lower than stu i.e. stu thought their language was better, but their content was worse

Implication: there is potential for student self awareness and self-regulation of a CAF paradigm.

Data Set No. 7

This activity used the class text *Extended Reading Aloud*, with all students using the same unit (Unit 9: *Free Trade and Globalization*). The activity involved a silent reading of the text content, followed by reading aloud by the teacher and a brief overview by the teacher accompanied by outline notes on the classroom blackboard. Students then had ten minutes to summary/opinion of the content; there was no student self-assessment in this activity. The teacher assessed the written responses on the basis of volume (length: number of words and number of sentences) and complexity (number of idea units); notes were also kept regarding clarity of the overall passage. Three 'successful' groups were identified. The first group was a high volume, high content complexity and content language, and high accuracy group: those who could both effectively and accurately combine the passage content with grammatical accuracy. The second group was characterized by moderate volume and content (both complexity and language) with high accuracy. This group was accurate with limited content capability or focus. The final 'successful' group was communicatively successful, but with minimal content and minimal accuracy characteristics. Finally, there was a 'limited' success group, where responses lack content altogether and consisted of opinion statements such as 'I agree with the local farmer.' These groups indicate existence of a 'content focus' group, a 'text focus' group and an 'content-accuracy minimal' group. The 'content focus' group appears to have sufficient CAF capability to generate complex content and opinion while also using text language and ensuring accuracy. The 'text focus' group appears not to be able to generate content complexity, but can use text language and ensure accuracy. The 'content-accuracy minimal' group appears to be able to communicate CAF minimally.

Task	Source	Factors	CAF characteristics
7. summary/ opinion 7/1-2 GenEd 1-2	text unit (same) *Extended Reading Aloud* (studied content)	tchr reading to stu tchr outline provided 10 minutes generally: TPNP	three groups: 1. CC high, CL high/mod, AV/AG high 2. CC mod, CL mod, AV/AG high/mod 3. CC low, CL low, AV/AG mod (4. 'limited success' group)

Implication: there is evidence of three stratified groups in which complexity and accuracy are linked.

Data Set No. 8

This activity also used the text *Extended Reading Aloud* in a three-part exercise, with student self assessments of 'content quality,' 'grammatical accuracy' and 'time pressure fluency.' For the first exercise, a highly familiar and personal topic (*uniforms and school uniforms*) was chosen, but no text review was allowed and five minutes were given for response. For this topic, despite not having access to the original text, volume as assessed by the teacher was high, while students self-assessment of volume was low. However, there was only limited connection to the source language in terms of vocabulary or sentence patterns. This pattern was true both for those who indicated no time pressure as well as those who self-assessed time pressure. Moreover, the level

of grammatical accuracy was moderate to low. The second exercise took up another topic that was fairly familiar and personal (*use of various media as information sources*), again with no text review, but the exercise allowed for a five minute 'preparation' with other students followed by 8 minutes of response time. The text identified and focused on three possible information sources (newspapers, online news sites, blogs) and students self-assessed their content complexity to be moderate to high (an increase over the first exercise), an assessment supported by the teacher. Interestingly, there appeared to be a logical mis-match between complexity and time pressure: those that exhibited high content complexity reported higher time pressure and those with lower content complexity reported lower time pressure. As above, self-assessed accuracy was moderate to low. The third exercise of the activity allowed for a five-minute partner/group preparation using the text on a highly policy technical topic (*who is responsible for protecting the environment: government, business, or individual citizens*) with an eight-minute response time. Three response groups emerged. The first group exhibited high content complexity that was highly original and not based on the text. However, teacher assessment of the accuracy was low. The second group exhibited high content complexity based either on the content of the text or on use of the language and patterns of the text. Students in this group self-assessed the accuracy of their responses as low in accuracy, which the teacher assessed more broadly, some positively and some negatively. The last group self-assessed themselves a low on all CAF scales, an assessment the teacher agreed with.

Task	Source	Factors	CAF characteristics
8. summary/ opinion 7/11 FacEd 2	text unit (same) *Extended Reading Aloud* (studied content)	three summaries 1. uniforms no prep / 5 min. 2. news source 5 min. prep w/mate (no text) / 10 min. 3. the environment 5 min. prep w/mate + text / 10 min.	1. simple/personal topic CC high at individual level, but low for source; FTP mod-high; AG low 2. more difficult topic/ three choices stu assessed CC high; tchr agrees. CC/CL high=FTP; CC/CL mod=FTS 3. highly complex topic/ three views and three groups: grp 1: CL=text, low assessment A grp 2: CC=original/high; tchr low grp 3: CC=text; CL/A low

Implication: there are complex patterns in competence between personal topics and technical topics.

Data Set No. 9

This activity was also based on the text *Extended Reading Aloud,* with students free to choose a unit of interest with a 20 minute preparation time and 15 minutes to prepare for what was outlined as an oral presentation. Given the length of both preparation (reading and thinking) and writing time, the variation in responses was broad and self-assessments were not taken; however, four groupings could be identified, discerned on the basis of text influence and content originality. The first group was characterized by high content originality together with high content complexity – the latter a reflection of text influence. However, this was countered by low content language complexity and low language accuracy. The second group was similarly characterized by high content originality, but which was countered by only moderate content and language complexity – reflection of a lack of text influence – and low accuracy. The final two groups were characterized by lower originality, which in one

case was countered by high content and language complexity, together with high accuracy, a reflection of text influence. In the other case, content and language complexity were moderate to low, with accuracy also teacher assessed as low. This exercise reveals a tension between positive text influence, where the learner internalizes the text complexity and accuracy, versus learner originality, where the influence of the text can be quite variable.

Task	Source	Factors	CAF characteristics
9. summary/ opinion 7/15-16 GenEd 1-2	text units (choice) *Extended Reading Aloud* (studied content)	20 minute prep. 15 minute written response	four patterns: (ORIG: originality) 1. ORIG high / CC high / CL low / A low 2. ORIG high / CC mod / CL low / A low 3. CC high / CL high / ORIG low / A high 4. CC mod / CL mod / ORIG high / A low

Implication: there appears to be tension between 'content complexity' versus 'content originality'.

Discussion

Points of the research:

1. The activities of the research were based on an 'experimental text' (*Extended Reading Aloud*, various introduced texts, and a children's story) that were 'studied' rather than on a performance 'task.'
2. The dominant character of the activities was based on 'summarizing' content and offering an 'opinion statement' regarding the content.
3. In addition to basing the activities on 'studied content,' various 'preparation' and 'activity' formats were used while advising students to focus on different aspects of complexity, accuracy and fluency.
4. Assessments of the three areas (complexity, accuracy and fluency) were subjective self-assessments and relatively objective (based on experience and internal comparability) teacher assessments.
5. The patterns that were observed focused on Content Complexity and Language Complexity; Vocabulary Accuracy and Grammatical Accuracy; and Fluency as a function of Time Pressure or No Time Pressure.
6. The findings are very generalized (much of the statistical analysis of various aspects of CAF have failed to yield either consensus or statistically valid findings) and based on various combinations of observation, subjective assessments of written samples, student self-assessments of task success given various constraints (character of the text, level of familiarization and preparation, time allowed for 'written communication'.
7. There appear to be three groups described by their 'focus:'
   learners who:
   1. focused on content as content and content as in the language of the original text: content complexity and language complexity focus
   2. focused on content complexity that reflected an original content based on their ideas or opinions: original content complexity focus
   3. focused on accuracy, with limited focus on content: language accuracy

focus

8. Time - in this research, serving as a fluency factor - was cited as a factor . . .
    1. the relationship to complexity and accuracy mixed
9. Regarding self-assessment . . . self-awareness and (eventually) self-regulation
    1. students tend to self-assess their complexity lower than the teacher
    2. students tend to self-assess their accuracy higher than the teacher

Summary of Language Education and Cross-Cultural Communication CAF Research

Based on use of a 'reading aloud' text, summarizing activities revealed that there are students who clearly focus on language complexity – in the form of the language of the text – and there are students who clearly focus on content complexity – in the form of more original content. In addition, there are students who focus on accuracy, often without completely achieving notable accuracy gains while also suffering some content quality. Finally, in an instructed environment, self-assessments can be used to create self-awareness and self-regulation of differing prioritizations of Complexity, Accuracy and Fluency.

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