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Review Article

A Revision Model in Writing for Novice Writers with a Focus on Audience and Feedback

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Abstract: Revision is a complex, yet important phase in writing to improve the quality of a text. Some revision models are created to explain its components and the ways these components work. However, analysis of available models shows that they are proposed mainly for expert writers, who can complete the complex revision process individually, without the need of support or feedback. Most of the available revision models also do not include audience as a component. Therefore, the purpose of this paper is to introduce an alternative revision model for novice writers at or higher than high-school level with a focus on audience and feedback. First, the definition of revision is made, which is followed by summaries of the importance of audience and feedback in writing. Second, available revision models in literature that serves as the basis of the alternative model are reviewed. Finally, the alternative revision model is introduced with its components and the way these components work is explained. The revision model presented in this paper will contribute to literature on writing by filling the gap in revision models by proposing a model for novice writers and highlighting the importance of audience and feedback.

Keywords: *audience; feedback; novice writer; revision; revision models; writing*

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0 Introduction

Revision is an important phase in writing as it helps writers improve their texts in terms of structure and meaning. During the revision process, writers think about and represent, re-think and re-represent, their readers' informational needs[1]. Fitzgerald[2] explains that revision "involves identifying discrepancies between intended and instantiated text, deciding what could or should be changed in the text and how to make desired changes and operating, that is, making the desired changes. Changes may or may not affect the meaning of the text, and they may be major or minor." (p. 484) Fitzgerald further states that writers can make changes for revision at any point in the writing process[2]. After comprehensively reviewing available definitions of revision in literature, Alamargot and Chanquoy[3] synthesized the definition of revision as:

Something (i.e., a word) is done (i.e., added, deleted, etc.) to reach a certain goal (improving style, content), at a certain level and on a certain text (pretext, already written text), at a certain moment (i.e., draft, final copy), with a certain effect (i.e., improvement, neutral, decreasing effect), and with a certain cognitive cost. (p. 102)

Some researchers[1,4] suggest that revision is the best phase for thinking about audience, which is important to construct effective texts[5-10]. Although defining audience awareness is complex and problematic[11,12], in simplest terms, writers who have audience awareness "… understand that writing and speaking are different realities and that this difference has to be reflected in the texts they produce."[13] (p. 272). According to Ede and Lunsford[14], audience awareness involves understanding or trying to understand, the "experiences, expectations, and beliefs" of the addressed audience (p. 165). Writers with audience awareness use the language of the text to cue readers to the role the writer envisions for them even though they may not know who will read the text[14].

Having audience awareness, adapting texts to target audience, and giving cues to readers about their roles

distinguishes expert writers from novices[13]. While novice writers tend to compose writer-based prose and reflect the flow of their thought in their writing, expert writers tend to produce reader-based prose and reflect the purpose of their thought and adapt them to the audience[15]. To meet readers' needs, writers should have the capability "to think from the reader's perspective, to perceive potential trouble sources, and to think as the reader would think."[14] (p. 342) This can be achieved only "when the physical task of writing becomes automatic and the writer is no longer absorbed by it" and "when the writer has reached a certain stage of cognitive development."[13] (p. 271) Without meeting these requirements, focusing on audience may overload writers' short-term memory[13]. Most cross-grade studies suggest that audience awareness in writing emerges at the end of high school or the beginning of college[15,17-19].

Audience and its role in writing have been explained thoroughly in some well-known and comprehensive models on writing. However, these models are proposed to explain the general writing process[20-22]. When models specific to revision are analyzed[23-27], only one of the models involve the audience as a component and provide an explanation of its role in the process[23].

Furthermore, available models on revision explain the process merely as an individual effort, where writers work on text in isolation from their environment. In other words, available models on revision explain the process merely for expert writers, who do not need support or feedback. However, novice writers, who are still improving their writing and revision skills, benefit greatly from feedback they receive from their environment[28,29]. As Elbow[7] best explains, "revising with feedback is the most powerful way to revise, and happily enough it is also the most interesting and enjoyable technique." (p. 139) Considering that writing is a tool for social interaction, adding a social level can make revision more meaningful and less daunting, especially, for novice writers. However, none of the revision models involve feedback as a component of the revision process.

Considering the gaps in literature on revision models - the need for a model for novice writers, focus on audience, and receival of feedback - the goal of this paper is to propose an alternative model of revision for novice writers by adding audience and feedback in the process. The model is proposed more specifically for novice writers at or higher than the high-school level to ensure that they have reached the required cognitive maturity and writing automaticity to be able to consider their audience in revision processes without cognitive

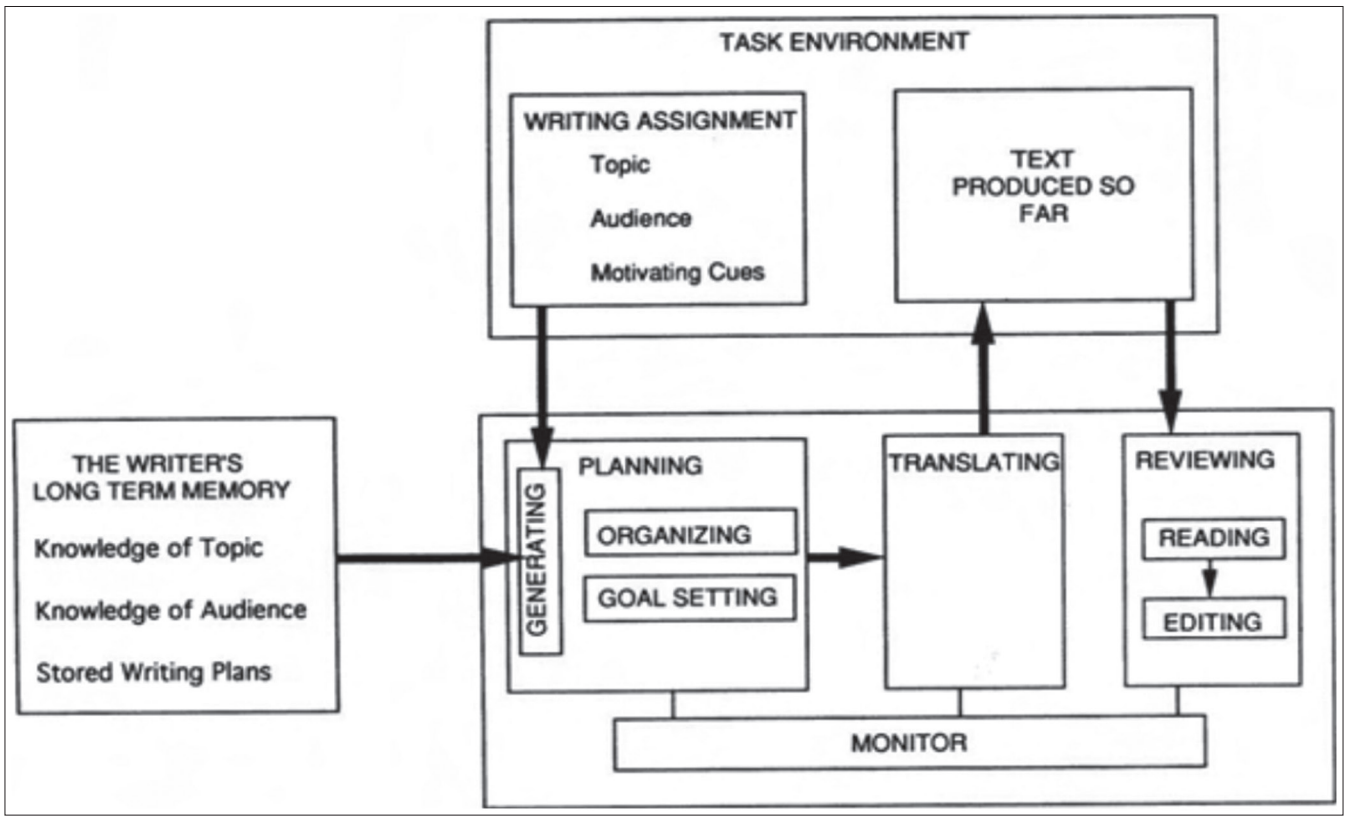

Figure 1. Flower and Hayes's model for general writing process (1980)

overloading. In the following sections, five models explaining the revision process is reviewed. Following the review of the revision models, an alternative revision model is proposed, and its components are explained.

1 Models of revision

1.1 Models by Hayes and Flower[20-22]

One of the earliest models explaining the writing process is by Hayes and Flower created in 1980[20] [Figure 1]. Although their model explains the general writing process, they included revision as one of the components of the writing process and named it as reviewing. They consider reviewing (revision) as an autonomous process[20]. Through their reviewing component, Hayes and Flower argued that revision has to be approached both as an internal (evaluation) and external phenomenon (effective corrections)[20]. Within their model, they distinguish two sub-processes of reviewing: Reading and editing. The reading sub-process helps writers to evaluate the text produced-sofar and detect errors. The editing sub-process happens in a recursive manner at any time during the writing process for possible corrections. When writers detect a discrepancy between intended text (what is in the writer's mind) and external text (what the writer actually wrote), the editing sub-process functions in a recursive and automatic manner[3].

Flower and Hayes address the audience in two parts of the model; the task environment and the writer's long-term memory (LM). Within the task environment, they mention the audience as part of the writing assignment because writers need to identify who is the potential audience and what is their communicative goal before they compose their texts. They also mention the audience within a writer's LM, because writers need to retrieve information from their memory about the features of the target audience which may shape features of the language they will use.

In 1981, Flower and Hayes modified their 1980 model in terms of the theoretical position they had defended[22] (Figure 2). In their modified model they renamed the two sub-processes for reviewing. While the reading sub-process was renamed as evaluation, the editing subprocess was renamed as revision. The fundamental difference between the 1980 and 1981 models was that while revision was considered as automatic in the earlier model, in their 1981 model, it was considered to be deliberate. Therefore, in their 1981 model, the

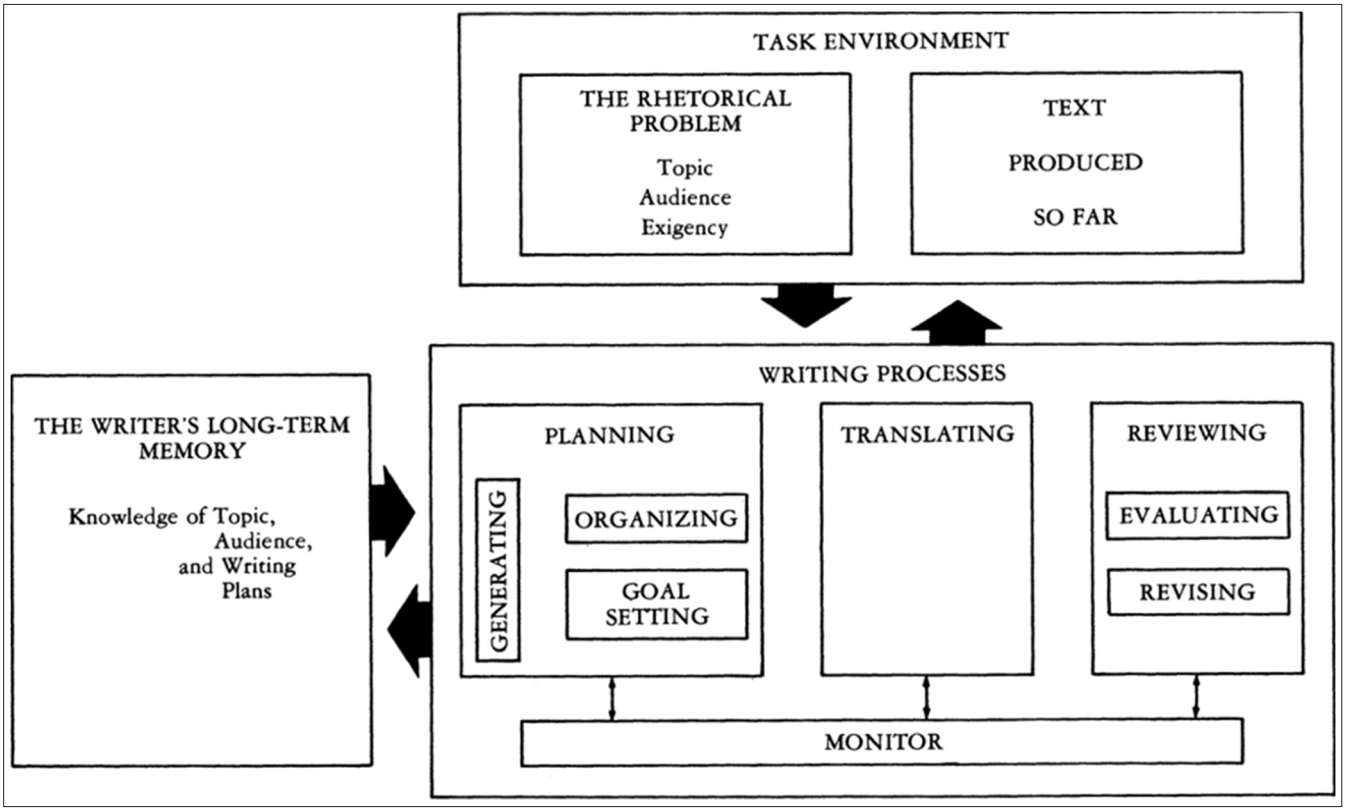

Figure 2. Modified version of Flower and Hayes's model for general writing (1981)

two sub-processes of reviewing were considered as controlled.

Finally, in their later publication, Hayes and Flower distinguish reviewing from revising based on the "external" or "internal" characteristics of revisions the writer carries out[21]. According to Hayes and Flower reviewing is a mental (or internal) activity because this process requires the writer to evaluate what is written or what has been planned, and it can lead to the detection of discrepancies between the intended and the written or to be written text[21]. On the other hand, revising is considered as an external activity because it involves making modifications at surface level.

In summary, Hayes and Flower proposed a model to explain the general writing process and modified it over the years to add more details[20]. They were the first researchers trying to explain the writing process and included revision within the general writing process. They also gave details about revision by specifying and defining sub-processes involved. Finally, they included the role of the audience in two different parts of their models.

1.2 Models by Scardamalia and Bereiter[26,27]

Unlike the models discussed above which explain the general writing process, the model by Scardamalia and Bereiter is specific to revision[26,27] (Figure 3). However, their model serves as a technique to help writers to revise, rather than a theoretical model[3].

They suggest a revision to be a self-regulated procedure involving three recursive mental operations named "compare," "diagnose," and "operate" (C.D.O.). Furthermore, Scardamalia and Bereiter distinguish representation of intended text from representation of actual text[24]. Although these two representations are both stored in LM during writing, according to Scardamalia and Bereiter, what is written is just a representation of the text so far in the writer's mind (intended text), which can be different from the actual written text (already produced text)[26]. When the writer detects a conflict between what is intended and what is actually written, the C.D.O. procedure begins.

As the first step, the writer compares the extent of discrepancy between what is intended and what is actually written. As the second step, the writer diagnoses the nature of the problem and produces solutions to resolve the problem. As the third step, the writer takes action and operates on the text for corrections. During this operation phase, the writer Chooses Tactic to solve the problem and then applies this tactic by generating text change. After completing the C.D.O. cycle, the writer reads the modified version of the text to check whether it properly represents the author's thoughts. The C.D.O. cycle is repeated until the writer eliminates

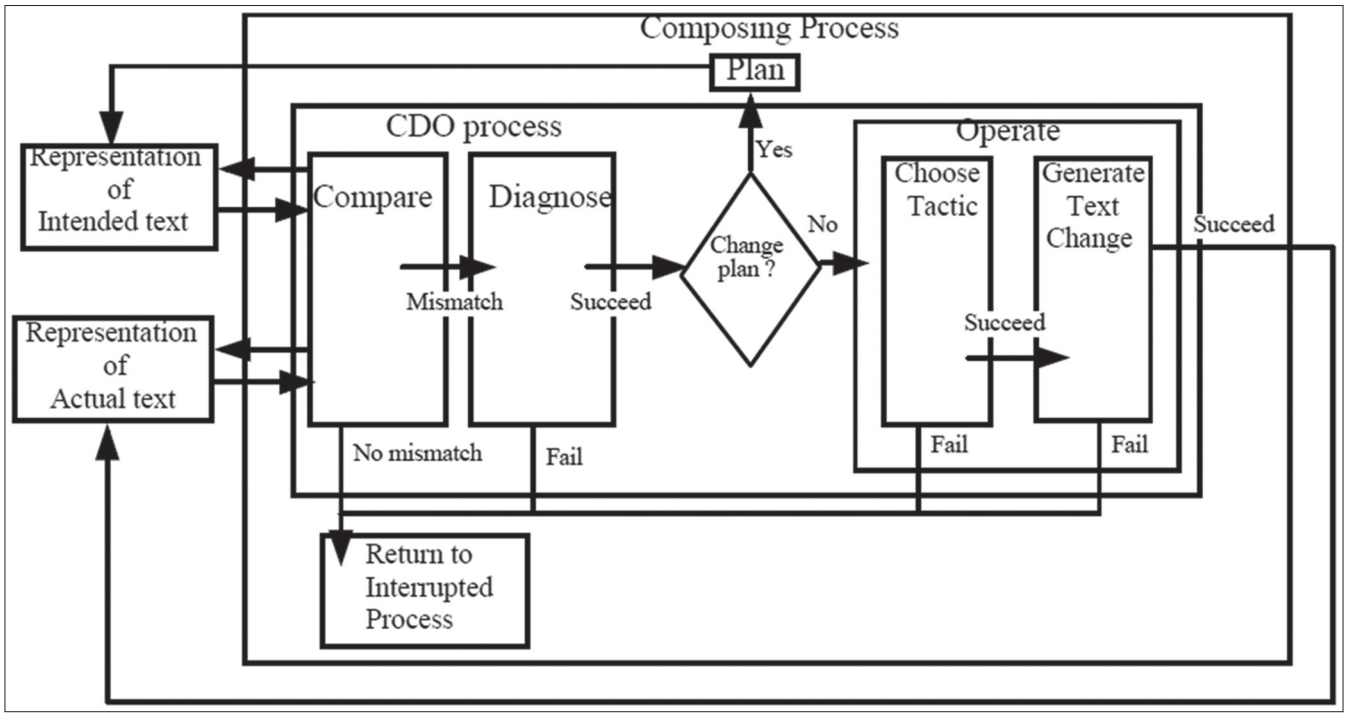

Figure 3. Scardamalia and Bereiter's model of the CDO process (1983). Adapted with permission by Alamargot and Chanquoy (2001)

discrepancies between what is intended and what is actually written. However, in cases where the writer does not have the means to detect and/or correct errors, the C.D.O. procedure is not performed, which Scardamalia and Bereiter indicate as "Succeed" and "Fail"[26].

This model offers a technique for revision with a precise definition of revising sub-processes: C.O.D, which is further specified as choosing tactic for correction and generating changes in the text. However, the role of audience or feedback is not mentioned in the model.

1.3 Model by Hayes *et al.*[25]

One of the leading models explaining the complex nature of the revision process in detail is by Hayes *et al*.[25]. They created their model based on analysis of extensive research on revision in expert and moderate-expert writers (Figure 4).

Their model has two major parts: "Processes in which the reviser engages in and categories of knowledge which influence these processes or result from the action."[25] (p. 185) Within categories of knowledge, they discuss goals, criteria for plans and texts, problem representation, and procedures for fixing text problems as subcategories. They explain that task definition is a strategic and conscious phase which specifies the goals of the reviser, the features of the text that should be examined and how the revision should be carried out. They also highlight two points regarding task definition; revisers may modify their task definitions during the course of revision, and the definition of revision varies from person to person. Task definition is critical as it guides the whole revision process and determines the sequence of processes.

The evaluation process begins when the reviser is ready to apply the goals and criteria set during task definition phase. Similar to the C.D.O. stages in Scardamalia and Bereiter's models[26,27], evaluation is responsible for reading, understanding and criticizing text problems. The primary output of evaluation is problem representation, where the writer compares what is intended to be written and what is actually written. Hayes *et al*. consider problem representation as a continuum, with specificity and well-definedness of the problem at one end and simple detection and vague diagnoses of the problem at the other end[25]. Based on the writer's problem representation, the writer chooses more or less sophisticated procedures for fixing text problems. Using the information gained from evaluation and the knowledge the writers had about fixing problems, writers select a strategy. Hayes

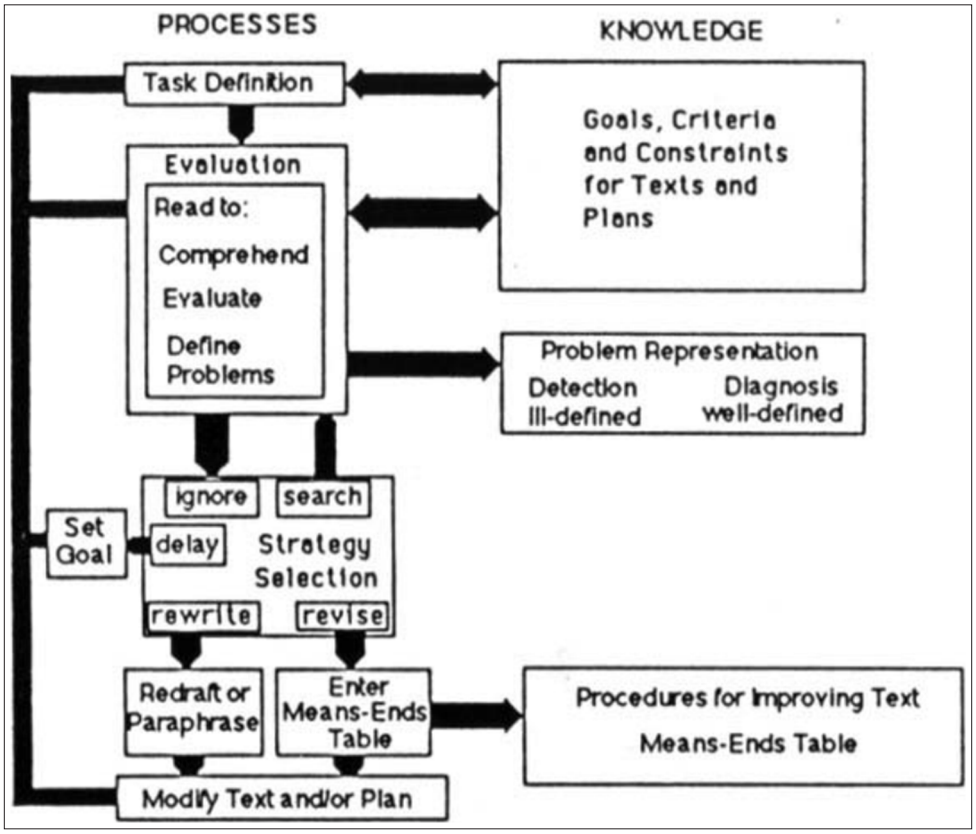

Figure 4. Hayes, Flower, Schriver, Stratman and Carey's (1987) revision model

et al. explain two options for strategy selection[25]. The first one is modifying the revision process. During this process, if the reviser is not clear about the definition or nature of the problem, or decides that the issues in the text are not major, the writer may ignore the problem. Another step the reviser may take to modify the text is delaying action. This occurs when writers decide to work on the text in two phases; one for high-level, the other for surface level problems. To modify the text, writers may also search for more information to clarify the problem representation and create a more specific, better-defined diagnosis of the problem.

The second option for strategy selection is modifying the text which requires either rewriting or revising the text. Writers may decide to rewrite their texts when there is not an adequate strategy for fixing the problems or when there are too many problems to fix. During rewriting, instead of working on surface level structures, writers try to extract and rewrite the gist either at sentence- or paragraph-level. If writers decide to revise the text, rather than rewrite, writers successfully diagnose the problems and fix them without completely rewriting the text.

In summary, Hayes *et al.*[25] created a very precise and clear model by integrating the C.D.O procedure by Bereiter and Scardamalia[30]. Furthermore, this model "describes functional aspects of the revising process, with hierarchically organized sub-processes, that serially appear, or that are subordinated to other processes. It also demonstrated the great complexity of revision, functioning in a cyclical way, with the help of various types of knowledge and many processes."[3] (p. 110). However, the role of audience and memory or cognitive sources is not mentioned in the model. These components, roles of audience and memory in revision, might not have been mentioned since the model is created based on research on revision with expert and moderate-expert writers as mentioned earlier. Hayes *et al*. might have assumed that expert writers have better skills in considering the audience and using cognitive sources in the revision process.

1.4 Model by Hayes[24]

In Hayes's model, which he created in 1996, there are three components; the control structure, fundamental

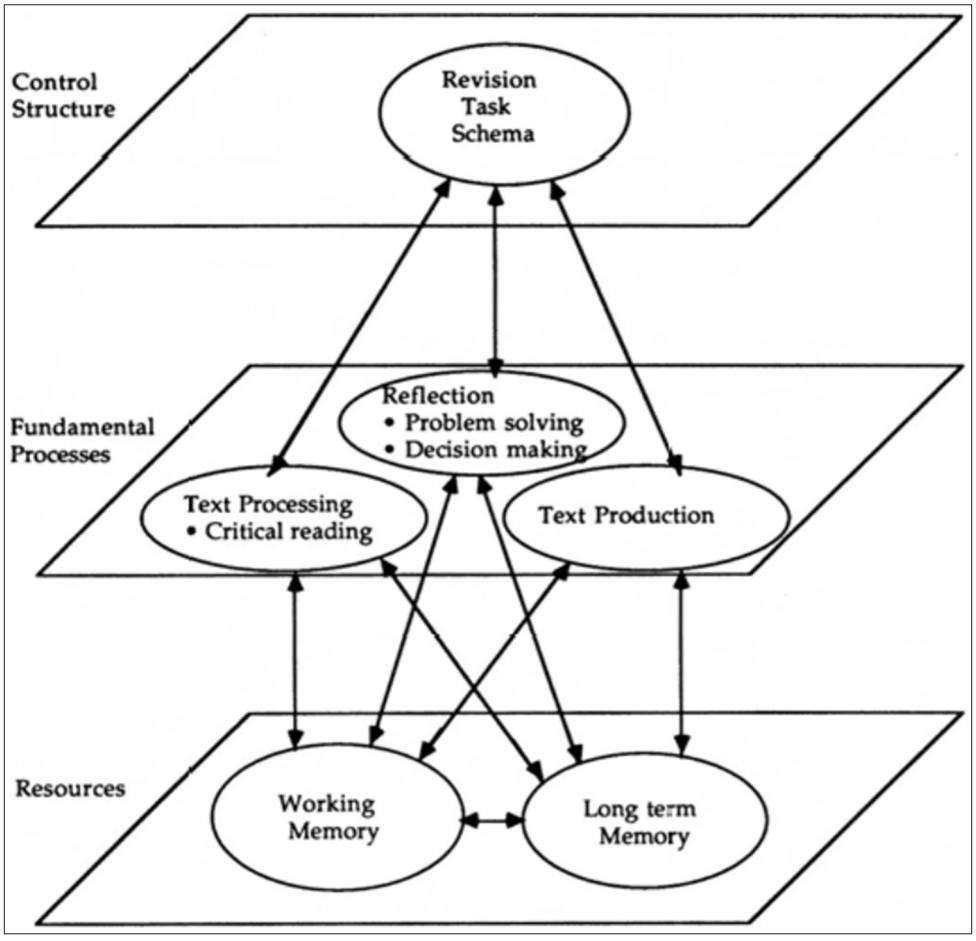

Figure 5. Hayes (1996) revision model

processes, and resources[24] (Figure 5). In the control structure, the task schema means knowledge acquired through practice which is useful to perform the task. When similar tasks are received, knowledge acquired earlier is activated to complete the task. Task schema includes various items: A goal to improve the text, a set of revising activities such as evaluative reading, problem-solving, text production, and attentional subgoals such as what to pay attention to in the text and what errors to avoid, some revising criteria, and strategies for fixing specific problems. Fundamental processes have three subcomponents; reflection with problem-solving and decision making, text processing with critical reading, and text production. Finally, resources include cognitive aspects involving working memory (WM) and LM.

Hayes considers the most important component of the model as the control structure because it has a big impact on the nature and the quality of revision performance[24]. What makes this model different from his earlier models[25,31] is the emphasis he gives to reading and comprehension during revision. "For him, reading contributes to writing performance in three ways: "Reading for comprehension," "reading to define the writing task," and "reading to revise"[3] (p. 111). However, in this model Hayes barely mentions audience[24].

1.5 Model by Butterfield *et al.*[23]

Different from earlier models of revision, the model by Butterfield *et al*. illustrate the importance and the role of LM, WM, and metacognitive knowledge[23]. Their model has two main parts: The "environment" and the "cognitive/metacognitive system" (Figure 6).

The environment includes rhetorical problem and actual text being revised as subcategories. Within the rhetorical problem, the writer considers the topic, the audience, and the importance of the text. The rhetorical problem interacts with the actual text being revised in terms of the format, genre, lexical units, syntactic units, propositions, and gist of the text produced so far.

The second part of the model, the cognitive/metacognitive system, involves the reviser's WM and LM. In WM, the writer translates revisions from represented text in the actual text. To do that, the writer represents a theoretical problem, plan, and standards of evaluation for text, detects and diagnoses problems in represented text, reads to represent and comprehend actual text, and finally, selects, modifies or creates strategies for revising represented text.

The LM is composed of two separate sections: Cognition and metacognition. In the cognition section, there is knowledge, strategies, and representation of the text being revised. They identify three categories of knowledge: "Topic," "language and writing," and "standards of evaluation." They also identify three strategies "thinking," "reading," and "writing." These categories of knowledge and strategies, as well as the subcategories within them, also exist at the metacognition section. Butterfield *et al*. explain that until the strategies are

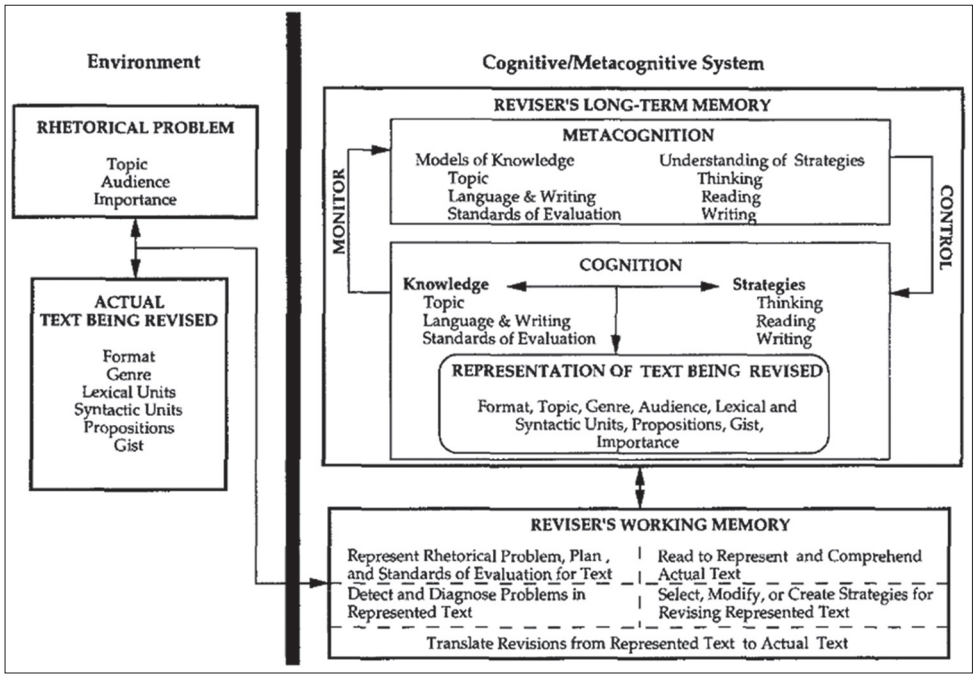

Figure 6. Butterfield, Hacker and Albertson's revision model (1996)

automized, they take place within WM[23]. Since the resources of WM are limited, using the strategies become tiring. However, as strategies become automatized, they take place within LM and do not need any cognitive resources.

Cognition and metacognition interact with each other through "monitor" and "control" functions. Monitoring includes strategies such as re-reading a difficult part of the text, looking back to prior text, predicting the text-to-be-written, and comparing eventual solutions. Monitoring helps the writer to proceed to a metacognitive analysis of processing carried out at a cognitive level. Control function helps the writer clarify text information, correct inaccurate text, and more. Unlike the Monitoring function, the control function originates from the metacognitive section and moves to the cognitive section.

In this model, the different parts and levels interact at any time during the revision process. Unlike the previous models of revision, this model emphasizes and specifies the roles of working and LMs during the revising activity[3]. Furthermore, Butterfield *et al*. validated their model using existing literature and experimental data[23]. This model also includes the audience as part of the rhetorical problem the writers should consider related to the environment and as part of representation of text being revised. However, this model considers writing as an individual effort and does not include feedback from the environment as part of the revision process.

All the models presented above explaining the revision process are comprehensive, yet they assume writing to be an individually accomplished task completed by expert writers, who already have good knowledge of audience and strategies, as well as who are skilled in revision and use of cognitive sources. However, novice writers are still building their writing and revision skills and might be overwhelmed with the process. They need support and feedback to improve their writing skills and revising with feedback could be a powerful and enjoyable way to revise[7].

2 Proposal for an alternative model of revision

The revision model presented here is proposed for novice writers at or higher than high school level considering the maturation of cognitive skills required to consider audience and handle overwhelming writing and revision processes as discussed earlier[15,17-19]. The model has three distinct, yet interactive levels (Figure 7). During the first level, writers work on composing and revising their texts individually. During the second level, writers interact with their social environment and receive feedback to their texts from more advanced writers. The third level comprises a cognitive area where the writers activate their long term and working memories to write or revise their texts at individual and/or social level. The model resembles the structure of an eye with the pupil being the core of the sight mechanism, expanding or shrinking based on the writing skills of the author. In the following sections, each level is explained along with their components and how they function.

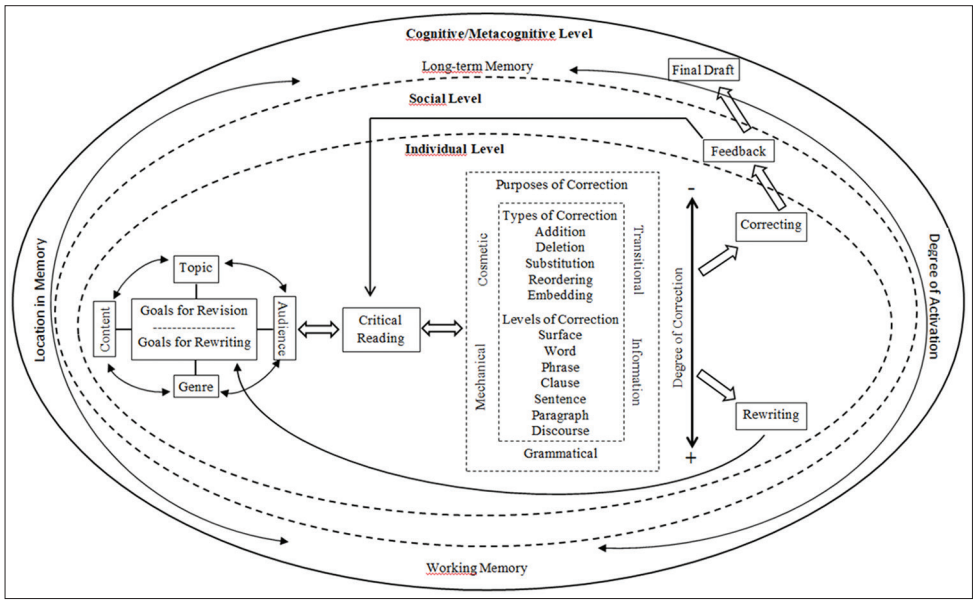

Figure 7. An alternative model of revision for novice writers with a focus on audience and feedback

2.1 Individual level

The individual level is the core of the model and explains a writer's revision process as an individual effort. Similar to the functioning of the pupil of an eye, the individual level enlargens or shrinks based on a writer's skills in writing and revision. The stronger writing skills a writer has, the larger this individual level gets, and thus, minimal feedback from more advanced writers is needed. However, if the writing skills are not strong, the individual level shrinks, leaving a larger role to feedback, and support coming from more advanced writers. With or without the feedback/support from advanced writers, the effort spent on writing and revision at the individual level is essential and without the individual level other components cannot be built on or function effectively. Components of the individual level are goals for revision, critical reading to detect problems, purposes of revision, and levels of change. Each component and their subcomponents are explained below.

2.1.1 Goals for revision

In the cognitive models of writing process, goal setting is important[25,30,32] because pre-established goals help writers evaluate their writing and decide whether they have translated their intended ideas to the actual written text properly. Similar to the writing process where the specification of topic, purpose, or audience in writing prompts affect essay quality[12], identifying topic, purpose, or audience at the beginning of revision can improve the quality of revision and final draft[33]. This goal setting phase establishes the first step of the revision model presented here, and it resembles the task definition phase of Hayes's 1987 model as it is carried out strategically and consciously to specify the goals of the revisers, the features of the text and how the revision should be carried out. The goals at the goal setting phase in this alternative model are identified as genre, topic, content, and audience. These goals can be considered as a more specified version of Butterfield *et al*.'s[23] rhetorical problem phase, where the writer considers the topic, audience, and the importance of the text.

The first subcomponent of goals is a genre, where the writer can check whether the text follows the required linguistic and textual features or forms of the intended genre. For instance, if the writing prompt asks the writer to create a persuasive text, but the writer composes an informative text, having genre as one of the goals for revision may help the writer catch this dissonance between the required genre and the produced genre. Besides genre, most school writing evolves around topic[34]. As a result, considering topic during revision is crucial for novice writers because they can detect whether they have diverted from the topic or have included irrelevant ideas within the text. In other words, by setting topic as one the goals for revision, the writers can check the topical consistency. The third goal a writer could set at the beginning of revision is related to content, where they present their ideas to the readers. Revising a text with a focus on content involves things such as checking information provided in the text, coherence, and fluidity of the text. As a result, focusing on content helps writers improve the meaning of their texts by looking at the ideas, transition between these ideas, as well as the surface-level style of texts. Shortly, revision of content comprises not only corrections of surface-level features but also improved of meaning and ideas. Finally, audience functions as the fine-tuning phase in revision and research suggest setting audience goals at the beginning of revision to be more effective than before drafting a text[35]. Novice writers might compose a text about the right topic within the required forms of a genre and with coherent content. However, if their text is not fine-tuned to target audience, their composition will still need revision.

All subcomponents of the goals (genre, topic, content, and audience) interact, inform, and affect each other as indicated by the double-headed arrows. For instance, during revision, a novice writer may realize that his informative text about dinosaurs is too long for the attention span of their peers. Therefore, he may decide to simplify the content by narrowing his topic to only one type of dinosaur. Shortly, each subcomponent affects the decisions writers make about the composition.

2.1.2 Critical reading

After setting goals for the revision process, writers need to read their texts critically to be able to detect issues. Critical reading phase is created based on the differentiation Hayes[24] makes between reading for comprehension and reading for revision. Hayes[24] explains the difference as:

When we read to comprehend, we do not attend much to text problems. That is, we try to form a clear internal representation of the text's message, but we are rarely concerned with stylistic issues. … However, when we read to revise, we treat the text quite differently. … In revision tasks, people read not only to represent the text's meaning but also, more importantly, they read

to identify problems. With the extra goal of detecting problems, the reviser reads quite differently than does the reader who is simply reading for comprehension, seeing not only problems in the text but also opportunities for improvement that do not necessarily stem from problems (p. 14, 15).

Novice writers need the skills to read for revision, rather than reading for comprehension, to be able to identify the issues in their texts and take necessary steps to improve their composition. Hayes calls this phase of reading for revision as critical reading[32]. According to Hayes, critical reading enables writers to identify discrepancies between what they intended to produce and what they actually produced[32]. Critical reading is important, especially for novice writers, because research suggests that without critical reading, elementary and secondary students' revisions tend to emphasize surface-, word-, and sentence-level corrections, rather than overall structure, coherence, and meaning of the text[2,23,36].

This critical reading phase also resembles the Compare phase of Scardamalia and Bereiter's model[26], where a writer compares the extent of discrepancy between what is intended to be written and what is actually written. When writers read their written texts critically in the light of the goals they set for revision, they identify various corrections that should be made, and thus, move to the next phase in the individual level, correction.

2.1.3 Corrections

In this model, corrections vary depending on the purposes, types, and levels. As mentioned in Monahan's study, purposes include doing corrections for cosmetic, transitional, informational, grammatical, and mechanical reasons[37]. Types of corrections include addition, deletion, substitution, reordering, and embedding. Finally, levels of corrections can be done at surface-, word-, phrase-, clause-, sentence-, paragraph-, and discourse-level[37].

The cosmetic purpose includes changes in appearance, presentation, or format of a text such as indenting the first line of the paragraph and leaving equal page indentation around the page. Mechanical purposes focus on corrections regarding capitalization, punctuation, and spelling. In transitional corrections, separate parts of the text are connected to create smooth transitions. These transitional corrections improve the coherence of the text. Corrections with informational purposes focus on the content and may require adding more details or simplifying the text by taking out unnecessary information or details. The grammatical aspects of corrections include the linguistic aspects of text such as tense, subject-verb agreement, or syntax and more.

After critically reading their texts, novice writers may identify the corrections that should be done and group them under these five purposes of corrections. Through this grouping, they may realize which areas they struggle the most and set themselves goals for future compositions to improve their writing. For instance, after identifying each correction that should be made on the text and grouping them under five categories discussed earlier, writers may realize that the majority of the corrections are related to transition and information. Based on that information, writers could set personal goals to focus more on meaning during the writing and revision phases of their future compositions. Such grouping may also lighten the cognitive load writers may experience during revision.

After grouping the corrections under five purposes, writers can consider different tools/strategies for corrections. Types of tools include addition, deletion, substitution, reordering, and embedding[37]. These correction strategies could be applied at different levels such as surface-level, word-level, phrase-level, clause-level, sentence-level, paragraph-level, and discourse-level[37]. Tools and levels of correction interact with each other. For instance, to improve a word-level error, it can be deleted. However, in some cases, adding another word may be required to clarify meaning. As Fitzgerald states, the changes may be major or minor[2].

This corrections phase resembles Scardamalia and Bereiter's both diagnose and choose tactics phases where writer diagnoses the nature of the problem and produces solutions to resolve the problem[26].

When novice writers have issues with diagnosing problems or choosing the right strategies to improve the text, they can go back to critical reading as indicated by the double-headed arrow between purposes of revision and critical reading. Rereading the text critically can help with the diagnosis of the issues, and it can be done as many times as required. Furthermore, writers can also return to the goals of revision to remember them and add more details and reread text critically. The double-headed arrow indicates this flexibility writers have in going back and forth between goal setting, critical reading, and correction phases.

2.1.4 Degree of correction

In previous sections above, it was explained that after setting goals for revision and critically reading the

written text for problem detection, novice writers think about the tools and levels to correct discrepancies. Sometimes a text might require major changes related to content and sometimes only a few surface-level corrections. This degree of correction is indicated by the vertical double headed-arrow drawn after the purposes of the correction phase. Similar to Hayes's[38] problem representation, the degree of corrections can be thought as a continuum, with a high amount of corrections at one end and low amount of corrections at the other end. The top of the arrow in the continuum indicates the decreasing amount of change, and the bottom of the arrow indicates the increasing amount of change required in a text.

When writers are faced with numerous major changes, especially related to meaning rather than mechanics, or when there is not an adequate strategy for fixing problems they may decide to rewrite the text rather than trying to correct it[25]. As Holliway found in his study, sometimes it may be easier to rewrite a text rather than correcting an overwhelming amount of errors[1]. If writers decide to rewrite their text, they return to the goals of revision as a starting point for rewriting. Writers rewriting their texts should set the goals for writing and continue to compose their texts. After completing their composition, they follow the steps of revision again and come to the degree of correction phase to decide one more time whether the text is ready for doing the corrections or it should be rewritten. If the degree of correction is not very high, writers may take action with corrections.

Corrections phase in this alternative model is similar to what Fitzgerald[2] names as Operating, and Scardamalia and Bereiter[30] name as generating text change. During this corrections phase, writers make desired changes. While doing the corrections, writers may need to go back and reread the text, check for the purposes of revision again and continue making corrections accordingly. However, every time writers go back to the previous stages of revision; they come back to the decision making step about rewriting the text or continuing with the corrections. The reason for this continuous decision-making happening every time writers go back to the previous steps is because while some corrections may make the text better, some changes can raise new problems. As a result, writers need to reevaluate the degree of correction with new changes made to the text. When corrections are made, and writers cannot identify any further ways to improve their texts, the individual level of revision is completed. The writer moves to the next step of revision; social level. In the following section, the social level where writers receive feedback is explained.

2.2 Social level

"When revising their own texts, writers do not read what they have written, but they read what they think they wrote."[2] (p. 103) This is especially true for novice writers who are still improving their skills in writing and revision processes. For novice writers attain the skills what Hayes[24,32] identify as reading for revision and critical reading, as discussed in earlier sections, they need support and feedback. Traxler and Gernsbacher investigated the effects of feedback from an audience on the revision of descriptive compositions written by college students[28,29]. Results illustrate that even minimal feedback from people can help writers to take the position of their readers and understand their needs and confusions[28,29]. As Elbow[7] best explains, "revising with feedback is the most powerful way to revise, and happily enough it is also the most interesting and enjoyable technique." (p. 139)

Considering the literature on the importance of feedback in the revision process, the model presented here adds a social level to the revision process. At the social level of revision, the text completed at the individual level is sent to people, who are often more experienced writers than the writer himself/herself, for feedback. Writers may also request feedback if they do not know how to correct the detected errors. Furthermore, the social level is added to the revision model to decrease the cognitive overload novice writers might experience due to the complex nature of writing and the revision process. In summary, receiving feedback at social level functions as a support mechanism to help novice writers improve their compositions.

Feedback at the social level can be received at any time and phase of the revision model. The dash line at the individual level represents this flexible interaction between the individual and social levels. In other words, the social level feedback can be given at the goal setting phase, at the critical reading phase, at the correction phase or at the decision making phase where writers decide whether the text should be rewritten or corrected. After receiving feedback, writers need to read their texts critically again in the light of the feedback they received and move to corrections phase to select correct strategies. Based on the feedback, the

degree of correction may change, and writers have to decide whether they need to rewrite their texts or do corrections to finalize their texts. Writers may request feedback as much as they want, but when the amount of corrections identified in feedback decreases, they may finalize their texts by writing the final draft of their texts.

2.3 Cognitive/metacognitive level

Memory is composed of WM and LM. WM has limited capacity while working with new information, but when new information is practiced enough or learned, it moves to LM. However, when information in LM is not enough, WM is activated to acquire the required information. In this revision model WM and LM have two features; the degree of activation and location in the memory. In the following section, rather than explaining the well-known definitions and roles of WM and LM in writing and revision processes, the two features of WM and LM will be explained.

2.3.1 Degree of activation

In the revision process, WM and LM are activated at different degrees based on whether the information required for revision already exists in LM or if it is being newly acquired through WM. For instance, if the writer does not have much experience with the revision process or the corrections to be made, WM will be activated more. When the revision process is learned and corrections are practiced enough, such information is moved to LM. In future, while doing revisions requiring similar information and corrections, information is retrieved from LM, and thus, WM is activated less. Thus, attention can be paid to other phases in the revision process.

Each phase in the revision process requires activation of WM and LM at different degrees based on the revision skills of the writer. For example, Fitzgerald and Markham state that WM would be more solicited for the detection of meaning or incoherence errors than for the detection of spelling or grammatical errors[39]. In other words, while critical reading and detecting issues require high levels of WM capacity due to its higher level thinking nature, correcting spelling errors require lower levels of WM capacity. Interestingly, Hacker explains that regardless of their level of expertise, writers revise surface level errors rather than the meaning of a text, as surface-level corrections require less cognitive resources[40]. When writers need to engage in a higher level of thinking to improve meaning and content, the WM is activated to high levels to handle the task. When writer's all WM resources are consumed for specific parts of revision, the revision process cannot be completed due to overload.

2.3.2 Location in memory

When the revision of a text is completed, experiences attained from the writing and revision processes are stored in the LM. However, the transfer of information from WM to LM and its storage in LM may depend on various conditions. One of the conditions may be related to the purposes of writing. If the writing task is considered as the completion of assignment, the learning experience may not be very enriching for the writer. However, if the purpose of writing is considered as communication, the writing experience may be more memorable. A second factor is the nature of the writing. If writing is considered as a product, as the revision is not repeated multiple times to improve the meaning since the goal is finishing the task as quickly as possible, the final product and the experience learned from creating the final product may take longer to be moved to the LM. However, if the writing is seen as a process, as some of the revision steps may be repeated multiple times, the final draft may take a shorter time to be moved to the LM.

An important aspect of the memory level is that the individual and social levels mutually share, shape, and interact with it. Therefore, both circle lines of individual and social levels are dashed, allowing this interaction. Experiences in the individual level, as well as the feedback and information learned from the social level, can move to the memory level.

3 Discussion and conclusions

The alternative model of revision presented here intends to contribute to literature on revision in three ways. First, it offers a revision model specifically for novice writers who are still working on improving their writing and revision skills. Unlike expert writers who can improve the quality of their texts individually, novice writers need feedback and support in various phases of writing and revision to improve their texts. Second, related to the first contribution, this alternative model proposes a social level, where novice writers request feedback and suggestions from more advanced writers. While expert writers can complete their writing and revision tasks without support thanks to their advanced

skills in writing and revision, novice writers need the eye of an outsider, who will serve as a reader and offer suggestions to improve the text using their advanced skills and experiences in writing. Finally, considering how the limited audience is discussed in available revision models, this alternative revision model includes the audience as a component of the model and highlights its importance by including it at the very initial stage of goal setting phase in revision.

This alternative revision model hopes to be the beginning of the earliest efforts in explaining the revision process for novice writers with an emphasis on audience and feedback. There are not any empirical studies exploring the functioning of this model yet. However, it will have served its purpose if it triggers new research and discussion on revision.

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