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Scaffolding L2 Academic Reading and Self-Regulation Through Task and Feedback

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Research has shown that classroom-based reading strategy training does not necessarily result in effective, self-regulated reading behaviours when students engage with authentic academic reading in their own study contexts. In light of this problem, our study examines the effects of an instructional scaffold combined with teacher feedback, designed to foster students' self-regulation in authentic academic reading contexts. Over a 5-week period, students read five academic texts and posted blog posts documenting their reading, scaffolded by a task prompt. In response, their teacher posted individualised feedback. The data comprised 75 student blog posts and 63 teacher responses. The results suggest that the task prompts and feedback supported students' self-regulation in different ways: while the task prompted students to reflect on their reading, teacher feedback redirected students' attention to new ways of reading and to less superficial aspects of the task, as well as reminding them of reading behaviours they had previously engaged in successfully. The study therefore provides insights into the interplay between task and feedback and recommendations for teaching practice.

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Research has theorised second language reading (e.g. Bernhardt, 1991, 2011), uncovered the reading behaviours of students (e.g. Malcolm, 2009; McCulloch, 2013; McGrath, Berggren & Mežek, 2016) and

discussed the impact of students' attitudes, beliefs and motivation (e.g. Pecorari, Shaw, Irvine, Malmström & Mežek, 2012; Zhang, 2010). These studies show that learners can be taught, possess and report a repertoire of strategies. However, while all readers use multiple strategies, good readers use strategies more effectively, are more aware of their processing and comprehension difficulties, and know how to address those difficulties (Grabe, 2008; Zhang, 2010). Karpicke, Butler and Roediger (2009) provide an example: re-reading a text does not entail enhanced recall or comprehension of that material; monitoring and shifting strategy is required. This need for awareness and adjustment implies metacognition (Flavell, 1979) and self-regulation (SR) (Zimmerman, 2000).

Research in TESOL has increasingly focused on metacognitive and self-regulatory aspects of learning (Zhang & Zhang, 2018) and explored their potential for L2 reading using experimental and survey designs. For example, Dabarera, Renandya and Zhang's (2014) quasi-experimental study of secondary school students in Singapore showed reading comprehension improvement following metacognitive strategy training. Zhang and Wu (2009) used survey methods to show the relationship between reading performance and metacognition among school students in China, and Aghaie and Zhang's (2012) study, again using quasi-experimental methods, showed that students who received reading strategy instruction performed better in reading comprehension and strategy transfer. Although valuable, much of this research does not address students' reading performance outside of experimental and classroom conditions, and how self-regulation might be fostered in students' own study contexts. This is crucial, as authentic reading for academic purposes rarely occurs in classroom settings. Indeed, it has been shown that in "real-life" settings, and despite strategy training, learners can fail to monitor and adjust their strategies (McGrath et al., 2016), a serious impediment to reading performance (Grabe, 2008).

The question arises as to how L2 students can be supported to self-regulate when reading authentic academic texts in their own settings. Three possibilities present: first is instructional scaffolding through task. Can task design activate and underpin the use of metacognitive, motivational and behavioural processes in L2 reading in authentic situations? Second is interactional scaffolding through teacher feedback, facilitating the student's progression over time from regulation by others (via feedback) to self-regulation (e.g. De Guerrero & Villamil, 2000; Wertsch, 1979). Hattie and Timperley (2007, p. 81) rightly observe that "feedback is one of the most powerful influences on learning and achievement." However, some students ignore feedback or neglect some aspects of it. Others struggle to comprehend feedback, particularly in the case of low-attaining students (Schinske & Tanner, 2014). Crucially, the ability to give meaningful feedback on reading is also impacted by

the nature of reading itself: “students’ problems, judgments, and decisions are invisible – they take place inside the black box” (Casanave, 1988, p. 8). An important question to ask, therefore, is what feedback on self-regulation of L2 reading might look like.

The third possibility is the combination of scaffolding tasks *and* regular feedback on reading behaviour. To our knowledge, few studies (if any) have investigated the implementation of and interplay between task design and feedback in L2 academic reading. This gap is striking when compared with the emergence of studies investigating how metacognitive scaffolds can support writing development (e.g. Teng & Zhang, 2017; Zhang & Zhang, 2018) and research into feedback on L2 productive skills (e.g. Lee, 2015; Sarandi, 2016; Yang, Badger & Yu, 2006), including the role of feedback in the promotion of SR in writing (Lam, 2015). Lam concludes that the issue remains “unfinished business.” Therefore, the present study examines the effects of combining an instructional scaffold in the form of a blog with feedback to foster L2 students’ self-regulation in authentic academic reading contexts. The context is an academic reading and writing course for first-year students at a Swedish university. Although the previous iteration of the course supported students in their academic reading, many students did not effectively monitor and adjust their reading strategies (McGrath et al., 2016). The educational intervention reported in this study was designed to address this issue. Drawing on the SR theory (Zimmerman, 2000), we aimed to guide students to regulate their reading behaviours while undertaking assigned reading at home. A group of high proficiency, but academically novice students, kept a reading blog during a 5-week EAP course, recording what they did and why in response to prompts as they engaged with course readings. In response to students’ posts, their teacher provided feedback. In a final post, students reflected on their learning.

Our research questions are as follows:

1. What feedback did the teacher give, that is, what aspects of students’ reading and self-regulation (SR) were targeted?
2. How did students respond to the feedback?
3. How did the blog task and feedback combined scaffold SR of reading?

THEORETICAL FRAMEWORK

“Learning is a process, not a state” (Winne, 2015 p. 535), which involves learners regulating their cognitive and behavioural

engagement as they construct or prepare for the construction of new knowledge. Self-regulated learning (SRL) is the ability to monitor and regulate one's own cognitive processes, behaviour and emotions towards a goal (Schunk & Zimmerman, 2007). SRL, as a goal-directed activity, is contextual, as the learning context sets the conditions for students' success, such as relevant goals and criteria for evaluation. It is also agentic in that both task conditions and goals are successively re-defined by what students do (Winne, 2010). The implication is that students who are trained to use a strategy, and have shown their ability to use it, might not apply it again if they deem the task or the contextual conditions to not warrant the strategy.

Several models of SR have been proposed (Pintrich, 2000; Zimmerman, 2000) with considerable overlaps. In the present study, Zimmerman's model was found to be most useful as he underscores the centrality of knowing how to learn and how to apply that knowledge, as well as considering motivational dimensions. Zimmerman's (2000) model is based on Bandura's (1977) theory of social learning; hence, regulation concerns cognition, behaviour and efficacy perceptions, and learners monitor and control both the outcome and process of their learning (their strategies).

SRL is a cyclical process with three recursive phases: *Forethought*, *Performance of volitional control* and *Self-reflection* (Zimmerman, 2000). The first phase is *Forethought*, the processes that precede and set the stage for action, involving goal setting and strategic planning. Goal setting pertains to identifying the intended outcome of the learning activity. In the context of reading, this could be identifying the most important ideas to learn. Strategic planning involves learners' purposeful selection of strategies to assist them in task accomplishment – in our example, one strategy could be reading section headings. The second phase is performance control. *Performance or volitional control* refers to the processes that learners engage with during specific learning actions. Learners engage with the task, activating cognitive processes and strategies (Winne, 2015), as well as focusing attention to *monitor* “specific aspects of [one's] own performance, the conditions that surround it, and the effects that it produces” (Zimmerman, 2000, p. 19). In academic reading, this entails the activation of skills such as self-questioning about comprehension and selecting a course of action if comprehension fails. The final phase is *Self-reflection*. It involves “processes that occur after performance efforts and influence a person's response to that experience. These self-reflections, in turn, influence forethought regarding subsequent motoric efforts—thus completing a self-regulatory cycle” (p. 16). Learners self-evaluate their performance, attributing “causal significance to the results” (p. 21) (e.g. Was my lack of success due to insufficient effort or was the strategy selected

ineffective?) and in relation to the goal set (e.g. Did I succeed in isolating the key points of this text?). Here, an emotional dimension comes into play, as the learners experience varying levels of self-satisfaction (Bandura, 1991).

SRL is a cyclical process. Learners engage in loops of these phases during every study session. This recursiveness stems from the fact that SRL is contextually embedded and agentic. Thus, importantly, strategy selection is contingent – no given strategy will be effective for all learners in all circumstances, and goals and strategies need to be amended as contextual conditions shift (Zimmerman, 2000). The contextualised nature of SRL means that it is best developed through interaction: “Although it is possible to develop self-regulatory competence by personal discovery, this path is often tedious, frustrating, and limited in its effectiveness” (Zimmerman, 2000, p. 28). Interactions allow learners to work within the Zone of Proximal Development, characterised as scaffolding (Wood, Bruner & Ross, 1976). Without scaffolding, models, or feedback, it is very difficult to develop effective SRL and extensive practice is needed for independent self-regulation. Thus, the aim for the blog and feedback was to provide scaffolding to move students towards more self-regulated reading behaviours.

METHODOLOGY AND CONTEXT

The Course

The course was part of an initial teacher training programme for English teachers at a Swedish university. The task and feedback design investigated here were planned in response to an issue identified in a previous iteration of this course (McGrath et al., 2016). This study is thus an example of educational practitioner research (Foreman-Peck & Winch, 2010), where practitioners identify an issue, design an intervention and evaluate it. Authors 1, 2 and 4 taught previous iterations of the course and designed the intervention. For ethical reasons, data for this study were drawn only from groups taught by an additional teacher.

In this academic English course, reading and writing were linked through tasks such as summaries and syntheses, designed to function as a starting point for the assignments required by other courses on the programme. Therefore, all texts students read for the course were linked to a specific writing task and longer writing goals. Students read five texts on vocabulary learning: two chapter excerpts, two research articles and a literature review. The first excerpt was read prior to the course to introduce the theme and key terminology. Subsequently, students read the second chapter, then the literature review, and, finally, the research

articles. One text was read per week. After each reading, students wrote a summary of the text and a blog post documenting their reading experience. The teacher gave feedback on the posts each week, before students read the subsequent text. Students were invited to respond to teacher feedback. Each reading was supported by a seminar (see Figure 1), where reading strategies were modelled and discussed (Zimmerman & Schunk, 2001). In the final (fifth) blog post, the students were asked to reflect on the course. In total, the students were expected to post five blog posts and to receive feedback at least four times.

Data Collection Procedures

The blog as instructional scaffold. The utility of blogs has begun to be explored; for example, Hourrigan and Murray (2010) identified their potential for the development of reflective learning strategies. In our intervention, the aim of the blog was to help students become effective readers by scaffolding their self-regulation in relation to their reading behaviours. Zimmerman and Schunk (2001) posit a four-phase model of the development of SR: observation, emulation, self-control and self-regulation. Our aim was to support students' shift from emulation (the demonstration of the intended skill supported by feedback) to internalisation and independent demonstration (self-control), and eventually self-regulation (the ability to adapt skills to changes in personal and contextual conditions). The blog instruction and feedback were therefore designed to scaffold SR of reading behaviours (emulation), and as a tool to track reading behaviours during the instructional period (i.e. evidence of self-control and self-regulated reading – the third and fourth phases in Zimmerman's model).

Instructions for students (Table 1) were adapted from a previous iteration of the course (McGrath et al., 2016). The first prompt was designed to scaffold forethought and performance control. Prompts 2–4 aimed at scaffolding SR.

The Feedback

Written guidance on feedback was provided to the teacher by the authors. This guidance included a brief theoretical overview of teacher

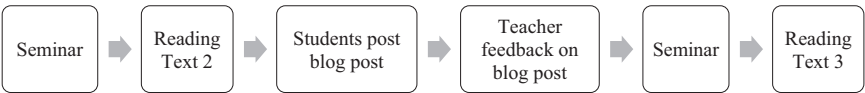


FIGURE 1. The course reading process

TABLE 1
Instructions Given to the Students

Reflect on your reading experience.

1. What kind of strategies did you use? Why? Were they successful? Why yes/no?
 2. Did you have any problems with the reading? What could be the reason?
 3. Is there something you should do differently next time? Why?
 4. If you did something differently, did it work? Why yes/no?
-

feedback, influenced by Hattie and Timperley's (2007) work. Feedback was operationalised as "information provided by an agent (...) regarding aspects of one's performance or understanding" (Hattie & Timperley 2007, p. 81), which aims to move learners towards goals by addressing three fundamental questions: (1) "Where am I going? (2) How am I going? (3) Where to next?" The first question corresponds to goal setting in Zimmerman's model (see Theoretical Framework). The second and third target performance control and self-reflection.

First, our success criteria were established ("where am I going," Hattie & Timperley, 2007), informed by previous research on reading. Criteria were framed as strategic and self-regulatory reading behaviours that students might exhibit (Grabe, 2008) and their evaluation of those behaviours:

- reading selectively and strategically according to purpose;
- identifying important information;
- initiating comprehension-support strategies and processes;
- continuously monitoring their reading and comprehension of the text;
- evaluating the text and the author and forming feelings about the text.

These criteria are characteristics of self-regulated readers (Horner & Shwery, 2002). The teacher was asked to identify evidence of these behaviours (or lack of) in the posts and compose feedback accordingly. For example, feedback could acknowledge student-reported effective reading, and propose how the students could be more effective and their reading more self-regulated. In particular, the teacher was encouraged to provide feedback to promote SR, and, if necessary, to critique students' choices. This corresponds to questions 2 and 3 in Hattie and Timperley's model (the process of task completion and self-regulation). Examples of student posts from a previous iteration of the course were also made available to the teacher. These examples were annotated with example feedback and rationale.

The Participants

A total of 38 students were recruited. Informed consent was obtained, and participants were told that they could withdraw their participation at any time. One student with English L1 was excluded as our focus was English L2 learners, and two students withdrew. Of the 35 remaining, data from 15 students are included in the study: those who posted all blog posts on time and received timely feedback at least four times. This decision was made to ensure consistency of experience across the participants. These students were assigned codes (S01–S15). Of the 15 students, eight were Swedish L1, three were bilingual Swedish, and four used another language as their L1. The data do not show a demographic feature for students who did not complete that distinguishes them from the students who did. The English proficiency level of students at Swedish universities is high (Berggren, 2015). When students start university, they have reached at least CEFR B2 level, and can be considered highly biliterate in Swedish and English (Mežek, 2013).

Data Analysis

The posts and feedback were analysed using NVivo, a qualitative data analysis software. The analysis consisted of multiple iterations of independent and collaborative coding. All inconsistencies were resolved through discussion.

Analysis of Teacher Feedback

In all, 63 teacher feedback posts were analysed. The number reflects the fact that most students did not receive feedback on their final blog post. The length of feedback ranged from 23 to 219 words. Open coding was initially used to gain familiarity with the data; in the first round, all texts were read by Authors 1 and 2 and allocated preliminary, inductively derived descriptive codes (Dörnyei, 2007) pertaining to type of feedback and topic. These codes were then discussed, revised and verified by Authors 1, 2 and 3.

First “types” of feedback were categorised (see Appendix A) by identifying examples of positive comments versus critique, and frequent use of questions. Next, we focused on the teacher’s action: suggesting, encouraging, correcting, etc. This process resulted in some categories splitting into several smaller categories, and others collapsing or being

renamed. The data coding was reviewed and revised by the authors. This iterative process resulted in the identification of seven feedback types (see Table 2).

Next feedback “topics” were identified: We began by identifying the student strategies that the teacher seemed to respond to (e.g. highlighting, deciding what is important, vocabulary strategies). Again, through the iterative process of re-coding, collapsing, expanding and renaming, 13 categories emerged (see Table 3). These were then grouped according to the three phases of SR: forethought, performance control and self-reflection (Zimmerman 2000). Appendix B provides an example of the process.

Analysis of Posts

In total, 75 student posts (five blogs/student) were analysed, ranging from 51 to 495 words. A two-step analysis was conducted by Authors 1 and 2. First, all evidence of students engaging with feedback was inductively coded for type and topic of feedback they responded to (see Analysis of Teacher Feedback). In other words, if what the student wrote was in response to a particular type and topic of feedback, it was labelled with the same codes. Second, the posts were coded for the three phases of self-regulation (see Theoretical Framework). An example of coding is provided in Appendix C. To assure consistency and reliability, the data coding was reviewed, revised and verified by Authors 1, 2 and 3.

RESULTS AND DISCUSSION

We begin with the analysis of teacher feedback, followed by the student posts.

Teacher Feedback

The first research question (RQ1) asked what feedback was provided, and what aspects of students’ reading behaviour and self-regulation were targeted. Table 2 shows the feedback types and frequency. The most common were scaffolding questions (73%) and positive reinforcement (19%). Almost all feedback entries (95%) contained at least one scaffolding question, and most contained several. These questions seemed designed to prompt self-reflection (Zimmerman, 2000),

TABLE 2
Types of Teacher Feedback

Feedback type	Definition	Example	Frequency	
			n	%
Celebration of success	Celebrating students' successful strategy use or improved reading experience	I'm glad to read that you have noticed an improvement in your vocabulary.	6	2
Clarification request	Follow-up questions asked to resolve any ambiguities	You mention vocabulary analysis. What do you mean by this?	1	0
Criticism	Negative statements/criticism or a correction	One reason (besides the workload) that you might have struggled with the text is that you did not have a clear purpose for reading.	3	1
Positive reinforcement	Statements encouraging the student to continue their reading approach	You have a particular purpose in mind (summary), which is an essential part of strategic reading.	55	19
Response to student's query	Direct responses to student questions or issues raised by the student	As for your question, incidental acquisition certainly plays a bigger part for more advanced L2 learners. Text 4 will give you an additional perspective on this issue.	2	1
Scaffolding question	Questions relating to students' strategies or reading experience, intended to bring about an adjustment in reading behaviour	What was the purpose for your reading?	214	73
Suggestion	Advice to improve the students' reading experience and results	Perhaps you could try a few comprehension-support strategies (i.e. something you do to help you understand the text), such as . . .	14	5

TABLE 3
Feedback Topics

SR phase and topic	Definition/References to	Example	Frequency	
			n	%
Forethought				
Follow-up prompts	Post-reading activities	Did you use this information after reading in some way?	11	4
Genre identification	The different genres students read	You are right that Text 3 is a different genre (type of text) [...]. It is a research article, which has a specific structure and stylistic characteristics ...	4	1
Planning the reading	Planning reading, including planning pre-reading	You seem to have a clear plan for your reading.	14	5
Purpose for reading	Reading purpose	What was the purpose for your reading?	40	14
Performance control	Highlighting, underlining and note taking	You mention highlighting. What was the goal?	8	3
Annotation and note taking	Text structure	You mention that you paid attention to the structure of the text, which is a sign of strategic reading.	9	3
Awareness of text structure				
Awareness of vocabulary strategy	Vocabulary and vocabulary-related reading strategies	You also mention unknown words. Did you look up all of them?	49	17
Important content identification	How the reader identifies key content and why that content is important	How can you decide what information (the author thinks) is important?	9	3
Rationale behind reading strategies	The purpose of a specific reading strategy or reading differently for different purposes	Did this also mean you used different strategies when reading to write a summary vs reading to write an evaluation?	72	24
Strategy (unspecified)	Reading strategies in general (no specific mention of purpose, specific strategy, etc.)	You mention the difficulties in keeping focussed when the sentences become too long (as in Text 2). Other than sheer perseverance, what else can you do to ...?	4	1
Strategy selection			18	6

Table 3 (Continued)

SR phase and topic	Definition/References to	Example	Frequency	
			n	%
Self-reflection Strategy evaluation	Which strategies can be chosen, how and why References to the usefulness of strategies and successful uses of strategies	You mention your interest in the topic, which surely makes reading easier. What strategies can you use in cases when you find the text less interesting? How effective did you find this to be?	45	15
Factors impacting reading experience	References to the reading experience in general and factors affecting it	You are right that reading becomes easier when you have more background knowledge.	6	2

¹Six feedback instances, primarily responses to student's queries and celebrations of success, could not be assigned a code for topic, as they did not relate to reading.

encouraging learners to evaluate their reading strategies (1–2) or to tacitly model an alternative reading behaviour (3–4):

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- (1) You mention a range of different strategies [...] Were these strategies successful? (S01 Feedback 1)
 - (2) You are right that it can be helpful to formulate questions [...] How effective did you find this approach? (S05 Feedback 4)
 - (3) What did you do when you encountered unknown words? Did you look up all of them? Were you able to guess the meaning of some? (S05 Feedback 2)
 - (4) How did you decide which parts are useful to highlight for the summary and which for the evaluation? Do you think the approach to reading differs when reading to write a summary vs reading to write an evaluation? (S04 Feedback 3)
-

Modelling alternative reading behaviours also came in the form of suggestions, although these were fewer in number (5%):

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-
- (5) You might see a further improvement if you begin reading with this question: What was the purpose for your reading? (S09 Feedback 3)
 - (6) Reading can be more effective when having a goal in mind. (S15 Feedback 2)
-

In contrast, as reported above, positive reinforcement was more common (19% of the feedback) and found in 68% of the feedback entries. For example (7–10):

-
-
- (7) It's great to see that you have selected different strategies for both reading-to-write purposes [...] as this is a sign of strategic reading. (S13 Feedback 4)
 - (8) It is encouraging that you consider the purposes and tailor your approach to them. (S01 Feedback 4)
 - (9) You seem to have been monitoring your own comprehension, which is a good thing... (S08 Feedback 1)
 - (10) It is good that you evaluate why [strategies] were more or less successful. (S04 Feedback 3)
-

This feedback is useful; self-regulatory skills are only effective if a learner is motivated to activate those skills (Zimmerman, 2000). Presumably, this reinforcement was intended to sustain that motivation. Further (as hoped for in an intervention) positive reinforcement became more common in feedback to posts 2–4.

As we found only isolated instances of celebrations of success, criticism, requests for clarification and direct responses to a student's query, we do not elaborate here. Examples are provided in Table 2.

We now turn to the second part of RQ1: what did the feedback address? Table 3 provides an overview of topics, and how those topics map to Zimmerman's (2000) phases of self-regulation. These results suggest that feedback targeted all three phases of SR. While the focus of feedback of course varied from post to post (depending on each

students' reported performance), most feedback aimed at scaffolding performance control. Feedback related to the other two phases varied in frequency from post to post. Feedback pertaining to forethought was most likely to be found in posts 2, 4 and 5, whereas self-reflection was more prominent in feedback to post 4. It appears that this is due to the teacher adapting the feedback to the changing focus of the posts. Considering that SRL is recursive, that is, "the feedback from prior performance is used to make adjustments during current efforts" (Zimmerman, 2000, p. 14), adapting goal setting and strategic planning to the current context is desirable prior to reading. However, McGrath et al. (2016) showed that students do not always re-use successful strategies, so repeated feedback on particular aspects of reading is presumably beneficial to students. Students' "verbal" responses to the feedback will be discussed in the following sections.

Student Responses to Feedback

In this section, the students' verbal responses to feedback are explored. Most students did respond, and most frequently in blog posts 2–4. In posts 2 and 3, 14 students responded, and in the fourth 13 students responded. In the final blog post, nine students responded.

Despite the task not requiring students to respond explicitly to the feedback, in 17% of cases, students did. Explicit verbal response was mostly in response to scaffolding questions (11–13), which is perhaps intuitive given that a question is inherently dialogic. There were fewer responses to positive reinforcements (14) and suggestions (15)²:

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- | | |
|------|---|
| (11) | <p>Feedback: <u>You do not specifically mention unknown words [...] Did you look up all of them? Were you able to guess the meaning of some? If so, what helped you to guess?</u> (S02 Feedback 2)</p> <p>Response: <u>And to answer to your questions</u> about the unknown words, I usually try to infer their meaning from the context. (S02 Blog 3)</p> |
| (12) | <p>Feedback: <u>You mention highlighting. What was the goal of this strategy? Was it successful? Did you use the highlighted passages for any purpose after reading?</u> (S08 Feedback 2)</p> <p>Response: <u>You asked me in my last blog that if I use the highlighted passages [...]</u> I use it as a help when summarising the text later and to find the main points of the text faster so I do not need to reread the whole text. (S08 Blog 3)</p> |
| (13) | <p>Feedback: <u>You mention looking up unknown words. Do you think there might be a benefit in not looking up words in certain cases? If so, when and why?</u> (S13 Feedback 1)</p> <p>Response: <u>To give response to your feedback</u>, reading a text and the specific sentence might give you an idea of the particular word meaning, rather than to look up every unknown word in a dictionary. If when, I would</p> |

² Minor grammatical errors in students' writing have been corrected.

- probably say when there is maybe a time limit or I have not access to a dictionary. (S13 Blog 2)
- (14) Feedback: As for the summaries, you are right that they direct attention to important information. (S02 Feedback 1)
 Response: As for summarising the text, it is a bit time-consuming but really useful in order to understand the main points. (S02 Blog 2)
- (15) Feedback: ... there are certain strategies which might aid your focus and memory, e.g., highlighting and note taking. Depending on the purpose for reading, one or the other might be more appropriate. (S06 Feedback 1)
 Response: As you suggested I used markers to become more active in the reading and I felt that it actually worked out very well (S06 Blog 2)
-

Most engagement was implicit, that is, we could trace a connection between prior feedback and a change in students' reported reading behaviour, although this was not signalled overtly. Feedback pertaining to performance control was most likely to prompt this type of engagement, such as questioning students' decisions as to which parts of the text were important (78% response rate), probing the rationale behind strategies (44%), and questions about text structure (67%). For example, in (16), the teacher asks how the information that was noted was selected. The reply suggests that the feedback prompted the student to reflect on his decisions. The student evaluates the information he was reading based on usefulness, and, as part of this process, notices that identifying text structure is helpful:

-
- (16) Feedback: You mention taking notes when you encounter important information. How do you decide what information is important? (S12 Feedback 1)
 Response: For the reading this time I went with mostly the same approach [...], but with some more focus on what would be beneficial for me to note down. The things I decided to note down was: the title for the paragraph then followed by the topic sentence, research results and things pointed out clearly by the author, for example when he marks the beginning of a sentence with a number or letter... (S12 Blog 2)
-

In (17), the student replies to the question about how strategies and purpose are connected by explaining that she chose questions that would help her write her summary. She then explains how she used these questions while reading. The teacher's question thus encouraged the student to think about how she applies this strategy in practice, and not just which strategy and why.

-
- (17) Feedback: Reading can be more effective when having a goal in mind [...]. To what extent were the strategies influenced by the purpose for reading the text? (S15 Feedback 2)
 Response: Before reading the material, I have prepared questions relating to the purpose of reading text 4 which is summarization and evaluation of the
-

text. I focused on the key points that answers my questions and will help me achieve my objective. (S15 Blog 3)

Feedback also helped students identify why they found a particular text easy to read, connecting student reading experience to text structure (18):

(18)	Feedback:	<u>You mention that Text 4 was easy to read due to its length. Was there also something in the structure that helped you follow along?</u> (S14 Feedback 3)
	Response:	Much like text 4, this text is short and compact with <u>subtopics making it easy to follow along when reading through without skimming</u> (S14 Blog 4)

Feedback targeting evaluation and reflection had a lower verbal response rate (31%). Nonetheless, those responses did evidence evaluation of reading performance. Examples (19) and (20) illustrate this:

(19)	Feedback:	You mention skimming and reading the subheadings [...] Why did you choose these strategies? <u>Were they successful? Why (not)?</u> (S04 Feedback 1)
	Response:	I employed the strategy of skimming the text before reading it. <u>I found this to be rather effective</u> , I do believe I did not reread lines as I often as I do while reading more challenging texts. [...] While skimming the text I also took note of unfamiliar words and looked them up [...] <u>this helped greatly with reading the text continuously.</u> (S04 Blog 2)
(20)	Feedback:	... this is a sign of strategic reading. <u>Did you find your approach effective?</u> (S13 Feedback 4)
	Response:	<u>When I started to think about for what purpose I read or wrote for, it helped to create a better understanding for the text.</u> (S13 Blog 5)

In some cases, teacher feedback early in the sequence resulted in changes in behaviour across multiple blog posts. For example, two students received feedback prompting them to evaluate their reading strategy. Both responded to feedback and subsequently evaluated their performance. For Student 4 (21), this meant trying a new strategy in post 3 and, when that did not work, switching back. This switch, as reported in both posts 4 and 5, appears to have been more successful:

(21)	Blog 3:	After this I read the first and last sentence of each paragraph. By doing this I wanted to get a better idea of the text, though I am not sure that this helped much. I did get a clearer picture, but not necessarily enough for it to have been worth the time spent. Next week I will probably return to the method I employed last week: reading the text after formulating ideas and questions.
	Blog 4:	I found that this technique works best for me.
	Blog 5:	I found that this was the best strategy for me as it helped me follow the text and understand it better. (S04)

Student 15 also reported switching strategy in response to feedback (22). After explaining in her first post that she always uses the strategy reported, the teacher asks her whether she ever varies strategies to fit the purpose of reading (prompting forethought and an awareness of contextual conditions). Her verbal response follows:

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- (22) I have used a different strategy when I read text 3 and it felt like I was more efficient, but I do not know if it is more effective. In my point of view, text 2 is a much more complicated material than text 3. However, I can also point out that text 3 is easier for me to read because I have been exposed to various readings in the last few weeks that is associated with the topic. (S15 Blog 2)
-

To summarise, most students responded overtly or implicitly to feedback. Some responded immediately. In other cases, we saw shifts in reading behaviour related to feedback over the longer term. Considering research that suggests students do not always engage with feedback (e.g. Schinske & Tanner, 2014), we cautiously consider this to be a positive result. Nonetheless, 20 students were removed from the study since they did not post by the deadline and therefore did not receive timely feedback (see The Participants). Students seemed most attentive to feedback pertaining to performance control – paying attention to the activation and monitoring of their cognitive processes (Winne, 2015). Less frequent was students’ attention to feedback to promote evaluation and reflection (Phase 3). In SRL terms, this could be problematic as this phase informs the subsequent cycle of activity. Furthermore, it is in this stage that learners can experience varying levels of self-satisfaction (e.g. Bandura, 1991), important for sustaining motivation. Nonetheless, as the following section will show, the blog instruction seemed to counteract any lack of engagement with feedback.

Student Blogs: The Role of the Instructional Scaffold in Relation to Feedback

The majority (84%) of student comments evidenced self-regulation. However, only 41% of these comments could be linked to feedback. The task, therefore, promoted SR in students. All posts 2–5 evidenced all three phases of self-regulation, and there were multiple examples of self-reflection and evaluation of reading and learning, including awareness of the influence of contextual conditions, and satisfaction. For example:

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- (23) I was positively struck by the fact that I was absorbing the content a lot faster for text three, and I think it depends on the fact that by now we have been exposed to some literature that deals with the subject about language learning and

acquisition of vocabulary. [...] a lot of the terms that were new to me were this time repeated in a context I am a bit familiar with and therefore making the reading more enjoyable. (S10 Blog 2)

Overall, students tended to pay least attention to forethought, yet comments pertaining to this were still present in 69% of the posts, around half of which seemed unprompted by teacher feedback. Comments prompted by feedback tended to focus on the purpose for reading a text (24), often in relation to a writing task (25).

- (24) My intention while reading the fourth text was to find a reason to utilize it in the future. (S02 Blog 4)
- (25) My reason for reading this text is writing a summary and an evaluation of it. (S14 Blog 4)
-

In contrast, task-prompted forethought tended to focus more on planned reading strategies for subsequent readings. These strategies could be regulating behaviour as opposed to cognition (26), and were not always likely to be effective recall strategies (27):

- (26) The main point of my reading this time was to try and keep focus on the reading [...] For the next time I will certainly set out a specific time (or several times if need be) for me to do the reading so I can organize my reading to avoid being interrupted. (S06 Blog 2)
- (27) Next time I'm going to do the exact same thing. But also read through the text more times than just two so that the main idea gets stuck in my head for a longer time. (S08 Blog 2)
-

Comments pertaining to performance control were found in almost all posts (90%). Again, there was a roughly equal number of those prompted by feedback and those by task. Here, irrespective of prompt, students either described the different steps in their reading process (28) or reported how their reading process differed from previous reading sessions (29), or remained the same (30).

- (28) I started reading thoroughly, noting down the keywords and important details that are necessary for my summary. [...] I wrote down a draft of my summary and then continued with my evaluation. I reread the text quickly for my evaluation, having more focused on the studies that were mentioned... (S15 Blog 4)
- (29) This week I tweaked the strategy somewhat: ... (S04 Blog 3)
- (30) My approach for this reading was more or less the same as the last one, by taking notes and writing down new words so that I can look them up in a dictionary. (S12 Blog 3)
-

Although self-reflection was present in most posts (90%), only around a third seemed tied to feedback. The comments presumably

prompted by task were most frequent in posts 2 and 3 and pertained to performance evaluation (31–32) and overall reading experience (33–34). Comments were positive or negative, with some linked to strategy selection (32) and engagement in SR (33):

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- (31) ... this week's reading is not my best performance, far from to be honest. (S06 Blog 3)
- (32) I was a bit lazy this time with pre-reading of the text: skimming through subheadings and structure etc. (S10 Blog 3)
- (33) I felt reading this time was much more purpose focused and organized based on the fact that I could plan ahead and prepare. (S01 Blog 2)
- (34) Usually I always print out the readings that we are assigned, but because I didn't have access to my printer this time, the reading experience was a bit more challenging. (S10 Blog 4)
-

In terms of evaluating their performance, task-prompted evaluation tended to focus on the difficulty experienced in reading the text, without relating that experience to, for example, genre or strategies used (35–36).

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- (35) I thought text 3 was harder to read, the way it is written may be a bit too advanced for me. (S05 Blog 2)
- (36) This text was easy to read and to understand. (S08 Blog 3)
-

In contrast, feedback-prompted evaluation seemed to be an evaluation of their reading experience in the light of strategy selection (37–38) and justification for that selection (39).

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- (37) As for summarising the text, it is a bit time-consuming but really useful in order to understand the main points. (S02 Blog 2)
- (38) I can conclude that this strategy is effective because it is easier for me to organize my thoughts in writing what is important and needed in my assignments. (S15 Blog 4)
- (39) It gives me a better understanding about the subject in the text, especially with readings that are longer. (S10 Blog 2)
-

While the task prompt was effective, feedback helped to bring students' focus back to the specifics, instead of focusing on a more general evaluation of strategies. This finding also explains why the teacher gave less feedback on self-reflection and why students responded to that feedback less – the students were already reflecting. Nonetheless, feedback on self-reflection shifted students' focus from the more general (“I did well”; “the text was hard”) to a more self-regulatory approach (“the reason I did well was because I used X strategy”; “this strategy was not good enough for this text”). As students had autonomy in choosing what to write about, feedback could be tailored to the individual student's focus, and thus both feedback and the task

were meaningful for the students. To summarise, the results suggest that SR was primarily scaffolded by the task instruction rather than feedback. Nonetheless, feedback played a role by focusing students on relating their prior reading experience to future readings and encouraging them to evaluate their reading experience meaningfully.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS

We begin by providing student reflections on the intervention, recorded in the final post, which provide insights into how students experienced their learning. Some students commented that, at first, they failed to understand the purpose of the posts (40), or the benefit (41). Nonetheless, they came to recognise that the intervention supported them in becoming more self-regulated readers.

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- (40) I really enjoy this last blog post and I must admit that it took a while for me to understand the purpose of even writing them to begin with but now I do. I feel I have developed a lot in my efficiency when reading and writing. (S01 Blog 5)
- (41) I did not know what to expect, since I thought that everybody should be already capable of reading, or so it seems. However, I have had the opportunity to reflect on my personal approach to reading and I realize that it was not so structured and effective as it should be. (S02 Blog 5)
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Most blog posts provided descriptions of the students' learning. For some, this learning was unanticipated (42):

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- (42) ... reflecting over how I have developed in reading strategically, I realised I have not necessarily made much improvement in what I thought I would have at the start of the semester. At first, I believed that I would be better at taking notes, planning my reading and reflecting over what I have learned. Instead, I have developed abilities in recognising the differences in a variety of texts and therefore made it much easier for myself to identify important information and make use of selective reading. (S14 Blog 5)
-

For others, the focus on self-regulated reading was not entirely new; the course instead helped them to refine familiar strategies (43–44).

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- (43) I had [...] heard of pre-reading before but never used it in practice. As it is a, from my point of view, quite extensive procedure. However, after trying it for this course I realised what parts I benefited from and what parts I could skip... (S06 Blog 5)
- (44) My prior reading strategies has remained basically the same throughout the course. However, I can now apply them more suitably and effectively given the skills I have developed... (S10 Blog 5)
-

The intervention was therefore meaningful not only for students who struggled but also for those who considered themselves to be effective academic readers. This outcome is perhaps a result of the individualised feedback, tailored to the students' needs. Nonetheless, multiple students did not complete tasks on time (see section titled *The Participants*) and thus did not receive feedback. This suggests a possible need for more flexibility with deadlines, although the impact of that flexibility on the teacher would need to be considered. As feedback is time-consuming, some issues could be addressed in seminars, if opportunities for discussion with individuals can be built in – this would be time well spent. To maximise student engagement, it may be useful to remind students of the purpose and benefits of the task (see examples 40, 41), and use the students' blog post responses in seminars as a basis for discussion. This could foreground the task and feedback in the curriculum and reinforce the connection between reading at home and the university learning context.

We began by asking what feedback the teacher gave and what aspects of students' reading and self-regulation were targeted. The teacher in the study used the guidance provided to scaffold students' SR, which provides an example of how clear, research-based (i.e. Hattie & Timperley, 2007) guidance can facilitate good feedback practices. The feedback addressed all three phases but focused on performance control and evaluation. In terms of how students engaged with the feedback (RQ2), their verbal response could be implicit or explicit, and evident across several cycles. In other cases, engagement was inconsistent or absent (see Schinske & Tanner, 2014). Scaffolding questions were most likely to prompt a verbal response and feedback guided some students to more self-regulatory reading even when they did not explicitly respond. Research question 3 asked how task and feedback combined to scaffold SR. We observed that participants who did not engage extensively with the feedback did nonetheless show evidence of all three phases of SR, particularly self-reflection and evaluation of their reading and learning. While students engaged with the feedback to some extent, especially when the feedback was framed as a scaffolding question, the tasks prompt was necessary. At the same time, continuous feedback redirected students' attention to new ways of reading, focusing students on less superficial aspects of the task, and reminding them of behaviours they had previously, and successfully, engaged in. Thus, teacher feedback helped students to make connections in their learning and supported the recursive aspect of SR. In short, both task *and* feedback were needed. The results have therefore shown that a carefully developed pedagogical approach, with a well-designed task and feedback that scaffolds students' reading, can positively influence what students do outside of the classroom, in an authentic reading context.

The affordances of the blog provided insight into the “black box” (Casanave, 1988, p. 8) and enabled the examination of strategies students have and what they do with those strategies in their own study contexts. These affordances combined with task design and feedback prompt the following further recommendations for practice. First, the participants in this study were more inclined to self-regulation than those in McGrath et al. (2016). This underscores the importance of a carefully structured task, where students have autonomy and agency over what they want to address, and individualised feedback. Our study also provides examples of how feedback can be constructed to scaffold students’ SR when reading in their own contexts. If replicated, teachers should use scaffolding questions as these are most likely to trigger engagement. Feedback was time-consuming but worthwhile as revealed by the positive reflections of the students. To support the teacher, training, a clear framework, rationale and examples of feedback should be provided. Finally, as discussed in the methodology section, only half the cohort were included in the study as not all students posted timely feedback. Therefore, a clear explanation of the purpose of the intervention and the potential learning gains must be provided to students. Furthermore, students should be given time to share learning experiences in seminars, as this may encourage them to post more regularly on the blogs.

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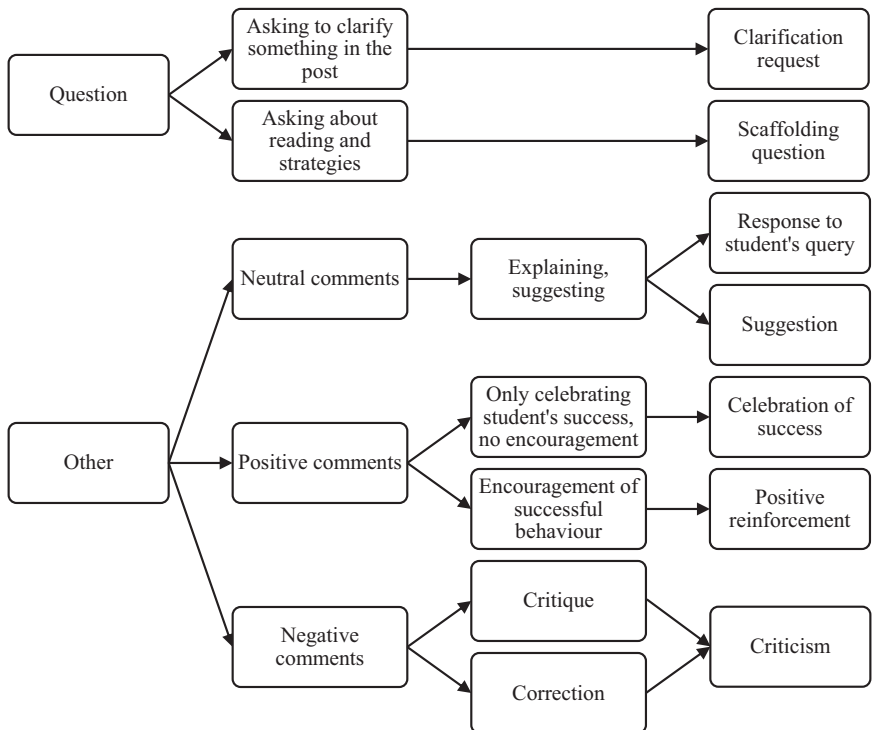
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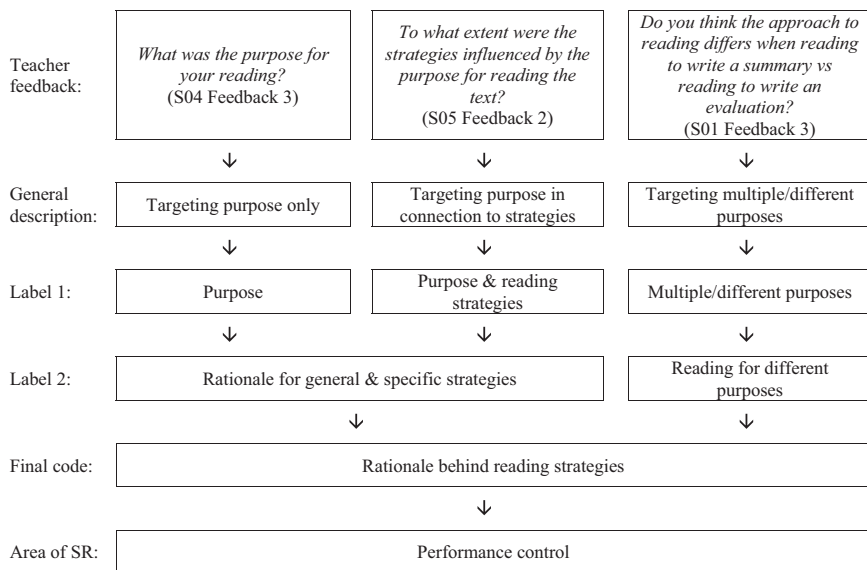
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APPENDIX A Development of Codes for Teacher Feedback (Type)



APPENDIX B An Example of Code Development for Teacher Feedback (Topic)

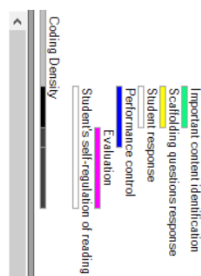


APPENDIX C An Example of Student Post Coding (in NVivo)

Reading journal 2

Huckin, T., & Coady, J. (1999). *Incidental vocabulary acquisition in a second language*

I read text 3, at first I leafed through all the pages to get an overview of what I had to read. I did all the steps that I talked about in previous blog post, but in order to get some variety in this reading, I focused on finding the key points. By looking for the key points in the text I got a quicker insight into what this text was about. However, I think this way of reading is very time consuming and therefore I am considering changing my way of reading the texts by selecting two points of my list for text 4.



AN EXAMPLE OF STUDENT POST CODING (DETAILED VIEW)

Reading journal 2	Student response to: Feedback type Feedback topic		Student's self-regulation of reading:
<p>Huckin, T., & Coady, J. (1999). <i>Incidental vocabulary acquisition in a second language</i></p> <p>I read text 3, at first I leafed through all the pages to get an overview of what I had to read. I did all the steps that I talked about in previous blog post, but in order to get some variety in this reading, I focused on finding the key points. By looking for the key points in the text I got a quicker insight into what this text was about. However, I think this way of reading is very time consuming and therefore I am considering changing my way of reading the texts by selecting two points of my list for text 4.</p>	Scaffolding question	Important content identification	Performance control Evaluation