
NOVICES READING PRIMARY LITERATURE ONLINE: A QUALITATIVE STUDY

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Abstract. Reading research articles online is now considered a vital skill for undergraduate students. Nevertheless, previous works on training undergraduates in reading the specific genre is scarce. This paper presents the findings of a qualitative exploration that aimed to investigate the potential online reading behavior changes of three Greek biomedical students who participated in a metacognitive-genre-based EAP course for one academic semester. Our results suggest that the course enhanced students' familiarity with the research article genre and benefited their overall reading strategy use.

Keywords: primary literature, genre, reading strategies, biomedical education.

Introduction. Greek undergraduate students often encounter academic reading problems when they first attempt to read primary literature genres such as research articles (RAs) in English [1]. Nevertheless, in many academic disciplines reading RAs is seen as a form a scientific literacy that should be developed before the postgraduate level [2]. Regarding biomedical disciplines in particular, professional organizations and accreditation boards both from medical and engineering education fields have long been emphasizing the significance of undergraduates selecting and reading high-quality research however, core-subject biomedical professors do not have time for such a time-consuming task and suggest that this challenging task should be embedded within students' EAP courses [3]. Previous works within the English for Academic Purposes (EAP) field on how to train biomedical students to read RAs in English are scarce and have not focused on the field of biomedical science. To fill this gap, this work presents a qualitative investigation that aimed to explore possible changes of three Greek biomedical students' RA reading behavior after receiving metacognitive-genre based instruction within an EAP course for one academic semester. Accordingly, our guiding question for this qualitative work was:

How does explicit RA genre instruction within an EAP course translate into undergraduates' RA reading strategies?

Methods. This study adopted a case study [4] methodology as it investigated a specific situation within a specific context and included data only from three fourth-year EFL Greek undergraduate students, two males and one female. The participants were purposefully selected based on certain criteria that classified them as poor readers. As our main goal was to explore students' RA reading strategies before and after receiving genre-specific reading instruction, we decided to design an RA reading test and conduct concurrent think aloud protocols prior to and after the course we offered so we could compare potential changes in participants' RA reading behavior.

Research Procedure. An EAP metacognitive-genre based course [5] was designed and implemented specifically for the needs of fourth-year biomedical engineering students. The course materials were based on specific biomedical RAs that were coded using the Swalesian move analysis approach [6; 7]. The course was delivered online on the Moodle platform weekly for one academic semester. As mentioned earlier, prior to the course, students took a test that was specifically designed to test their RA reading comprehension skills. After the course completion, the students took the same test so that we could explore any possible changes on their online RA reading strategies.

Data Analysis. Think-aloud recordings were transcribed and analyzed qualitatively using a combination of bottom-up and a top-

down coding methods [8]. Subsequently, we compiled, disassembled, reassembled, interpreted, and concluded on specific themes emerging from our data focusing on specific RA online reading strategies [4].

Results. This qualitative study aimed to explore the L2 potential differences on biomedical students' reading behaviors after receiving metacognitive-genre based instruction by listening to their voices via concurrent think-aloud protocols. This section presents some of the major themes emerging from our analysis after comparing students' concurrent think-aloud protocols before and after taking the metacognitive-genre based course. The three major themes that emerged from our analysis was i) prediction strategies ii) expeditious reading strategies and iii) support strategies.

Prediction Strategies

Data analysis of students' protocols prior to and after the teaching intervention, showed that after the course, all three participants utilized more prediction strategies that helped them to activate their prior knowledge regarding the subject of the article. More specifically, at the post-test, P1 read the Journal title and the RA title and explicitly made guesses on the content of the RA:

"This is going to be for an application for deaf people obviously and they have designed something new probably..."

(P1-Second time protocol)

P2 on the other hand, made predictions regarding the length of the article and he subsequently scrolled down to validate his guesses. Interestingly, he thought that the article was actually short whereas at the first protocol he seemed shocked and discouraged to even attempt to read such a s long article in English:

"...8 pages is actually ok for a research paper...It's doable, usually they are much longer."

(P2-Second time protocol)

Participants' accounts at the second time protocols, also revealed their conscious effort to use the Abstract as a prediction strategy that could help them to get a quick, top-down view of the article they would read. By contrast, at the first protocols none of them referred to the importance of reading the Ab-

stract in order to comprehend the article more effectively:

"...The first thing I am going to do is to read the Abstract, because it always helps me to understand it better."

(P3-Second time protocol)

Expeditious Reading Strategies

Another important theme from our analysis, was participants' use of expeditious reading strategies such as skimming and search reading. In the first protocols prior to the course, all three participants seemed to face difficulties with answering the test questions within the allocated amount of time. P2 seemed to believe that it was impossible for him to read the article and answer the questions of the test as he believed that the "proper" way of reading the article, was linearly, sentence by sentence. At the second time protocol however, he seemed more confident and applied a combination of expeditious reading strategies that helped him to find the answers quickly and efficiently. Interestingly, his second time protocol reveals that before even starting the task he had a specific planning strategy in mind:

"... I will first skim the whole article quickly so that I know how they have structured it, where is the methodology and the results and then I will be reading the questions and search for the answers in the specific sections..."

(P2-second time protocol)

Support Strategies

Data analysis also revealed a change on students' use of support strategies such as zooming in and highlighting important information. In the protocols prior to the course, participants highlighted random parts and whole paragraphs without an explicit goal. At the second time protocols, they seemed more strategic and highlighted specific sentences and words that were relevant to the question they were answering. Another change we observed after analyzing participants' protocols was that during the first-time protocols, all three of them used google translate extensively even for text chunks they fully comprehended. This turned out to be a rather ineffective strategy, as they wasted a lot of time in literally editing Greek text irrelevant to the goal of the question they attempted to answer.

By contrast, at the second time protocols, all three of them used online translation tools targeted only on important lexemes that played an important role in comprehending a specific section or answering a question.

Conclusion. Overall, our findings agree with previous works on novices reading primary literature that suggest that the lack of genre schema causes significant problems on RA reading comprehension [5; 1]. These problems can be at least partially compensated with the explicit teaching of RA genre-specific reading strategies. Similarly to Negretti and Kuteeva [5] and Van Lacum et

al. [8] after receiving genre-specific instruction, our students seemed more confident in applying top-down RA reading strategies which is a characteristic of expert RA users. Bottom-up linear reading was replaced by prediction strategies, using the Abstract as a pre-reading cognitive organizer and efficient location of information based on the reader's goal. Accordingly, we suggest that EAP courses for undergraduate students should include explicit RA genre instruction in order to facilitate learners' RA reading processes and contribute in their overall disciplinary socialization.

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ЧТЕНИЕ ПЕРВОИСТОЧНИКОВ ОНЛАЙН ДЛЯ НАЧИНАЮЩИХ: КАЧЕСТВЕННОЕ ИССЛЕДОВАНИЕ

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***Аннотация.** В настоящее время чтение научно-исследовательских статей из интернет-источников считается жизненно важным навыком для студентов-бакалавров. Однако, существует не так много работ, посвященных обучению студентов чтению литературы определенного жанра. В данной статье представлены результаты качественного исследования, направленного на изучение потенциальных изменений поведения в результате чтения литературы из Интернет-источников. В исследовании приняли участие трое греческих студента биомедицинского факультета, которые в течение одного академического семестра посещали курс EAP, основанный на изучении метакогнитивных жанров. Наши результаты показывают, что курс улучшил знакомство студентов с жанром исследовательской статьи и их общую стратегию чтения.*

***Ключевые слова:** первоисточники, жанр, стратегии чтения, биомедицинское образование.*