



When Scientists Meet an English Language Teacher: A Genre-Based Course for Teaching Science and Technology Writing

Issra Pramoolsook

Suranaree University of Technology (Thailand)

issra@sut.ac.th

1. Introduction

In the fast developing and competitive world of knowledge discovery and dissemination, the presentation of research findings through publication is crucial. The English language has increasingly become the dominant language for publication of academic research findings. This is coupled with the rising pressure from advanced educational institutions on academics to publish their research in major English language peer-reviewed journals for academic prestige and rankings. Therefore, a linguistic burden is put on the researchers whose native language is not English if they wish to succeed in the international discourse community of researchers through writing research articles. In the university context, the students' difficulties coping with writing tasks put a heavy burden on the lecturers. Their works are often written in poor English that needs considerable correction. The problem is not too hard for short written assignments, but when it comes to a longer and more elaborate work such as the dissertation and research article, the problem multiplies. At Suranaree University of Technology in Thailand, the traditional writing classes offered by English language teachers do not address this demand effectively, reflected through the students' still disappointingly poor writing. Hence, a different kind of academic writing courses is necessary and should be explored to better equip the students with a better writing proficiency.

2. Introducing the Genre-based Approach

Genre approaches to writing instructions are rooted in the idea that any successful text reflects its writer's awareness of its context and the readers that form part of that context [1]. The writer has to draw on his own past experiences of what makes up a successful text for a particular communicative purpose and context. It is strongly believed that the writer can write more effectively when he is assisted or taught to recognize the conventional characteristics of the target text. As a consequence, in genre-based classrooms, students are encouraged to examine various aspects of text such as its communicative purpose, its rhetorical structure, and the evident linguistic features found typical of different parts of the text. The knowledge from this examination is then used to compose an acceptable text.

Researchers and practitioners who prefer to call themselves the ESP group focus their studies on the implications of genre theory and analysis of written texts to the teaching English for Academic Purposes (EAP) or for Professional Communication (EPC). The main proposition of this group is that the results of analyses of the target genre and text types will offer pedagogically useful insights for helping students control the organizational and stylistic features of those texts. They have proposed that the benefits of genre-based applications can help non-native speakers of English be aware of and then have a good command of the functions and linguistic conventions of the types of texts that they need to read and write in their specific disciplines and professions. Therefore, in the classroom environment of this approach, the emphasis is placed on the teaching of genre structure, moves and steps in textual development, and grammatical features that are common to realize the communicative purposes of each move and step. In summary, the ESP group's instruction cycle normally follows the following steps.

- A thorough and detailed textual and linguistic analysis of the target genre and texts, which can be conducted before the class or done with the students in class
- Presentation of the results as a model to raise awareness about the genre conventions
- Writing and language practices for awareness reinforcement
- Students' production of texts in the target genre similar to the model

Another powerful contribution is the work of the Australian approach in genre studies which aims at the promotion of literacy in schools starting as early as the primary level.

The approach also later expands to provide a framework that helps explain genres used at all educational levels, including secondary schools subject classes, adult migrant programmes, academic disciplines, and professional workplaces [2]. The genre-based literacy teaching, the term the researchers and practitioners in this tradition prefer to call their approach, owes its conceptual origin to Michael Halliday, founding professor of Linguistics at the University of Sydney. His influential systemic functional linguistics theory provides a theoretical foundation for the development of genre theory. One of his propositions is to build up a bridge for more cooperation between linguists and language educators [3]. A widely recognized Australian model for genre instruction is called 'the teaching-learning cycle' which outlines the process of genre instruction in three phases. Macken-Horarik [4] summarizes the cycle as follows, and a visual presentation of the cycle looks like the illustration below.

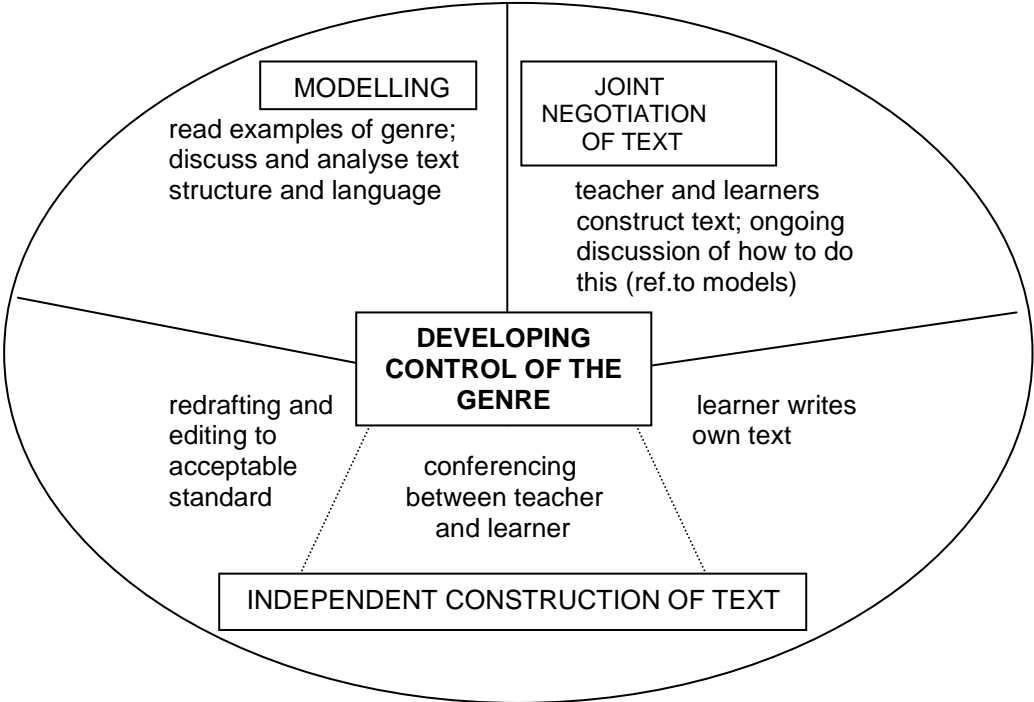
Phase 1: Modeling: In what is popularly termed an explicit pedagogy, the teacher provides learners with models of the genre in focus and helps them explore the social function and purpose of the text, its prototypical elements of structure and its distinctive language features.



Phase 2: Joint Negotiation of Text: The teacher and learners jointly compose a new text in the focus genre, drawing on shared knowledge of the structure and features of the genre.

Phase 3: Independent Construction of Text: The learners begin to gain control of the genre. The teacher's intervention is minimum whereas maximum is the learners' collaborative work on their own texts using processes such as drafting, conferencing, editing, and publishing.

Figure 1. The Teaching and Learning Cycle



3. Genre-based Approach in Action

The course 213540 *Academic Writing for Graduate Science and Technology Students* was offered for the first time at Suranaree University of Technology, Thailand in Trimester 2/2011 (September-December). The course emerged as a result of the rising demands for language support for writing dissertation and research article made by faculty members and students to the School of Foreign Languages. The design and implementation of the course benefit from the insights gathered from the two major approaches reported above that have been adopted in a variety of educational contexts worldwide. The course is product-based as the students work towards the course target which is composition of three products or genres necessary for their dissertation and research article i.e. abstract, Introduction, and Literature Review. The course is process-oriented due to its engagement with a series of activities stated in the teaching and learning cycle. Fourteen postgraduate students from different science and technology disciplines such as Chemical Engineering, Polymer Engineering, Food Technology, and Mathematics enrolled in this course.

The trimester lasted for 12 weeks, so three weeks were allocated for each genre, each week with three hours for each stage in the cycle. The first week is for orientation and introduction of the genre-based approach while the last two weeks for wrap-up session and final examination. This paper reports the implementation of the first genre, the abstract.

3.1. Stage 1

The students were encouraged to discuss about various aspects of the abstract such as its significance, its communicative purposes, its location, its function, and what information is included in a typical abstract. The questions of *what, when, who for what, and what included* were posed to stimulate their thinking. This discussion aimed to prepare the students for the presentation of the target genre that follows. Then, the background information about the abstract such as its definition and communicative purposes was shared with the students. The aim of this sharing was to raise their awareness of the genre meanings before emphasizing the form of the genre. Next was the presentation of 4 proposed rhetorical structures of the abstract selected from the literature. These frameworks aimed to reinforce the student's ideas about what kind of information is included in the abstract and how different kinds of information are organized. The variety in the frameworks showed to the students that there are variations in writing and they are open to more than one type and one rhetorical structure of abstract. As the last activity in this stage, authentic abstracts selected and provided by these students' professors were



distributed and the students were asked to identify the type of the model texts first, and then went on to identify the moves present. In addition, they were also asked to pay attention to the prevalent linguistic features of each move, and made some notes. The students took full responsibility of the text examination and the teacher acted as an observer of their analysis walking around and as a facilitator when questions came up.

To prepare for the second stage, a social science article based on a survey study which is understood by all the students from different disciplines was given to the students, with the abstract deleted. They had to read the article and come back next week to reconstruct the abstract of the article.

3.2. Stage 2

The joint negotiation of abstract construction was different from that in the teaching and learning cycle. The students had to work in groups of 4 and negotiate their ways to produce an abstract for the article given as their homework. Each group commonly started with a discussion about the content of the article, followed by making decisions about the type of abstract which indicates the structure of their target text. Then, each in the team helped choose the content for each move of the abstract with careful consideration on the linguistic features typical for each move. This step aimed for the students to recall the information covered in the first stage and to see what the actual process of writing an abstract requires. The teacher again visited each group and helped when need arose. The last hour of this stage is to compare the four drafts to highlight the strengths and weaknesses of each.

Before the end, each student was again given a research article in their field of study with the abstract deleted. These articles were supplied by their professors who know what specialized research areas their students were working on and what effective abstracts in their fields look like.

3.3. Stage 3

After preparation at home, the third week was for the students to write their first draft of the abstract based on the article given in Stage 2. They had two hours to finish and they could ask for the teacher's help when they needed. Fourteen abstract first drafts were for the teacher to read and comment. In the last hour, the students and teacher met again and discussed ways to improve the first draft both structurally and linguistically. The students worked on the revision further by themselves before submitting the final draft the next day. One characteristic of the genre-based approach worth noting is the role of the students in terms of the control over activities. While they are quite passive in the modeling stage, their roles become more active in the text analysis and practice and then take a full control of activities either in group or individually in the genre production stage.

The evaluation of the course is based on the first draft and the revision quality for the second draft. The same process continued with the second and the third genre for the next six weeks. At the end of the trimester, all the drafts were sent to the students' professors so that they could see the products and the writing development of their students as a consequence of the course.

4. Conclusion

A small questionnaire survey was conducted after the course to find out about the students' attitudes towards and opinions about this approach. The answer indicates the potential of introducing the genre-based approach for teaching writing of academic and research genres in this particular context. The course was reported to be an interesting and beneficial one as it allows close negotiations among the students, the content professors, and the English language teacher, the three key parties in the writing up of dissertation and research article.

References

- [1] Hyland, K. (2004). *Genre and Second Language Writing*. Michigan: The University of Michigan Press.
- [2] Feez, S. (2002). Heritage and innovation in second language education. In Johns, A. M. (ed.). *Genre in the Classroom: Multiple perspectives* (pp. 43-70). Mahwah, NJ: Erlbaum.
- [3] Cope, B. and Kalantzis, M. (1993). Introduction: how a genre approach to literacy can transform the way writing is taught. In Cope, B. and Kalantzis, M. (eds.). *The Power of Literacy: A genre approach to teaching writing* (pp.1-21). London: Falmer Press.
- [4] Macken-Horarik, M. (2002). "Something to shoot for": a systemic functional approach to teaching genre in secondary school science. In Johns, A. M. (ed.). *Genre in the Classroom: Multiple perspectives* (pp. 17-42). Mahwah, NJ: Erlbaum.