

## Critical reflection on teaching of poster to Japanese Technical University Students

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### Abstract

Science and technology students require the specialized skill of writing an abstract, and a poster which is an expanded form of abstracts. This paper reports the issues involved in teaching of abstract and subsequently a poster in a technical English program of a Japanese university. Students belonged to 3rd year undergraduate students and were first taught to write an abstract through teaching of the required generic moves for an abstract of a research article (RA). Students' experiments and projects were utilized to construct the contents of the poster to form, Introduction, Methods, Results and Summary. Poster preparation (layout, results) and presentation were done individually. Such an approach was found to empower the students with the required skills. However, reflecting back, lack of understanding of the contents toward the development of the poster, motivation of some students, and student-teacher mismatch of interests all came into light. (145 words)

*Key words:* ESP, EAP, Technical English Teaching, Reflecting practice

### I. Introduction

In the technical English program, as a part of the curriculum, one of the main tasks is poster presentation by individual students. This is done to empower the students with poster presentation skills which are required during the final semesters when students would engage in real presentations in real conferences.

Teaching of poster was taught as an extension of teaching abstracts that involved introducing students to texts of different genres such as descriptive and procedure apart from expository genre (Maheswari, 2014b). Genres arise out of recurring language patterns from different social activities to achieve social goals (Martin, 2008). Genre theory categorizes texts based on type and function as in Table 1 (Derewianka, 2003). We reported earlier a genre-based method of teaching of abstract based on MOVES proposed by Swales (Swales and Feak, 2009) of research article (RA) (Shi, 2013; Maheswari, 2014a) where students deconstructed real journal abstracts followed by construction of abstracts using the model of Rothery and Stenglin (1994).

In this paper, critical reflection on teaching of the posters was done. Some of the issues involved were in the making of poster to logistics of organizing poster sessions with focus on teacher-student interests.

### II. Methodology

The student group consisted of around thirty 3<sup>rd</sup>-year undergraduate Computer science (security) students engaged in a Technical English Program (TEP) at UEC Tokyo. As part of the curriculum requirements, the students are expected to write an abstract and to obtain skill in making posters.

Students were taught to write research article abstracts first by making them to deconstruct MOVES of different authentic abstracts taken from research articles. Next students prepare their own abstracts using the basic MOVES. As topics for constructing abstracts, projects or experiments as part of students' major subject curriculum done in their media analysis and other classes or projects were used. Topics mostly included analysis of internet images, weather, encryption, etc. Having constructed abstracts, students did a peer review to check the basic moves followed by teacher correction. Based on comments from the teacher, student constructed a revised abstract.

Next, students were asked to expand the abstracts into posters. Figure 1 shows a schematic of the procedure involved in teaching of poster. To construct posters, students needed to write the contents for introduction, method, results and discussion and conclusion that would include obtaining skills of writing in different genres such as descriptive, expository and argumentative genres.

### **III. Time line of teaching poster**

With different students having conducted mostly individual programs and projects, it was not possible to conduct this poster making as a group exercise. Instead, individual students made their own posters and thus the whole process of guiding the students to come up with the posters took longer time. The timeline in teaching until presentation of the poster is shown in Fig.2. Winter vacation was advantageously used as a preparation time for writing up the poster. The teaching process was as follows:

At first, students were taught different moves of an abstract in the class followed by deconstruction of a few research article abstracts selected by the teacher within the class. Next, the students were asked to pick RA abstracts and to deconstruct. Peer evaluation done in class was used to check deconstruction which was found to improve students' understanding of the generic structure of the abstract. Having understood the stages, students wrote abstracts for their experiments or projects which were evaluated with a checklist. Students were given two weeks to write their own abstract.

Students were also introduced to writing procedure and description genre that are main genres required for writing up methods and results, respectively. A review of students' knowledge on argumentative writing, useful in writing up introduction was also done.

To prepare students for poster presentation, they were introduced to a real presentation of poster of self and also were shown to different poster examples and explained the do's and don'ts. A powerpoint template was also provided. Poster size and other details such as order of presentation were worked out preparing them toward making before the holidays.

After writing up the contents of the posters, each student was asked to send the poster to be corrected and checked by the teacher. Student poster was mostly checked in time before the starting of the poster sessions.

### **IV. Poster making**

Out of fifteen weeks in a semester, more than half was devoted to teaching and presentation of poster. Students first constructed abstract with their experiments or projects which was followed by a peer evaluation for the MOVES with a checklist. Next, the students were asked to write a procedure after introducing them to procedure genre. They were also asked to describe things closer to them like a cell phone etc., and also to get experience in writing description of graphs. Having introduced to different genres, students were made to be aware of the different writing strategies involved in writing up for a poster.

Poster session was organised with the order decided by the students themselves and was conducted across four classes. In each session, less than ten posters were presented. A representative poster is shown in Fig.3.

The poster was made to the size of A0 and was made up of 16 A4 sized papers. Student had the task of cutting and joining all the A4 sheets which was found to be one of the cumbersome tasks for some students at least. Nevertheless, except for a single student, all the students showed enthusiasm and motivation in making and presenting posters. A photo of the students preparing for the poster presentation is shown in Fig.4.

### **V. Discussion: reflections**

To foster students with sound academic skills, poster teaching and presentation are made to be part of the technical English curriculum. Poster presentation skills will make them better prepared for introducing their research in conferences in their final year when they conduct their own research. In training students to make and present posters, students definitely gained confidence and showed their work to their peers with interest.

As a teacher who is teaching poster as a part of the curriculum invariably faces the challenge of applying uniformly across the whole class. This was due to difficulties in making all the students to understand different expressing skills. As the students chose their topics which the teacher was not fully knowledgeable due to technical details involved made the mutual understanding difficult. There were time constraints too which made the task difficult.

On the other hand, from the students' side, the task was done without any prior research experience. Therefore, students had difficulty in writing up the abstract. All the students were found to be well trained in essay writing. However, most of the students, at first, failed to understand abstract writing, which consists of proposing one's own ideas and reporting results. Students made a total of three drafts. With second or third draft, most of the students did understand the writing of an abstract that made the process of expanding to a poster relatively easier. Except for a single student, all the students participated with motivation and they found the exercise a motivating and an enjoyable one.

## **VI. Issues involved**

As a whole, poster presentation was successful and useful for all with the institution in having produced skills trained students, the teacher gaining knowledge in students' subjects, and the students gaining new skills.

There were also a few issues that came up with poster teaching as listed below:

1. Enthusiastic students were willing to get their posters corrected repeatedly while some students were unwilling to submit their writings in time that created problems in correcting the poster before the scheduled presentation;
2. Some students not following the presentation schedule caused unnecessary delays and confusion;
3. Most of the students rather read the poster instead of doing a real presentation;
4. Students lack of cooperation in attending posters presented by their peers. Actually, a peer evaluation was done during each poster session. However, only a few attended other posters as shown by the evaluation results;
5. Students in marking for their peers over evaluated while under evaluating themselves showing some lack of confidence. Part of the motive of poster presentation was to boost student confidence;
6. Students complained of the cumbersome process of printing out posters and also reported difficulties in printing out the poster;
7. As teacher had to evaluate all the posters, some students were in a hurry to finish off their presentations. The real intention was to have students engage in active discussion and to have repeated practice. This was not achieved with all the the participants.

## **VII. Conclusions**

In conclusion, most of the students were motivated and enthusiastic in introducing their own projects to the class. They were willing to expend their time for making the poster. Process toward making the poster showed the interests of the students. Although, few unwilling student existed, poster presentation was successful in imparting the required skill. From poster writing, students also could obtain not only a a clear understanding of the poster structure but also that of an abstract. Using students' choice of experiments helped students in writing procedure, describing results. Students had difficulties with the choice of lexis, choice of grammar and syntax. Such difficulties have to be addressed with inclusion appropriate corpus into the curriculum in future.

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Table 1. Different genres (adapted from Derewianka,2003)

<i>Social Purpose</i>	<i>Genre</i>	<i>Sub-Genre</i>
Providing information about person/place/thing	Description	Objective; Literary
Providing information about class of things	Information; Report	Descriptive; Taxonomic ; Compare/contrast; Historical
Telling how to do something	Procedure	Instructions; Experiment; Directions; Regulations
Telling experience	Recount	Personal; Factual; Biographical; Autobiographical; Historical
Explaining how or why	Explanation	Sequential; Causal; Factorial; Consequential Exploration
Responding to a literary text or artistic work	Response genre	Personal response Review; Interpretation
Argument	Exposition	Critical response; Persuasion; Discussion/Debate

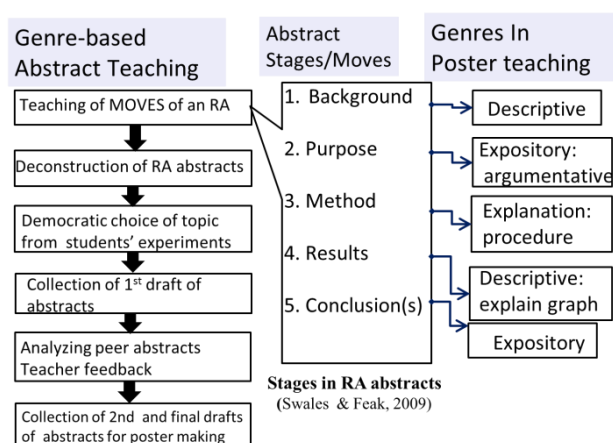


Figure 1. Multiple Stages in Poster Teaching

<b>Class Content</b>	<b>Required class time</b>
Abstract deconstruction	90 min
Abstract construction teaching & peer checking	120 min
Poster layout and other format related teaching	60 min
Genres of poster : procedure/description & graph/diagram explanation	120 min
Poster topic decision, presentation order, content writing & poster making	three to four weeks
Poster presentation	over three weeks

Figure 2. Timeline of teaching

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## Similar image retrieval by using Python

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### Introduction

Recently, it is difficult to search for similar images on the Internet from the user's image when an problem in the search, that is, it is difficult to find out a same image on the Internet. This paper describes the recovery of similar image realized by using programming language Python, and reports the result of this experiment.

### Procedures

Figure 1 shows the flowchart of program for using Python. First, when a query image that access the image which access code is retrieved from Calicut IIT, Figure 2 shows the query image, second, for the accuracy of discrimination from the query image, Figure 3, performs cluster image retrieval from 1000 pieces of the value image by using distance code and the chosen quantity of image characteristics.

**Input/Query**  
**Confirmation**  
**Python**  
**Output/Result**

Code (value): the function to perform the calculation of image that attribute as a vector.  
 Def (code): the function by Python that calculate distance code.

Figure 1. Flowchart of program

### Results (Continued)

Figure 5, 6, 7 show the result, third and fourth of search result. These experiment reveals the similarity of the query image.

Figure 5. The histogram of the query image

Figure 6. The histogram of the similar image

Figure 7. The histogram of the similar image

When the result of the last part of the Figure 5, 6, 7, from Figure 8, the result of similar image retrieval is shown. Figure 8 is shown.

Figure 8. The result of similar image retrieval

Figure 9. The result of similar image retrieval

Figure 10. The result of similar image retrieval

Figure 11. The result of similar image retrieval

### Methods

This experiment aims to extract similar images which users want. We use light and color histogram(H) related to geometry and image characteristics to address this aim. Each value is obtained from each of 10 moments data, then 30 is total and are used to be using Python 2 programming language.

The experiment uses distance code to calculate the degree of similarity. The calculating formula is as follows.

$$s = \frac{\sum_{i=1}^n |f_i - g_i|}{\sum_{i=1}^n |f_i| + \sum_{i=1}^n |g_i|}$$

f, g: separately image characteristics as a vector  
 H: distance histogram  
 f, g: f, g: image parameters of each g  
 H: image of g  
 H: histogram of g

When the calculation of distance histogram.

When we set 10, 5 and 20, g will be similar to f if the distance histogram is 1.

The image which we used in this experiment are provided by Calicut IIT, Calicut IIT provides image database.

### Results

When the last part of Figure 1 shows the histogram of the query image, and Figure 2 shows result of similar retrieval image from 1000 pieces of image that Calicut IIT provides. This program works correctly because the first image is the same as the query image.

Figure 2. Query image which use in this experiment

Figure 3. The histogram of the query image

Figure 4. The result of similar image retrieval

### Conclusion

In this experiment, the method that use distance code can search for similar images from the large pieces of images and take about one address. But, this time is not practical at all of the similar retrieval image system. In the way to improve the precision of this system, there is the method to improve the amount of bits of the histogram. In the next amount of bits, the larger amount of calculation, maybe, there is a better method to obtain a similarity degree than distance code. There are some ways to calculate a similarity degree, for example, Euclidean distance, Manhattan distance, Euclidean distance and so on.

There are many problems without the above. First problem, this system can not access to using another as an image. In that the system can only find image. From Figure, the histogram of the image is nearly similar, but neither of the image is not. This similar image retrieval system that is made in this experiment is not complete. There is a need of improvement in data system.

### References

Figure 1. www.csd.uconn.edu/~ig/irislab/summary/python.html#flowProject.html

Figure 3. A representative student poster

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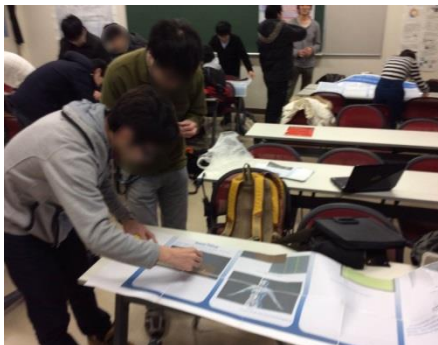


Figure 4. Students preparing to present posters in the classroom