

2016 Vol. 2(4) 3:1-6 FIRST-TIME POSTER PRESENTATION IN PHARMACEUTICAL SCIENCE ENGLISH: QUESTIONNAIRE FEEDBACK FROM PHARMACY STUDENTS IN A JAPANESE UNIVERSITY

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Citation: FOONG, F. W.; HIGUCHI, Y. First-Time Poster Presentation in Pharmaceutical Science English: Questionnaire Feedback from Pharmacy Students in a Japanese University *JAS4QoL* **2016**, *2*(*4*) *3*:1-6. Online: http://as4qol.org/?p=1710#art3

Received Date: 2016/11/30 Accepted Date: 2016/12/27 Published: 2016/12/31

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First-Time Poster Presentation in Pharmaceutical Science English: Questionnaire Feedback from Pharmacy Students in a Japanese University

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Abstract

Responses from students after participating in poster presentations (PP) for the first time using science English (SE) included: (A-1) lecture program and (A-2) content as well as (B) perceptual feedback. Year(yr)-3 university students (n=82) of either gender pursuing a 6-yr pharmacy degree course were divided into groups of 3-5, and each group presented a certain pharmacy- or health-related topic. After PP, there was a question-answer session, followed by listening students submitting a summary with one question each. After PP, students filled out a given questionnaire on (A-1), (A-2) and (B). The effective response rates for the questionnaires A and B were both 97.6%. In (A-1), the summated perception rate (comprising contentspecificity, useful and meaningful) was 84.8%. As for A-2 items expressing the PP contents as excellent (17.6%), interesting/stimulating (32.9%), and good (43.5%), the cumulative preference rate was 94.0%. Of the 82 students, 80 responded to feedback (B) perceived after presentation that they had learned to: make presentation posters in English (28.9%), do oral SE presentation (16.9%), speak proper SE (14.5%), and acquire certain presentation skills (14.5%). It is noteworthy to find that 11.4% learned to speak SE with better confidence. Students found the PP program offered high-level specificity, were useful, and meaningful (A-1). As for (A-2), a cumulative count of 94.0% thought the program was excellent, interesting/stimulating and good, suggesting that students enjoyed the program well. This PP program prepares students for future challenging endeavors such as presentations in international conferences, and collaborative research meetings.

Keywords: poster presentation, learning scientific English, Japanese university students

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Received: 2016/11/30 Accepted: 2016/12/27 Published: 2016/12/31

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Fig.1: Left photograph: Due to a large class-size, students were divided into two-halves with one-half listening to one poster-title (left panel), while the remaining one-half listened to another poster-title (right panel). Right photograph: The poster group on the right performed the open-presentation after the 2 separate presentation had been completed. Note that students in each group took turns performing the presentation using the poster.

1. Introduction

Despite having 8-9 years (yr) English-learning experience in secondary (6 yr) and tertiary (2-3 yr) educational programs, most Japanese students do not communicate well in English, especially science English (SE), because SE teaching is not programmed into the the secondary and tertiary educational curricula in many schools and universities.^{1,2} The cumulative outcome therefore is poor SE communication skills among Japanese scientists at international meetings and research collaborations.

In attempt to correct this hopeless 'too-late and too-little' situation, we have, since 2012, embarked on a stepup-stepwise tertiary science English education (SSTSEE) system³, and investigated if the system is worthy of formulating its original purpose to mold a new generation of 'can-do' SE-speaking Japanese university students. As subjects in the present study were in Yr-3 level when the study was undertaken, they had been exposed to SE education in their Yr-1 and -2 curricula. Subjects were encouraged to orally delivered their learned materials using a poster presentation (PP), with their listening peers writing a summary and question-making (S&Q) on the PP content. A session of questions-and-answers (Q&A) was then conducted after each PP. The S&Q sheets were submitted for scoring by the lecturer. A questionnaire was given to students to get feedback on the program from the students.

2. Methods and Subjects

2.1 Subjects

Yr-3 university students (n=82) pursuing a 6-yr pharmacy degree course from Classes 1 (n=38) and 2 (n=44) were divided into groups of 3-5 students each. Students from each group were asked to present on a certain pharmacy- or health-related topic of their choice, which was decided by the respective group when members were assigned to the respective groups in lecture sessions (LSs) 1-2 (total: 14 sessions).

2.2 <u>Methods</u>

During the first 2 LSs, students were taught poster-making, presentation basics and skills, and hints on the making of useful posters with high-impact. In fact, an example of an suitably impressive poster (prepared by a lecturer) was portrayed for students to appreciate the essential details in designing and writing a useful and impressive poster, although students were given the freedom to think and design their own posters without too much influence from the lecturer or doing the 'copy-and-paste' practice using published materials.

As this was the first time the students were given a group poster assignment, they were given handson poster-making lectures in LS 3-4, where they made use of a computer and tried making their selected sections of a topic in the poster as a team. To ensure each student understood and mastered the technique of poster-making, an individual poster assignment, apart from the group poster, was given to them as well.

From LS 5 on, students gave presentations their respective topics as a team using their group posters, while their classmates/peers listened and learned the presentation contents while asking question to enhance their understanding of the presented topics/themes. Due to the large class-size (ca. n=50), the class was separated into 2 halves for 2 titles, with half listening to one PP group/title, while the other half listened to another different PP group/title (Fig. 1; left photo). Students did not use any microphone at this stage, as different inputs would have induced confusion and unpleasant feelings in the listeners. Students in the respective group had to ask questions equivalent to the number of presenters, all on a volunteer basis. When the Q&A session for each group was done, one of the 2 poster-titles groups would perform the open-presentation using their own poster before the whole class (Fig. 1; right photograph); this time presenters used a microphone⁴ to facilitate listen-



Fig.2: In the Q&A session after the open-presentation, the lecturer would write the questions asked down on a piece of paper, and the question was projected overhead on a screen such that every student got to see the question, and notice the revisions being done by lecturer, if any. Presenting students were preparing the answers while looking at the questions.

ing and pronunciation checks. A Q&A session was initiated after the presentation, and appointed students asked one question each, and all presenting students had to answer one question. All students had a chance to ask and answer one question once the PP had completed. The 2 halves of the class crossedover in the next LS, and each half listened to a new PP, while the PP group repeated, and probably improved on their presentation on the same topic. The open-presentation group involved a new group this time, and the Q&A session was repeated as described above. In this manner, the 2 halves got to listen to 2 different PPs in 2 weeks, and each presenting group got to present 3 times in all. In the Q&A session during the open-presentation, the lecturer would write the questions asked down on a piece of paper projected overhead on a screen (Fig. 2) so that every student got to see the question, and see the revisions being done by lecturer, if any.

A total of 9-10 PPs were completed in 10 (i.e. LS 5-14) LSs. During the PP, students were required to focus on the presentation contents, as each had to submit a summary of with one question (S&Q) on the presentation at the end of each LS by writing on a S&Q sheet given to them. Apart from filling out the S&Q, listening students had to ask the PP students questions on the presented contents or the Q&A session (each PP student had to answer one question). This Q&A session was left to the students themselves to run, with occasional help offered in structuring questions or certain medical and/or scientific terms and/or expressions for the listening students, and leads provided to answers for PP students. One student was appointed as the mock-coordinator, acting like a chairperson in a scientific meeting.

2.3 Grading presentation ability (PA) scores

PP students were assessed on their presentation ability (PA) and poster design by the lecturer based on their pronunciation, flow, grammar, volume, content, and answering ability using SE, while posterfinish was scored on concept expression, relevant illustrations, useful sentence construction, and overall design. Listening students also participated in the assessment task by writing in the scores on the S&Q sheet as well.

Questions posted were each answered by the PP students in turn. After the 2 PP had been presented at the same time, one of the 2 posters would be mobilized to the front of the class for its open-presentation. PP students for the designated poster for the day used a microphone⁴ and presented the content again. When this PP was completed, the microphone was given to listening students (chosen by name) for questions. Each appointed student took a turn to question (scores were given for each question asked) the presenters on the PP content. A PP student, chosen in turn, answered the question, and the PP student could discuss with other PP students if he/she encountered difficulty in answering the ques-

Table 1: Lecture program (A-1) and Content (A-2) after Completion of Oral Presentation

About the program	Count (%)	Presentation content	Count (%)
Specific	20 (21.7)	Excellent	15 (17.6)
Useful	47 (51.1)	Interesting/stimulating	28 (32.9)
Meaningful	11 (12.0)	Good	37 (43.5)
Not meaningful	2 (2.2)	Not good	2 (2.4)
Ordinary	12 (13.0)	Hopeless	0 (0.0)
Not useful	0 (0.0)	Boring	3 (3.5)

tion; however, each presenting student had to answer one question (with scores given for each answer). Meanwhile, the lecturer not only corrected inappropriately expressed questions posted by listening students by showing the revisions in writing on the board or overhead projector (on screen), but he also helped presenting students with answering the questions if the PP students needed assistance. After the PP sessions (10 presentations), students were given a questionnaire each, and they were asked to evaluate the particular features of the lecture, the presentation contents (Table 1), and comment on the benefits of and improvements for the PP program, apart from certain choices given to them (Table 2).

3. Results

Of the 82 questionnaire-sheets collected, the effective response rates for the lecture program (A-1) and content (A-2) categories were both 97.6% after PP session. The counts were expressed as a percentage of the total count, the program- and content-related items were calculated and expressed accordingly (Table 1). For positive perception of the program-related items (Table 1, left: A-1) comprising content-specificity, usefulness, and meaningfulness the summed rate was 84.8%, while neutral ("ordinary") perception and negative items (not meaningful, not useful) accounted for 13.0%, and 2.2%, respectively. If the non-negative element 'ordinary' is included, the positive subject-related items comprising contentspecificity, usefulness, meaningfulness cumulatively would sum to 97.8%. As for the content-related items (Table 1, right: A-2) expressing the PP contents as excellent (17.6%), interesting/stimulating (32.9%), and good (43.5%), the cumulative preference rate was 94.0%, while negative perceptions of being not good (2.4%), "hopeless" (0%) and boring (3.5%) cumulatively accounted for 5.9%. Of the 82 students, 80 provided post-PP perception feedback; the respective counts (%) of items 1-8 are tabulated accordingly (Table 2). The most frequently rated reason was that students had learned to make PP in SE (28.9%), followed by developed the ability to do oral presentations in SE (16.9%), and equally felt they had learned to speak proper SE (14.5%) and use certain presentation skills (14.5%). It is noteworthy to find that 11.4% learned to speak SE with better confidence. Additionally, 6.6% and 7.2%, respectively, of the responses mentioned their ability to blend with others in performing teamwork and perform more interactive communication.

Table 2: Perception feedback after poster presentation (PP)

Post-presentation feedback items	<u> Counts (%)</u>
1. I have learned to make poster for presentation in science English (SE)	48 (28.9)
2. I have learned to do SE presentation orally	28 (16.9)
3. I now have learned to speak proper SE	24 (14.5)
4. I can now speak SE more confidently	19 (11.4)
5. I have learned certain skills in poster presentation	24 (14.5)
6. I gain much via group work and communication	11 (6.6)
7. I have learned to listen to questions and answer in SE	12 (7.2)
8. I did not learn anything	0 (0.0)

4. Discussion

Science English (SE) requires understanding, learning, and the acquisition of various science-relevant technical terms and content.^{1,2,5-7} Japanese students are generally poor in speaking everyday English, especially to talk about SE presentation.¹ Apart from its use to name, record, compare, explain, analyze, design, evaluate, and theorize how the natural world appears to us,⁸ SE is a form of English for special purposes (ESP) required for expressing observations, reasoning, valuation, analysis data, and routine communication in content-orientated disciplines, with functional use of technical terms, typical expressions, materials and tools⁹ relevant to transmitting scientific concepts and discoveries.^{1,10-13}

Hitherto, the present Yr-2 Japanese students have done limited (depending on their Yr-1 lecturers) or have never done any English presentation before this lecture program, although they have had leaned some basic SE in academic Yr-1. Based on their perceptions, a cumulative 84.8% of the relevant students found the PP program offered specificity of content, and was useful and meaningful, while a negligible number stated otherwise. As for the 13.0% who rated the program "ordinary", this was probably because they had done presentations in Japanese SE in Yr-1. Although only a small number of students (2.2%) did so, it would be useful to know the reasons some complained the PP program was not meaningful. As for the content-related items, a cumulative count of 94.0% thought the program was excellent, interesting/stimulating or good. The number indicating stimulating/interesting was high compared with findings from other subjects/program, suggesting that students enjoyed the present program well. Compared with inertly sitting and listening to unilaterally delivered lectures (by lecturers/professors), interactive learning with proactive participation could be a reason for the high preference rate on this item. Students also learned poster-making in preparation for their graduation oral thesis presentation (the university requires graduating students to perform oral English presentation of research data or themes/topics of their departments in a poster fashion prior to graduation). This prepares students to face the challenge of future post-graduation endeavors such as oral/poster presentations in international conferences, collaborative research meetings, and so on. In their comments and preferences for choices given on the benefits derived from the PP program, students stated they had learned to make posters and perform oral presentation in SE using self-designed posters. They could speak proper SE with enhanced confidence after the program. They had also learned certain oral presentation skills. It is noteworthy to find that 6.6% had learned to become better cope with teamwork (Table 2), an interactive element considered extremely vital in the modern working world and for the challenges of networking in the future . Although unable to understand questions and provide answers in English initially, after the PP sessions they felt they could listen to questions well and provide the answers in response to the questions. The above are important and useful elements in paving a firm foundation for young Japanese SE learners to make strides forward in contributing, building, and benefiting the world at large in the international arena.

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