〈Research Report〉

The Rationale for a Content-Based Textbook for Pharmacy Students: A Qualitative Study

Steven Silsbee

Abstract

Any language program begins with an examination of the target students' needs, and decisions related to materials development will affect the successful meeting of those needs. In this study 63 first-year university pharmacy students completed a questionnaire regarding their opinions about the textbook being used in their English class. The study's purpose was twofold, as it was hoped to not only give the researcher a better understanding of students' opinions, but also to aid in the decision of whether or not a content-based instructional approach should be implemented using a textbook that focuses on pharmacy-related content. Responses showed that although the students were happy with the current textbook, there was also significant data showing that a switch to a content-based textbook would be beneficial for them. A closer examination of the established and revised needs of the students will need to be done before the decision to change textbooks is made.

Key words: ESP, student needs, content-based materials

INTRODUCTION

The development and implementation of high-quality ESL/EFL programs is essential as the concept of globalization continues to shape the curricula of universities around the world. English language proficiency has been identified as a "global literacy skill" (Tsui & Tollefson, 2006, p. 1) and maintains a strong presence throughout colleges and universities in most countries. To ensure that students are given the greatest opportunity to succeed, materials need to be effective and motivate students to learn (Dornyei, 2001).

González (2006) notes that of the materials available, textbooks are perhaps the most ubiquitous due to their ability to present varied and polished content to students with ease and with little required effort from the teacher. The decision to use a textbook (and which one) plays a significant role in the overall effectiveness of the class in which it is to be used. Selecting a textbook is something to which teachers devote a lot of time and thought, so it is important to choose one that is appropriate (Wen-Cheng, Chien-

Hung, & Chung-Chieh, 2011). Textbooks benefit both teachers and students in that they provide a specific map for study and allow for easy review and additional practice. In the end, the primary goal of a textbook is to adequately help both the teacher impart curricular needs and assist students in learning (Ayu & Indrawati, 2018).

Content-based instruction (CBI) and content and language integrated learning (CLIL), though not new concepts, have been advancing in a growing number of programs over the last few decades. Although there are some minor differences in theoretical basis and approach, the two are often considered to be synonymous (Brown & Bradford, 2016), with the term CBI being used in North America and CLIL in Europe. For the purpose of this writing, CLIL will be the term of choice.

As with any approach to teaching and learning, institutions tend to implement CLIL-based programs based on perceived needs and goals. There are, however, similarities found in most CLIL models following a content-based approach. Stryker and Leaver (1997) identified three features found in a study of different models based on CLIL: (i) subject matter is the basis of instruction, (ii) both the text and language are authentic, and (iii) materials are fitting for the targeted group of students. As with any approach, method, or technique, CLIL has found both its opponents and proponents. The benefits and drawbacks to CLIL have been fairly well-documented. Klimova (2012) presents an extensive list of the possible benefits of. A sampling of which includes:

- it builds intercultural knowledge and understanding
- it improves language knowledge and communication skills
- it complements other subjects at school and thus deepen student knowledge
- it provides opportunities to study content through different perspectives
- it prepares for future studies and/ or working life

(p. 573)

Widdowson (1978) regarded the fusion of content-based material and language learning as beneficial because it would largely eliminate the complications involved with presenting the language. Language would be addressed much like it would in a regular content class from which it is taken.

On the downside, if content and language are to be paired together, it will require an even more detailed needs analysis by the decision makers (Butler, 2005). This adds an extra level of consideration in an already arduous process. The demand for human resources can also be a deterrent for many. In a study of first-grade classes at four Russian language schools in Estonia, Mehisto (2008) gave a description of interviews with teachers and found that the teachers reported training, Immersion Centre support, and materials development as important for a successful CLIL program. School managers acknowledged that these needs were seldom met, thus causing dissatisfaction and a lack of support

among those involved for further implementation. It is suggested that language development will benefit due to the L2 becoming more purposeful and motivating because the content will be based on academic subject matter (Gajo, 2007). But if the L2 content is too difficult or complex, and requires the learning of new concepts, learning might actually be impeded (Coonan, 2007).

In the field of pharmaceutical science, the need for English ability has been made clear. There has been increased interest in English for Specific Purposes (ESP) programs as many countries that do not traditionally speak English as the L1 recognize the need for competent English ability (Filice & Sturino, 2002; Syakur, Junining, & Mubarok, 2020). ESP programs consider the purpose for which students are studying English, and subsequent strategies and decisions are made based on those purposes. Consideration for what English needs most benefit pharmaceutical science students greatly influence the programs themselves.

In ESP, it has become a given that authentic materials that are neither simplified nor modified, and which facilitate the chance to use the target language in context are best (Hudson, 1991). Since many of the fields in which ESP is used have specialized vocabulary, the use of authentic language is integral if student needs are to be met (Benavent & Peñamaría, 2011). This is supported by Chirobocea (2018), who concludes that in order to achieve competent English skills, learners need to be exposed to "a carefully selected corpus of authentic materials and to real-life situations where context-appropriate language is used" (p. 179).

The needs of the students will be affected by their field of study. Pharmaceutical science definitely requires a focus on both medical and scientific vocabulary, but this begs the question about what specific English skills must those students possess to competently function at their jobs? In a study by Syakur, Zainuddin, & Hasan (2020) it was found that students enrolled in a pharmacy academy in Indonesia reported that the main purpose of English acquisition was to "communicate with regard to health issues and terms in pharmacy" (p. 729). Grammar comprehension in reading and speaking was also given as a reason. This would indicate that both receptive and productive skills are important for learners, as shown by Suwandi & Wafa (2020), which found that pharmacy students overwhelmingly believed that spoken and written skills were essential in their field.

Likewise, Stupans & Elliot (2009) state that both verbal and written communication are necessary to effectively communicate with the general community and other professionals in the field. In their study of non-native English speakers in a four-year pharmacy program at the University of South Australia, they found that with assistance from the University's Writing Center, both reading and writing skills improved when authentic materials were used.

The aim of this report is to gain insight into how first-year pharmaceutical science students studying English at a Japanese university perceive their textbook, and whether a content-based textbook would be beneficial for them. Students in the faculty are required to take three undergraduate English courses

during their first two years of study. These courses focus on the four basic skills (reading, writing, listening, speaking). The courses all use either standard third-party textbooks or texts created in-house. There is also an elective ESP class students can take in their third or fourth year of study that uses a textbook which teaches vocabulary and communication skills directly related to pharmacy work.

METHODS

Participants

Participants in this study were 63 first-year students from the Faculty of Pharmaceutical Sciences at a Japanese university. The criteria for selection were that students needed to be in the Faculty of Pharmaceutical Sciences and enrolled in a compulsory English course at the time of the study.

In order to maintain consistency in design and procedure, the decision was made not to use an online survey. Instead, a sample was taken from three separate classes during the final two weeks of the semester. These classes were chosen by the researcher, based on schedule convenience. With a population of 155, the sample size of 63 allowed for a 90% confidence level, with an eight percent margin of error. Participation in the study was voluntary and one hundred percent of those invited chose to take part.

Materials

A seventeen-item questionnaire was used (see Appendix A for all items and complete data). Items were translated from English into Japanese and designed to measure students' attitudes toward the textbook used in their English course. All items were created by the author and measured using a 5-point Likert scale, with responses ranging from "strongly disagree" to "strongly agree".

The survey was comprised of two sections. The first dealt with general opinions of the textbook such as "The textbook was appropriate for my level" and "I enjoyed using the textbook". The second section asked students to respond to how effective they felt the book was in improving specific language communication skills (e.g. reading, listening, giving professional presentations, understanding technical vocabulary). Instrument reliability was measured at .98 using Cronbach's alpha, and the questionnaire passed face validity.

Procedure

The questionnaire was administered at the beginning of class. Participants were told that the purpose of the study was to see how students felt about the textbook used in the class and to what extent they believed the textbook helped with both general English skills and English related to their chosen field of study.

An informed consent form following the ethical standards of the university was signed by the

participants. Contact information was given should the participants have any future questions.

No other conditions or manipulations were enforced. Participants were instructed to take as much time as needed, but completion of the questionnaire took less than 15 minutes in all cases. Questionnaires were collected face-down by the administrator, and participants were then reminded about the contact information, thus ending the procedure.

RESULTS

An inquiry was made into how students perceived the textbook used in their English class. The data collected was analyzed according to the percentage each response category received. The survey instrument items were organized into three sub-categories: textbook difficulty, textbook satisfaction, and textbook effectiveness in skill development.

Regarding textbook difficulty (Table 1), 60% of participants said they did not have an opinion as to whether the textbook was too easy or too difficult. 19% of the participants felt the textbook was too easy, while 11% thought it was too difficult. Of the participants who agreed it was too easy, 7.9% strongly agreed. Less than 2% strongly agreed it was too difficult. 52% felt the textbook was appropriate for their level with 12% saying it was not.

Table 1 *Responses Regarding Text Difficulty*

Item Statements	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
S2: The textbook was too easy.	1.59%	19.05%	60.32%	11.11%	7.93%
S3: The textbook was too difficult.	4.76%	23.81%	60.32%	9.52%	1.59%
S4: The textbook was appropriate for my level.	1.59%	11.11%	34.92%	47.62%	4.76%

Responses measuring satisfaction with the textbook (Table 2) produced favorable opinions. 68.3% said they enjoyed the activities in the textbook and thought the topics covered were interesting. 69.8% enjoyed using the textbook overall. About one-quarter of the respondents did not have an opinion on the above items. 65.1% believed the English they had studied would benefit them in their future career. <10% disagreed with each of the item statements in this sub-category. 50.8% said they would prefer to use a textbook that dealt with language and topics directly related to their field of study.

Table 2 *Responses Regarding Satisfaction with the Textbook*

Item Statements	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
S1: I enjoyed using the textbook.	1.59%	4.76%	23.80%	55.56%	14.29%
S5: The topics in the textbook were interesting.	1.59%	4.76%	25.40%	57.14%	11.11%
S6: I enjoyed the activities in the textbook.	1.59%	3.17%	26.98%	53.97%	14.29%
S7: The English I studied in the textbook will help me in my future work.	0%	4.76%	30.16%	49.21%	15.87%
S8: I would rather use a textbook that uses language and topics related to my future work (working in a pharmacy, talking about medicine, etc.).	1.59%	6.35%	41.27%	39.68%	11.11%

Results for how effective participants felt the textbook to be concerning the teaching of English skills (Table 3) varied. Item statements dealing with general English skills such as the four main skills and general conversation scored significantly better ($\overline{x}$=68.2%) than those which related to the field of pharmaceutical science or professional development ($\overline{x}$=28.2%). Of the general English skills, participants felt most strongly that the textbook was most effective in developing writing skills (79.4%). For pharmacy-related or professional skills, responses were most agreeable when it came to how well the book dealt with technical vocabulary (33.3%).

Table 3 *Responses Regarding Textbook Effectiveness Teaching English Skills*

Item Statements	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
S9: Reading	0%	6.35%	19.05%	65.08%	9.52%
S10: Writing	1.59%	3.17%	15.87%	66.67%	12.70%
S11: Listening	0%	14.29%	28.57%	50.79%	6.35%
S12: Speaking	0%	9.52%	31.75%	53.97%	4.76%
S13: Giving professional presentations	3.17%	30.16%	47.62%	19.05%	0%
S14: Understanding technical vocabulary	3.17%	20.64%	42.86%	30.16%	3.17%
S15: General English conversation	1.59%	7.93%	19.05%	58.73%	12.70%
S16: Communicating with others in my profession	4.76%	17.46%	49.21%	25.40%	3.17%
S17: Helping others (e.g. customers; patients)	1.59%	22.22%	44.44%	25.40%	6.35%

A second inquiry was made into whether a content-based textbook would be beneficial for students in the Faculty of Pharmaceutical Sciences (Table 4). The method for data analysis involved obtaining an agreement score for each of the item statements. Agreement scores were calculated by assigning a value to each of the response choices (Strongly disagree= -2; Disagree= -1; No opinion= 0; Agree= 1; Strongly agree= 2). Values for each category were then multiplied by the number of corresponding responses. The totals for each response category were then added together to secure an agreement score. The higher the score means a higher level of agreement with the statement and negative scores indicate disagreement with the statement.

The most agreed upon statements were that the textbook helped to improve participants' writing and reading skills, with scores of 54 and 49, respectively. Participants also agreed that the textbook was beneficial to their future work and that they enjoyed the book and its activities (48). Statements which had the highest level of disagreement were that the textbook was too difficult (-13) and that it helped with giving professional presentations (-11). Half of the participants agreed with the statement that they would rather use a textbook that uses language and topics related to their future work, giving it agreement score of 33.

Table 4 *Level of Item Agreement Among Participants*

Item Statements	Strongly disagree -2	Disagree -1	No opinion 0	Agree 1	Strongly agree 2	Agreement Score
S1: I enjoyed using the textbook.	-2	-3	0	35	18	**48**
S2: The textbook was too easy.	-2	-12	0	7	10	**3**
S3: The textbook was too difficult.	-6	-15	0	6	2	**-13**
S4: The textbook was appropriate for my level.	-2	-7	0	30	6	**27**
S5: The topics in the textbook were interesting.	-2	-3	0	36	14	**45**
S6: I enjoyed the activities in the textbook.	-2	-2	0	34	18	**48**
S7: The English I studied in the textbook will help me in my future work.	0	-3	0	31	20	**48**
S8: I would rather use a textbook that uses language and topics related to my future work (working in a pharmacy, talking about medicine, etc.).	-2	-4	0	25	14	**33**
*The textbook helped me to improve these English skills.						
S9: Reading	0	-4	0	41	12	**49**

Item Statements	Strongly disagree -2	Disagree -1	No opinion 0	Agree 1	Strongly agree 2	Agreement Score
S10: Writing	-2	-2	0	42	16	**54**
S11: Listening	0	-9	0	32	8	**31**
S12: Speaking	0	-6	0	34	6	**34**
S13: Giving professional presentations	-4	-19	0	12	0	**-11**
S14: Understanding technical vocabulary	-4	-13	0	19	4	**6**
S15: General English conversation	-2	-5	0	37	16	**46**
S16: Communicating with others in my profession	-6	-11	0	16	4	**3**
S17: Helping others (e.g. customers; patients)	-2	-14	0	16	8	**8**

DISCUSSION

The results of the study support the idea that students seem to be satisfied overall with their current English textbook. Table 1 shows that 52% of the participants thought the textbook was appropriate for their level. 60% had no opinion on statements about the textbook being too easy or too difficult. These are important details, as the level of a textbook can affect learning success (Carrell, 1987). If the book is too easy, students may become disinterested. If it too difficult, they may feel discouraged. In either case, learning suffers. The results here are not so surprising, as the participants in this study all used the in-house textbook, which was written specifically for a range of learner levels, making language and content accessible, while at the same time allowing the teacher to incorporate more complex tasks for higher level learners.

All items associated with satisfaction with the textbook (Table 2) scored high in positivity, with 70% saying that they enjoyed using the text. What remains unclear is what exactly they found enjoyable. Topics were said to be interesting and the activities enjoyable (68% agreeing on each item), but was it the topics themselves, or the way in which they were dealt with? What made the activities enjoyable?

These questions could be the basis for future studies. Existing literature shows a vacuum in this area of research. Teachers most often look at how the desired learning objectives will be met when choosing a textbook, as found in Garinger (2002), without taking into consideration the affective variables of the students. Green (1993) observed that little hard data showing what kind of activities students enjoyed existed at the time of his study. The landscape doesn't seem to have changed much over 20 years later. The fact that half of the participants said they would like to use a book that dealt with language and topics from their field of study provides compelling evidence that many students are looking for something more than what their current English curriculum offers.

The fact that participants thought the English used in the textbook would help them in their future work (Table 3) is a bit surprising. As a general English textbook, the topics are quite trivial (e.g. fashion, free-time activities, travel, etc.). Neither content nor language found in the book are directly applicable to pharmaceutical study. The book does promote communicative competence, so it is possible that participants felt their improved communication skills would assist them at their jobs. This is reflected in the discrepancy between responses to the effectiveness of general English skills versus those which were more professional in nature. 71% of participants agreed, on average, that general skills were effectively incorporated. Only 28% agreed that professional skills were sufficiently addressed.

The benefits of switching to a content-based text remain fairly open to interpretation. In Table 4, the levels of agreement to specific items make the case for a change, while others support a maintenance of the status quo. The highest levels of agreement were given to the effectiveness of writing (54) and reading (49) skills presented in the book. As the literature shows, these skills have been found to be important. Moreover, scores for overall enjoyment of the book (48), the topics (45), and activities (48), combined with the perception that what they have learned will be of future help in their jobs (48) support keeping the textbook now being used.

If the goal of the curriculum is truly to give students the language and communication skills they will need to work in the pharmaceutical arena, then it only takes a brief look to see that skills are not being addressed in the current textbook. As these statements received low levels of agreement, it is clear that the textbook is not meant to be an ESP text. It is curious, though, that one-third of the participants agreed the book helped them to understand technical vocabulary, as there wasn't really any in the book.

LIMITATIONS

It should be noted that the original intention was to target the entire population, but the COVID-19 situation necessitated a school-wide stoppage of in-person attendance during the final two weeks of classes. Although the sample does have statistical significance, a larger sample would present a clearer picture.

The responses often seem contradictory to the reality of the situation. One possible reason for this could be teacher influence. For example, technical vocabulary was not presented in the book, but could have been introduced by the individual instructor. Likewise, certain teaching styles could have made the book easier or harder for students. Finally, the possibility of participant apathy toward the survey instrument could produce inaccurate results.

CONCLUSION

For a needs analysis to be truly effective, a number of resources should be utilized (Brown, 1995). As a resource, students themselves lend an important voice that should be seriously weighed when it comes time to make decisions. If students are satisfied, is a change warranted? For this study, participants showed positive perceptions toward the textbook used in their class, and felt it did a good job teaching general skills. The results have shown that the book is definitely not geared for pharmaceutical science ESP students. As it stands, the textbook seems to be doing its job teaching general English. If future examination of needed skills and objectives fall heavy on the side of ESP, then program coordinators might be wise to consider the move to a content-based text.

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