

# Integrating Authentic Materials and Language Skills in English for Pharmacy Instruction

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Recent global trends indicate that in the field of pharmaceutical care a good knowledge of the English language is a necessity. From a survey conducted at the Faculty of Pharmacy, University of Calabria, it is clearly evident that reading comprehension skills are a top priority and communication skills are of equal importance. English is therefore a fundamental prerequisite for pharmacy students in Italian Universities both for academic purposes and for future employment. This paper illustrates a tailor-made approach consisting of three stages which combine different authentic materials for the same topic and the four language skills. Learners are not only asked to call upon their previous world knowledge in order to assimilate the new, but through a variety of strategies and tasks they become aware of discourse analysis, thus preparing them to deal with more complex scientific material. By relating the science and the language students will see the connection between expression and content thereby persuading them of the relevance of learning English to their own specialist field. This methodological proposal is an attempt to lead the students towards autonomy in communicative competence and reading competence in the target language.

**Keywords:** English language; English for Science; English for academic purpose; Pharmacy

## INTRODUCTION

As Healthcare systems worldwide are in continuous evolution, pharmaceutical science instruction must respond to global trends. Can future pharmacists practice pharmaceutical care without a fundamental grasp of the English language? One of the major prerequisites in this field for Italian university

students is precisely that: a good knowledge of the English language.

Using “authentic material”, that is, unmodified, genuine material in the EST/ESP/EAP field is no longer a debatable issue among language experts (respectively, English for Science and Technology (Hudson, 1991), English for Specific Purposes and English for Academic Purposes (Heaton, 1991)). Great interest, however, lies in the pedagogical value of integrating various types of authentic materials for the same thematic unit together with the four language skills (Fig. 1).

Different aspects of the same theme may be explored during the thematic unit. Language practitioners agree that language learning is “fostered by contexts rich in opportunities for interaction in and with the target language” (Little *et al.*, 1989). Essentially, authentic material is created to “fulfil a social purpose in the community in which it is produced” (*idem*, p. 23) so it is written for a communicative purpose with the intention of focusing on content rather than form. The acquisition of communicative competence and reading competence in a second language (L2) cannot be envisaged without exposing the learners to sufficient quantities of different types of authentic materials in the target language. Comprehension of material (written or spoken) requires the learners to call upon their previous knowledge in order to assimilate any new information. Furthermore, the learners must be careful observers, capable of extracting clues that will allow them to grasp the meaning and understanding of how to relate different elements within the text. Comprehension is thus an important

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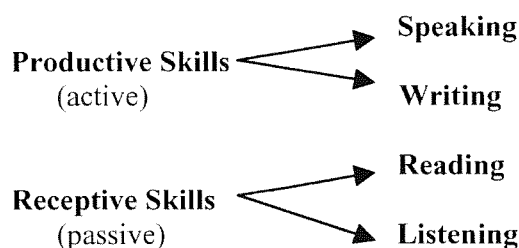


FIGURE 1 Four basic language skills.

component of communication, if not "a precondition for efficient language acquisition" (Little *et al.*, 1989).

A survey has been previously conducted by the authors in the form of a questionnaire given to second and third year Pharmacy students at the University of Calabria. The results (Table I) indicated clearly two important points. Firstly, that reading comprehension skills are a top priority for these students since their academic research material is, for the most part, published in English. Secondly, English communication skills are equally important in view of the fact that the majority of the students, at some point in their period of study, will attend seminars and conferences given by visiting professors, who may only speak English. Consequently, these two points were taken into account in the development of the following course module on "Coronary Artery Disease".

This article illustrates a tailor-made approach implemented at the Faculty of Pharmacy of the University of Calabria, with second and third year first degree level students who had an upper-intermediate knowledge of English language structures.

## MATERIALS AND METHOD

### Phase I: Presentation of Topic by Means of a Video—A Focus on Listening, Reading, Speaking and Writing Skills

The video "Coronary Artery Disease at Time of Diagnosis", produced by Time Life Medical, is intended for an L1 audience (Video, 1996). It is 30 min in length and is presented by a Medical Director (Dr C.E. Koop). It provides a basic knowledge of coronary artery disease and is divided into four short "lectures" called Reports:

- i) Understanding the Diagnosis
- ii) What Happens Next?
- iii) Treatment and Management
- iv) Issues and Answers

The video comes with a personal workbook also organized into four sections, comprising the Video

TABLE I Survey of Italian university students' use of English

Current use of English during academic studies	%
Consulting textbooks for mainstream courses	97.5
Consulting specialized journals and reviews for research	81.3
Attending lectures and seminars given by foreigners on campus	70.5
Consulting bibliographies	67.8
Surfing the World Wide Web	26.1
Participating in courses and seminars abroad	12.0
During your academic studies which of the following English language skills do you feel are more important for you to learn first?	%
Reading	95.9
Speaking	80.5
Listening comprehension	79.9
Writing	60.5
All four	55.8
Future use of English in the work place	%
Speaking on the telephone	60.5
Giving and receiving information	51.0
Reading reports and correspondence	47.3
Writing telegrams, telexes, etc	38.0
Consulting textbooks, manuals, journals and reviews	35.6
Writing letters/e-mails	36.4
Translating medical, scientific and technical documents	35.9
Taking notes during meetings/lectures/conferences	32.9
Discussing professional matters with foreign colleagues	32.5
Writing reports	31.3
Understanding discussions at formal meetings	30.2
Following professional training courses run by foreigners	29.7
Participating in meetings with foreigners	29.9
Receiving and entertaining foreign visitors	19.9
Giving a talk in front of an audience	18.0
Creating web sites	15.6
Working abroad	12.9
Giving instructions and training	10.0
Current use of English in private life	%
Listening & understanding songs with English lyrics	98.9
Reading English newspapers and magazines	79.5
Reading instructions for using things (video cameras, VCRs, etc.)	60.0
Watching TV programs/films in English	58.6
Using computer software and/or hardware	48.6
Social interaction with tourists in Italy and/or abroad	45.2
Sightseeing abroad	35.8
Using services abroad (transport, banks, etc.)	34.0
Surfing the World Wide Web	24.8
Letter/e-mail correspondence with foreigners	18.9
Which of the following statement better expresses your thoughts regarding the English language?	%
English is the official language of Science and Technology	90.1
It's the most useful language for my future career	90.0
It's the language of the computer age	86.5
It's the language of globalization	75.7
It's the language spoken in countries where Italy has economic relationships	60.4
It's a clear, logical and practical language	30.0
It should be the common language used within the EU/EEC	25.9

Program Highlights, a glossary of terms, a resource guide and a personal medical journal.

The video has been used effectively to improve students' listening comprehension, reading, speaking and writing skills. The workbook was used by the teacher to extract instructional interactive materials for the students in the form of worksheets. The content of the video activates learners' general world knowledge in addition to the knowledge stemming from their mainstream curriculum. Although the video is presented in an easygoing manner, the students are nevertheless faced with the impact of the topic in fluent English. The lessons, tasks and group activities are conducted solely in the target language. This stimulates the students to participate actively and to "think" in English.

Prior to viewing the video, students are given a worksheet with specific vocabulary items recurring in the script and, working together in groups, they are asked to match the definitions to the terms. Later, when they listen to the video, they can verify if their answers are correct.

The video is shown in four segments that correspond to the four Reports. The students first watch and listen without the script in order to reinforce their listening comprehension skills. The teacher pauses after each segment and, if necessary, briefly highlights the scientific content. During the second listening of each report, students are required to practice a listening comprehension task that involves note-taking skills with the aid of a worksheet. For example: "List in point form (a) symptoms and (b) risk factors mentioned in Report 1". After each report, written and oral assignments are given as individual tasks, pair work and group work. The worksheet tasks may take the form of fill-in-the-blanks, summaries, matching words, etc.

At the end of the video session the teacher may give a summary and/or dictate the passage with the missing items. The learners then compare and comment on the responses to the worksheet items. Finally, as a final closing activity to the video session and in order to make the learning process more active and meaningful, they are encouraged to write their personal medical journal including questions to ask their doctor; a sample of such a journal is provided in the video booklet. It is very important to include interactive oral activities because science-related opportunities to speak English do not occur frequently for these students.

### **Phase II: Articles Originating from the Media—A Focus on Reading, Speaking and Writing**

The follow-up to the video presentation is done through one or several articles taken from the media. These articles are either from newspapers, (for example, USA Today, Herald Tribune, etc.),

magazines (for example, New Scientist, Scientific American, Science, etc.) or internet websites. The articles are written for the general educated "layman" interested in scientific research and development. They are usually of a reasonable length, and are therefore more manageable and not overloaded with scientific vocabulary, data and explanations of experimental procedures. This phase serves as a bridging device for the more complex aspect of phase three, which deals with scientific concepts not easily understood by second year students.

For this phase, the chosen article deals with the future of drugs for the treatment of heart disease. It appeared in Time magazine in January 2001 entitled "Rethinking Treatments for the Heart" (Gorman, 2001). Grammar and vocabulary are presented only as they are necessary for comprehension of the text. Students are asked to read the article and complete accompanying worksheets. In particular, they are required to identify rhetorical functions which help them improve their comprehension of scientific discourse, such as, definition, exemplification, description, classification, explanation, chronological procedures, comparisons, observations, results, cause and effect, and conclusions (see the EST Rhetorical Process Chart in Trimble, 1985, p. 11).

The use of discourse analysis aims to make students more aware of how sentences are combined in texts (spoken and written). It also aids comprehension of the underlying structure of a text and the way in which language has been organised to create this structure. "Reading is a constant process of guessing, and what one brings to the text is often more important than what one finds in it" (Grellet, 1981). Accordingly, the students should be taught to predict what type of information they think will be in the article, because these predictions trigger a feeling of confidence in that they already know something. In addition, they are encouraged to give evidence from the text, to give the main idea of each paragraph, to summarize paragraphs and finally to synthesize the entire article. They are further encouraged to discuss their answers with each other, thus making reading an active process. By completing a task such as searching for specific information, learners are engaged in purposeful reading and they become more confident readers if they read for a purpose.

### **Phase III: Scientific Research Journal Article—A Focus on Reading, Speaking and Writing**

At this stage, the focus is on practicing reading and speaking skills and, if the article requires, writing skills. Analysis of course content clearly reveals that students are assigned English research material in their fundamental subject courses as well as for their theses. Proficiency in reading is therefore a necessity

for students pursuing graduate studies as well as for success in their future careers.

Carefully selected current scientific journal articles, or other media articles, that are relevant, interesting and of a reasonable length, can make the students aware of the forms and patterns of written scientific discourse in English. Additionally, they aid the students in learning and applying appropriate reading strategies through the use of guided activities. Through interactive group work and guidance from the teacher, students can focus on the form and content of an academic article. They analyse how the article is organized and presented including the abstract, the introduction, materials and methods, reports and results, discussions and conclusions. They also interpret data on charts, graphs, and tables and are able to recognise important abbreviations (for example, CVD, MI, and so on) which should be familiar to them.

The scientific journal article used in this phase, entitled "Dietary Fat Intake and Prevention of Cardiovascular Disease: Systematic Review", is six pages in length and was published in the British Medical Journal (Hooper *et al.*, 2001). The class is divided into groups, and each group is assigned a section of the paper to analyse and comprehend. At the end, the group leaders give an oral report on their section to the rest of the class. This eases the workload of a longer and more complex scientific article and enables speaking skills to be practiced through a class discussion of the entire article. Finally, the students are asked to write a summary stating, in particular, the objective, the results and the conclusions of the study.

It is hoped that relating the science and the language will make students see the relationship between expression and content thereby persuading them of the relevance of English learning to their own specialist field.

## CONCLUSION

Pharmacy students are both externally and internally motivated. The obvious extrinsic factor is the need to pass the English exam. Intrinsically there is an inherent desire to learn the subject matter; indeed

breakthroughs in the fields of science, technology and medicine require that learning for these students is ongoing in order to keep up with the latest developments.

The students were very enthusiastic about the above pedagogical proposal and encouraged the preparation of similar modules. Although they found all the materials very useful, the academic article posed quite a challenge for them; nevertheless, they welcomed it as an integral part of the course content. The didactical process explained above gradually leads the students towards having to deal with more complex, scientific material. In such a procedure, the students work using "top-down processing" (Little *et al.*, 1989) so that they use what they already know to interpret the unknown. The natural progression in level of difficulty helps the student gain confidence in learning and acquiring information, thus boosting their interest and self-esteem.

In conclusion, the authors found that if the material selected reflects the interests and the needs of the language learners, then learning becomes meaningful, worthwhile and enjoyable. As a result, the students are moving towards autonomous learning in the target language. Accordingly, this methodology is an attempt to help students find their way through any text in the target language.

## References

- Gorman, C. (2001) "Rethinking treatments for the heart", *Time*, January 15, 2001.
- Grellet, F. (1981) *Developing Reading Skills* (Cambridge University Press, Great Britain).
- Heaton, B. (1991) "English for academic purposes: a tool for access to information", *The Study of English Language in Italian Universities* (Edizioni dell'Orso, Torino).
- Hooper, L., Summerbell, C.D., Higgins, J., Thompson, R.L., Capps, N.E., Riemersma, R.A. and Ebrahimet, S. (2001) "Dietary fat intake and prevention of cardiovascular disease: systematic review", *BMJ* 322, 757-763.
- Hudson, T. (1991) "A content comprehension approach to reading English for science and technology", *TESOL Quart.* 25(1).
- Little, D., Devitt, S. and Singleton, D. (1989) *Learning Foreign Languages from Authentic Texts: Theory and Practice* (Authentic Language Learning Resources Ltd, Dublin).
- Trimble, L. (1985) *English for Science and Technology: a Discourse Approach* (Cambridge University Press, Great Britain).
- Video (1996) "Coronary Artery Disease at Time of Diagnosis". Time Life Medical. Patient Education Media, Inc.