Syllabus Design: Development of a Learner–Centered Curriculum for English for Medicine

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シラバスデザイン：医学のための英語教授に於る学習者中心のカリキュラム

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Abstract:

This paper first outlines the process of designing a learner–centered curriculum, then describes the stages involved in the design of a syllabus suitable for one group of learners, specifically doctors at a hospital in Osaka, and provides examples of tasks designed to meet the needs of this learner group.

Key words: syllabus design, learner–centered, English for medicine

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この論文では、まず学習者中心のカリキュラム作成の過程を概観し、次いで大阪の病院の医師達を対象にしたシラバス作成の段階を述べる。更に、この医師たちの必要性にかなったクラスワークの例を挙げる。

キーワード：カリキュラム作成，学習者中心，医学英語

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Introduction

The learner-centered curriculum has many of the same elements as a traditional curriculum, planning, implementation, and evaluation, while adding a focus which requires learner involvement in each step of the learning process. The resulting curriculum thus becomes a collaborative effort between teachers and learners with both involved in the decision-making process (Nunan, 1988). The steps necessary for discovering learner needs and designing tasks which address both objectively and subjectively perceived needs involve the teacher much more closely in the curriculum design process. Rather than following a prescribed route, the teacher must assume a much heavier burden for addressing these needs in the learner-centered curriculum.

Included in the process of designing a learner-centered curriculum are:

1. Collection of information about learners through
   a. objective needs analysis (current proficiency, age, educational background, etc.), and
   b. subjective needs analysis (preferred learning style, learner wants, self-assessment, etc.);
2. Establishing learning objectives;
3. Designing tasks based on the needs analyses and learning objectives, and
4. Determing task evaluation and assessment procedures.

A learner-centered curriculum does not have teachers abdicate responsibility. Rather, it expands it by involving learners, and analysis of learners' goals, in the learning process. In essence, those involved, learners and teachers, must accept more responsibility for what takes place than generally allocated them in a traditional course. Learners are in charge of their learning, teachers with directing learning in an appropriate way[1].

The application of a learner-centered curriculum to a group of Japanese learners of English, from needs analysis through on-going materials design, is given in the following pages.

Needs Analysis

Subjects:

Five medical doctors at a national hospital in Osaka, three male and two female, were the subjects of this study. At the time of initial needs analysis, two male doctors had completed their residency and begun working permanently at the hospital while the other three doctors were in their second year of residency. Subjects were 27 to 33

years of age. One subject, male, had spent more than six months in an English speaking country while the other four had spent limited time overseas, primarily on holidays. All had completed six years of required English courses at the secondary level and had at least two years of English courses during their time at university. Their English level was not assessed on a criterion-referenced scale, but it was judged by the teacher to be at an intermediate to advanced level.

Information for the needs analysis was gathered through:

1. a series of individual oral interviews, designed to assess the learners' current ability levels and reasons for studying English, conducted by the teacher before the course began, and
2. a questionnaire administered six months after the course began (see Appendix 1).

Both methods of obtaining information have their strengths and limitations when applied to syllabus design. In both, the information gathered is limited by the learners' L2 skills. In addition, personality can play a major role, with some students being unable to vocalize their needs. And finally, any needs analysis is limited by the perception the learners have of their needs. What a learner fails to perceive can often be as necessary as those needs that are perceived. Taking this into consideration, it is easy to see why a follow-up needs analysis is necessary to allow for reassessment of earlier responses.

Results of Needs Analyses

During the initial interview, interest in studying English specifically for medical purposes, to write research papers in English, to read medical journals, and to present papers at conferences, was given high priority. The questionnaire confirmed this interest, while adding a perceived need for "conversational" English useful for meeting people informally at conferences.

Learning Modules in the Learner-Centered Syllabus

In response to the needs analyses of the learners, a number of tasks were designed for a short syllabus with the target outcome of writing a short paper in English for oral presentation at a medical conference or publication in a medical journal. Following Crookes' (1986) definition, a task is defined here as a piece of work or activity undertaken with a specific purpose in mind. Within this syllabus project, a pedagogic task is an activity with an assessable outcome undertaken as a single unit of study during a class period. A total of six tasks, including the final outcome task, were designed with the target outcome in mind. The tasks are explained below,

while the information provided the learners appears in Appendix 2.

Task 1—Sentence Combining

Goal: Improve ability to link ideas in scientific papers.

Objective: Link sentences with 80 percent accuracy.

Material: Excerpt from "The History of Balloon Angioplasty" (Shepherd & Vlietstra, 1987).

Design: Before class, sentences in one paragraph were split into a series of less complex sentences. Learners then "combined" the sentences into complex constructions.

Task 2—Cloze Exercise

Goal: Improve inferencing ability for reading scientific papers.

Objective: Complete a cloze exercise with 80 percent accuracy.

Material: Excerpts from "The History of Balloon Angioplasty" (Shepherd & Vlietstra, 1987).

Design: Several enlargements of paragraphs from the article were prepared before class. Working in two groups, learners removed words from the paragraph. They were encouraged to remove every seventh word, unless this was a name or a term they felt needed to be included. The modified paragraphs were then exchanged with the other group. Groups then worked to complete the cloze as a "fill-in-the-blanks" exercise.

Task 3—Organizing Ideas in Sequence

Goal: Improve ability to sequence ideas.

Objective: Organize sentences with 75 percent accuracy.

Material: Excerpts from "Technical Aspects of Emergency Percutaneous Transluminal Coronary Angioplasty" (Stack, 1988).

Design: Before class, a section was retyped to allow easy separation of the sentences. These were then cut into sentence strips and given to learners to reorganize based on the use of transitions and other expressions for linking ideas in English. Learners were first given instruction in transitions, then organized the sentences.

Task 4—Explaining Charts and Pictures

Goal: Improve ability to explain medically related charts and pictures.

Objective: Match explanation to their correct picture or chart with 75 percent accuracy.

Material: Pictures and charts collected from articles about angioplasty. Tape record-

ing.

Design: Before class, a short explanation of each graphic element was prepared then separated from it. Following this, an explanation of three of the graphics was recorded for use during class. Learners then matched the explanations with the pictures and charts. The tape was then played to give learners an example of someone explaining three of the graphics. Learners then prepared an oral explanation of a graphic element.

Task 5—Completing Information

Goal: Improve ability to ask questions about data and practice talking about statistics.

Objective: Complete a chart as a class with 80 percent accuracy.

Material: Excerpts from "Technical Aspects of Emergency Percutaneous Transluminal Coronary Angioplasty" (Stack, 1988). A quiz based on the data.

Design: Before class, a series of statements based on the Stack (1988) data were prepared. These were separated into sets of two or three. Learners were given a set of data and asked to complete a table and a diagram using the data held by all of them. A short quiz based on the data was administered following completion of the task.

Task 6—Write a Short Paper

Goal: Improve ability to write a short paper based on medical data.

Objective: Write a short paper in English which follows the standard form used in medical publications.

Material: Medical charts or pictures with short, simple explanations.

Design: Before class, a selection of charts and pictures with simplified explanations about angioplasty were prepared. Learners were given this information and asked to prepare a short paper based on it. Advice on writing was given each learner individually. Completed papers were shared with others and critiqued for clarity of ideas and accuracy of English.

Conclusions

Designing classroom tasks for a specific group in a learner-centered curriculum places much more responsibility on the teacher than simply selecting a text and teaching from it. In addition, it also places more responsibility for learning on the learners. With tasks addressed to what the learners perceive as their needs, modified by what objective analyses indicate about these needs, lack of success cannot be blamed on "the book" or the excuse that "the class is not what I want." This should

be perceived as a positive aspect of a learner-centered curriculum. In short, while designing even a short package of tasks for a learner-centered curriculum seems daunting, the reward of teaching and learning what is needed can be much greater than that provided in a traditional syllabus.

Note

1. A rationale for involving the learner in the curriculum design process is outside the scope of this paper. Nunan (1988) remains a primary source for information on the learner-centered curriculum. This paper focuses on the application of a learner-centered approach with one group of learners in order to provide others with more detail about undertaking the process of designing a learner-centered curriculum.

References

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Appendix 1: Needs Analysis

1. How long have you studied English?
2. What do you think is your current level of English?
3. What other languages have you studied?
4. Have you been overseas? Where?
5. Have you ever lived in an English speaking country? If yes, how long were you there? Why?
6. Why do you want to study English?
7. What do you need to be able to do in English?
8. What skills are important for you to have in English?
9. What is the best way for you to study?

10. What kinds of exercises and learning activities do you prefer?
11. How much time do you spend studying English outside of class each week?
12. How much time would you like to spend studying English?
13. What was your favorite English class like? Please describe it.
14. How do you judge improvement in your English?

Appendix 2: Tasks

Task 1—Sentence Combining

Material: Excerpt from "The History of Balloon Angioplasty" (Shepherd & Vlietstra, 1987).

Instruction: One of the ways writers link ideas in scientific papers is to use more complex sentences. Instead of writing:

Sos et al. showed that balloon angioplasty was possible.

They showed this by dilating, post mortem, caorctation of the thoracic aorta.

They did this in a newborn.

They did this in 1979.

The writer uses sentences that combine these ideas, such as:

In 1979, Sos et al. showed that balloon angioplasty was possible by dilating, post mortem, coarctation of the thoracic aorta in a newborn.

The combined sentences have the same ideas as the first, but presents them in a more complex form. By combining sentences into more complex ones, your papers will sound more authoritative. Practice sentence combining with the following sentences, based on an excerpt from "The History of Balloon Angioplasty" (Shepherd & Vlietstra, 1987), p. 11.

1.1 The evolution was cautious.

1.2 The evolution was from balloon angioplasty of peripheral arteries.

1.3 The evolution was to dilation of coronary arteries.

1.4 The caution was justified because of concern regarding acute coronary artery occlusion.

1.5 The caution was justified because of concern regarding subsequent infarction.

2.1 These concerns were reminiscent of similar apprehensions.

2.2 These similar apprehensions preceded the use of coronary arteriography.

2.3 The use of coronary arteriography was elective.

3.1 Gruentzig, et al. miniaturized the balloon catheter.
3.2 They did this to attempt coronary angioplasty in animals.
3.3 They did this after initial success with peripheral artery dilation.

4.1 They placed ligatures around canine coronary arteries.
4.2 The ligatures induced inflammatory changes.
4.3 The ligatures induced localized stenoses.

5.1 The stenoses were then successfully dilated.
5.2 They were dilated with the new modified balloon.
5.3 Subsequently, coronary arteries in human cadavers were dilated.

6.1 Myler and Gruentzig performed intraoperative coronary angioplasty.
6.2 The angioplasty was performed at the time of coronary bypass procedures.
6.3 The angioplasty was performed to determine if plaque material would be dislodged.
6.4 The angioplasty was performed to determine if plaque material would embolize distally.

7.1 After expansion of the stenotic vessel they found no evidence of distral debris.
7.2 They saw a smooth-appearing lumen.

8.1 Gruentzig, et al. measured pressure gradients.
8.2 They measured them across stenotic lesions.
8.3 They practiced subselective coronary angiography.

9.1 Gruentzig performed the first successful PTCA in humans.
9.2 It was performed on September 16, 1977.
9.3 It was performed on a 38-year-old man.
9.4 The man had 85 percent narrowing of the left anterior descending coronary artery.

10.1 He positioned a preshaped guiding catheter at the orifice of the coronary artery.
10.2 He advanced a second catheter into the branches of the artery.
10.3 The second catheter had a sausage-shaped balloon at the tip.
10.4 He guided the second catheter through the guiding catheter.

11.1 The lesion was dilated successfully.
11.2 It was dilated with 5 atmospheres of pressure.

Task 2—Cloze Exercise

Material: Excerpts from "The History of Balloon Angioplasty" (Shepherd & Vlietstra, 1987). One or two bottles of correction fluid.

Instruction: An important part of reading is guessing what a word means or should be. One way to improve reading ability is to read paragraphs where words have been removed at regular intervals, for example every seventh word is missing. Preparing these reading activities for other people is a good way to think about what you have read. Now, read the paragraph or paragraphs you have received. Are there any medical terms unfamiliar to you? Write them down. Can you guess what they mean from the rest of the paragraph? Read the paragraph again. After you read it, go back and cover every tenth word with correction fluid. Trade paragraphs with another group. Read their paragraph, filling in the missing words. Can you infer (guess) what words are missing? Write them in the margin.

Task 3—Organizing Ideas in Sequence

Material: Excerpts from "Technical Aspects of Emergency Percutaneous Transluminal Coronary Angioplasty" (Stack, 1988).

Instruction: One way writers maintain a link between ideas is through the use of "transitions" or "order markers." Words like "first," "then," "second," and "after that" let the reader know that ideas are linked. Words like "however" also link ideas, but they link them by pointing out a contrast or a problem with the idea first presented. Work together to determine the best possible order for the sentences you have been given. Use the "transitions" to aid you.

Task 4—Explaining Charts and Pictures

Material: Pictures and charts collected from articles about angioplasty.

Instruction: Match the pictures and charts with the explanations. How do the writers explain the pictures and charts? If you were using these pictures in an oral presentation what would you say about them? Listen to the tape. How are each picture or chart explained? Now, prepare an explanation of one of the pictures. Give a short presentation based on your explanation to the rest of the class. (If you prefer, you may use your own medical data rather than the data supplied.)

Task 5—Completing Information

Material: Excerpts from "Technical Aspects of Emergency Percutaneous Translumi-

nal Coronary Angioplasty" (Stack, 1988).

Instruction: You have each received two or three statements based on a data set. Working together, complete the table about the data. You might want to remember to ask others questions like:

What did you say?

How many?

What percentage was that?

Did you say . . . ?

After you complete the table, fill in the diagram about the study population. When you are done discussing the data and completing the table and diagram, get a copy of the quiz. Give yourself five minutes to answer the questions.

Task 6—Write a Short Paper

Material: Medical charts or pictures with short, simple explanations.

Instruction: Look at the set of charts and accompanying explanations you received. (If you prefer, you may use your own medical data rather than the data supplied.) Write a short paper that will thoroughly explain the material you have. You will be sharing your paper with others so be sure you explain each point clearly, define medical terms completely, and use correct English. If you need any help with a difficult point, be sure to ask.