The Conception of a Flexible EFL Teaching Kit Through Applying Flexible Assembly Theories

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Abstract

In Mainland China, EFL teaching is rather coursebook-centered but many coursebooks produced for nationwide use exhibit a lower degree of flexibility to satisfy the diverse needs of potential users in various contexts. To upgrade flexibility of ELT materials, a new concept of EFL materials design gets its inspiration from the knowledge of flexible assembly system (FAS) in manufacturing fields. The conception of a flexible EFL teaching kit (FETK)is presented in the paper. The structure architecture of a typical component in the kit is illustrated, followed by a further description of those distinctive and creative aspects of the design. A brief introduction to a sample unit offers a more concrete description of the design.

Keywords: flexible EFL teaching kit (FETK), flexible assembly system (FAS), flexible delivery, task ladder

1. Introduction

Materials development has long been emphasized in ELT field, since the selection and the organization of the materials may greatly affect the way of teaching and learning, especially in a rather coursebook-centered curriculum. In Mainland China, college English teaching is generally coursebook-centered and has been framed in the context of the national syllabus and national proficiency tests. In most cases, coursebooks are treated as courses and both teachers and students rely heavily on coursebooks. To finish doing the coursebooks rather than actively learning English seems to be the major task and even the final goal.

In recent years, a wealth of general English coursebooks for college students are available on Chinese English language teaching (ELT) market, which provides a wider choice for users. However, frequent shifts of coursebooks occur at many Chinese universities and colleges, which undoubtedly damages the consistency, efficiency and the sustainability of college English teaching and learning. Several factors may account for the phenomenon, either academically or commercially. This paper has a particular focus on the former in the belief that an academically successful coursebook may ultimately ensure a business victory on the market.

When reading the prefaces of those mainstream coursebook packages which dominate the Chinese ELT market, one may find that they unanimously claim to advocate communicative language teaching and promote a learner-centered approach in coursebook writing. Unfortunately, there occurs conflict between the coursebooks' claim and the practical use of those coursebooks. Communicative language teaching stresses the starting point of learner's needs and a negotiated curriculum and allow for flexibility and responsiveness to individual needs, while the present

coursebooks are most likely to predecide the learning needs and to leave little room for negotiation and decision-making, although they may have a fine design of learning activities and appealing layout. Many of the coursebook produced for nationwide use have a comparatively low degree of flexibility to satisfy the diverse needs of potential users in various contexts, which is not learner-centered in its real sense and is in conflict with the rationales of communicative language teaching. Automatically, flexibility comes into the focus.

Flexibility is a key demand in a learner-centered curriculum in order to address the individualized learner's needs, to facilitate negotiated interaction between participants and to maximize learning potential in the communicative classroom (Kumaravadivelu, 1993). It is believed in this paper that it is of necessary importance to increase the degree of flexibility of a coursebook so as to improve the usability, effectiveness and sustainability. Aiming to ensure a higher degree of flexibility of teaching materials, a new concept of EFL materials design gets its inspiration from the knowledge of flexible assembly system (FAS) in manufacturing fields.

2. Flexible assembly system

According to Websters New Collegiate Dictionary, the word "flexible" is used to describe objects (or systems) "capable of responding or conforming to changing or new situations. Flexibility is defined as the ease with which a system or component can be modified for use in applications or environments other than those for which it was specifically designed

Flexible assembly system (FAS) is a rather technology-centered system which allow manufacturers to react quickly to shifting customer demands and shorter product life cycles. It can produce a wider variety of products; alter the mix of options or features; add new processes or assembly stations easily; and change volumes with minimal investment and changeover loss. (Weber, 2004)

According to Venkatesh and Zhou (1998), FAS has to be designed to meet the production system real-time constraints and dynamically adapt to the market needs, to deal with complex shop floor requirements and to easily adapt to changes in system specifications.

How does a flexible assembly system realize its flexibility has undoubtedly been the focus of the research. Through extensive literature study, some of the essential features of FAS have been highlighted and presented in Table 1.

Table 1. The essential features and their supporting technologies of a flexible assembly system (FAS)

Features	Supporting technology
Market-responsiveness	Needs-objective approach
Scalability	Adjustable fixture
Reconfigurability	Removable components
Compatibility	Parallel workstations
Expansibility	Servo system

All these features contribute to the flexibility of the system, which enables the system to produce a range of products with little penalty in time, effort, cost or performance.

3. The application of Flexible Assembly System into ELT field

Although at first sight, a flexible assembly system is remote from the human-centered English language teaching, the chances of applying FAS principles to ELT field are not that slim. As a matter of fact, in ELT field, an awareness of the importance of flexibility has been raised, particularly with the advocating of flexible delivery.

Flexible delivery is a term referring to a learner-centred approach to education and training that covers a range of delivery modes and expands choice on what, when, where and how people learn. Rogers (1951) holds that flexible delivery can be defined as the provision of learning and assessment opportunities in modes which serve to increase the students control over when, where, how and at what pace they learn. It is related to student-centred learning, which emphasizes the teachers role as a facilitator in empowering students to take significant, but not total, responsibility for their own learning. Dr Roy Lundin of Queensland University of Technology explains that flexible delivery is an approach which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities.

To sum up, flexible teaching and learning allows maximum choice for differences in student learning needs, styles and circumstances. It is mainly characterized by:

- learner-centered approach
- diversity of learning options
- provision of alternative pathways to suit learner needs
- a range of delivery systems
- a range of learner support technology
- flexible assessment

Therefore, it is clear that both FAS and flexible delivery in ELT share the target of flexibility and many essential features. However, the former develops at a fast pace and has been supported by many matured technologies, while the latter desires concrete and systematic approaches to reach the target. Hence, there occurs an idea of applying some essential concepts and principles of FAS into ELT practice.

The flexibility of teaching materials is perceived in this paper a big contributor to flexible delivery, especially in a coursebook-centered curriculum. The current research is actually a trial on the modeling of ELT materials through application of the essential principles of FAS. Meanwhile, it is advisable to be conscious of the existence of the distinctions between the two issues. It is not realistic to embed those advanced and detailed technology in manufacturing or software design, at least at the current phase of the research work. Instead, it is some essential designing notions that are employed.

4. The design of a flexible EFL teaching kit

Based on the earlier discussion of the advanced features and supporting technologies of FAS and the rationales of flexible delivery in a learner-centered curriculum, this paper presents the design of a flexible EFL teaching kit which hopefully may facilitate a higher degree of flexibility of EFL teaching and Learning and is mainly characterized by:

- functioning as a resource tank rather than a sharply defined course;
- promoting a learner-centered learning in a negotiated classroom
- supporting learner autonomy
- emphasizing the process of learning and the personal progress made by individual learners
- offering opportunities for multi-skills training
- supported by a range of media
- dynamic assessment

The entire teaching kit is designed to adopt the topic-based approach to organize the units, and the selection of topics should conform to the criteria of being informative, interesting, challenging as suggested by Nunan (1995). Each unit as an individual component in the kit may reflect the distinctive flexibility design. Here, the paper will introduce the structure architecture of a typical unit.

Figure 1. The architecture of a typical unit design in the FETK
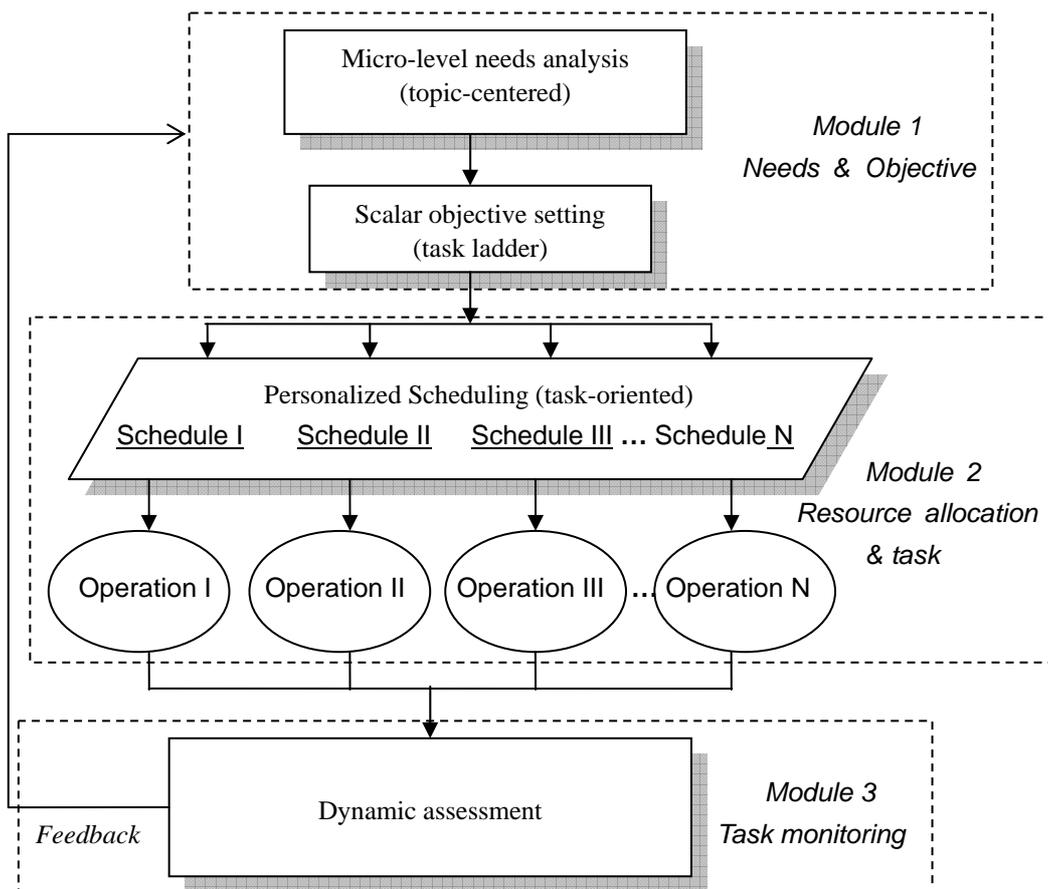
From the above chart, it is clearly seen that the typical component consists of three modules, namely, Needs & objective Module, Resource allocation & task execution Module, and

Task monitoring Module. These three modules are interrelated and communicate with each other. The distinctive and creative design of each module needs to be further described.

Module 1. Needs and objectives

   Micro-level needs analysis design to achieve responsiveness. Needs analysis is generally regarded as a necessary step in syllabus design or curriculum design. This paper presents the notion of a topic-centered micro-level needs analysis to initialize learning process. This is supported by multi-form approaches, such as pre-quiz, questionnaires, structured interview, etc.. Since the three modules communicate with each other in a cyclical flow, needs analysis in this particular design is expected to be frequently performed, with needs dynamically updated.

   Task ladder design to achieve scalability. The design of the FETK adopts a task-based approach in the belief that a task-based approach may facilitate a natural and effective language learning process. And through transacting the tasks rather than learning linguistic items, learners may have a flexible space to exhibit their maximum capacity. What is particular in the current research, a clearly-defined task ladder with scalable tasks is designed to take the place of a commonly shared task or isolated tasks in order to enhance the flexibility degree and achieve scalability of the kit. Learners may make informed choices from the hierarchy of task assignments of knowledge-acquisition, in-depth understanding, integration and creation. It will allow learners to set realistic objectives by choosing personally challenging tasks and to flexibly move downwards or upwards according to task execution.

Module 2 Resources allocation and task execution

   Independent task-relevant components design to facilitate reconfigurability. The teaching kit is primarily designed to be a resource tank which may "allow for flexibility and responsiveness to individual needs" (Maley, 1991) by providing a variety of options. In order to facilitate individualized learning, a wide range of learning activities designed closely related to the tasks in the ladder in Module 1. Those activities are perceived in a professional eye to be the necessarily important knowledge and skills needed to accomplish the tasks. And they are comparatively independent and removable rather than in a linear flow. Those components are signaled by marks with reference to the tasks in Module 1 and its importance or complexity, such as (Task 1, essential), (task 3, desirable) or (Task 4, optional). Learners may involve themselves in reconfigure the activities to meet their own needs.

   Parallel scheduling design to actualize compatibility. Rather than predecided and static scheduling for the whole class, the kit allows a dynamic and individualized scheduling. Learners, with the help of the teacher, may work out their own plan for learning by reconfigurating learning components. Learners with different learning targets may proceed concurrently by carrying out individualized plans.

Module 3 Task monitoring

   Dynamic assessment design to ensure favourable system expansibility. A range of task evaluation forms are presented in accordance to tasks. Learners may be assessed or assess by themselves on the task execution at any stage rather than a final examination. The results of different

forms of assessment will be valuable feedbacks to provide diagnostic information to dynamically update or reschedule the learning process.

5. Brief introduction to a sample unit in a flexible EFL teaching kit

A sample unit of the above mentioned design has been developed accordingly. The central text is selected from A New English Course, a conventional textbook being used by sophomores at many Chinese universities. The reasons for such a selection are at least twofold. On the one hand, the selection of materials in the conventional textbook is believed to be in accordance with the parameters determined by the authoritative syllabus. On the other hand, hopefully, the superiorities of the newly-developed materials to the conventional one may be revealed through comparison and contrast. The following Table 2 shows the results.

Table 2. Comparison between the original unit design and the current design

Text title: The Light at the End of the Chunnel		
Summary of the text: The text is a feature report which introduces one of the significant transport construction projects in the modern history of European architecture. This report includes different opinions toward the Chunnel, the opinions of local residents of both sides of the English Channel, as well as the comments of the construction tunnellers.		
Items	**Original unit design**	**Current design**
Needs analysis	Neglected. Both needs and objectives seem to have been predecided for all users.	Emphasized. 4 questions designed to differentiate needs and to facilitate an informed choice.
Objectives presentation	No clear objectives stated.	Clearly-stated with a 5-step task ladder, a scalar inclusion of knowledge acquisition, in-depth understanding, integration, creative application and an open task.
Learning Activities design	Single set of exercises on language contents and skills in a linear flow.	Task-based approach design. Five sets of activities (altogether thirteen comparatively independent activities) relevant to the tasks in the ladder. Integrative skills training and multi-media supported.
Assessment	Set answers to exercises.	Dynamic assessment. Multi-form assessment. A range of task evaluation forms are presented in accordance to tasks. The results of different forms of assessment will be another input to the task cycle.

6. Conclusion and perspectives

This paper is based on a research into ELT materials development, focusing on the approaches to increasing the degree of flexibility of materials. In this paper, a cross-disciplinary application of flexible assembly system (FAS) into ELT field has been presented. The conception of a flexible EFL teaching kit has been completed after a study into the basic principles of FAS, and a further discussion on the application of FAS into ELT materials development. Aiming to share the features of responsiveness, scalability, reconfigurability, compatibility and expansibility of FAS, the design of a flexible EFL teaching kit (FETK) has been presented. A typical unit in the kit consists of

three modules, namely, Needs & objective Module, Resource allocation & task execution Module, and Task monitoring Module. The distinctiveness of the current design, compared with conventional coursebooks, lie in the following aspects:

- Micro-level needs analysis design
- Task ladder design
- Independent task-relevant components design
- Parallel scheduling design
- Dynamic assessment design

The future efforts will be focused on the development of a complete FETK by employing the theories and methods generated in this paper and on the optimization of the system through real-context application.

Acknowledgments

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