The Enlightenment of Content Schema to the Teaching of Marine Engineering English Listening and Speaking in Higher Vocational Maritime Colleges

YAN-LI ZHU

ABSTRACT

Aims at the characteristics of the Marine Engineering English learners in higher vocational maritime colleges and the low efficiency of the traditional Marine Engineering English listening and speaking teaching, based on the schema theory, with the content schema accumulation and activation as a breakthrough, this essay puts forward some suggestions to improve marine engineering English listening and speaking teaching from three aspects of curriculum setting, teaching material construction and class teaching design.

In the traditional teaching of Marine Engineering English listening and speaking (MEELS) class, students are regarded as passive recipients of information. During the learning process, the students are lack of interest and motivation. Some students take passing the competency assessment as the sole purpose of learning, with which their communicative competence couldn’t be improved effectively. However, the international shipping labor market and the STCW Manila amendment put forward higher request to the English listening and speaking ability of the crew. To meet the urgent needs of the "high quality crew", this paper discusses the effective and suitable way of teaching MEELS in higher vocational colleges from the perspective of content schema.

SCHEMA THEORY AND CONTENT SCHEMA

Schema was initially introduced into psychology and education through the work Remembering in 1930s [1]. Schema theory has been borrowed by some linguists recently and has been widely developed in the field of linguistics. In 1963, Ausubel, the famous educator, explained the learning process with schema theory. He focuses on meaningful learning, which refers to learning way where the new knowledge to acquire is related with previous knowledge [2].

In accordance with the psychological linguistics, schema is pre-existent knowledge, that is, the sum of the linguistic knowledge and the understanding to the world in people’s long-termed memory. According to James, there are basically three areas of schema: linguistic schema, which is about learners’ linguistic knowledge; formal
schema, which has to do with people’s knowledge of discourse forms; and content schema, which refers to people’s background or world knowledge about the topic, provides people with a foundation, a basis for comprehension [3][4]. Content schema contains general or specific information on a given topic. Johnson has shown that a text on a familiar topic is better recalled by listeners than a similar text on an unfamiliar topic [5]. Meanwhile, Coady insists that the background knowledge will enable the student to comprehend at a reasonable rate and keep him involved in the material in spite of its syntactic difficulty [6]. Researchers found that in the second language acquisition, learners understand the material by combining the information of the article with their previous learned background knowledge. The more background knowledge, the richer and easier the understanding of the listening materials.

According to schema theory, to correctly understand an article, readers must meet the two following requirements: the reader should possess the schema related to the article, the successful activation of the schema in the process of comprehension [7]. The process of understanding the listening material is a dynamic interaction between the input information and learners’ pre-existent knowledge to achieve semantic reconstruction, requiring the listeners’ active participation. Schema theory believes that how much can the listener understand the listening material depends to a considerable extent on his familiarity to the related field and whether he can relate the new information with his pre-existent knowledge quickly. Activating the existing knowledge and establishing a new background knowledge can greatly improve the students' listening and speaking ability.

THE CHARACTERISTICS OF MEELS AND ITS LEARNERS IN HIGHER VOCATIONAL MARITIME COLLEGE

MEELS is a course which aims to cultivate students’ professional English application ability. Its main task is to improve students’ listening and speaking ability of professional English to make them communicate with the crew from other countries without difficulty when they are working on board ship, make necessary business conversations with the PSC officers during the Port State Control inspection, and at the same time, students are required to pass the national seafarers’ English competency assessment. The MEELS and its learners in Higher Vocational Maritime College have the following two characteristics:

On one hand, the content of MEELS covers all aspects of seafarers' working and living, including everyday English, engine room routine operation (main engine and auxiliary machinery), communication with bridge, emergency communications, business contacts with shore people, PSC/ISM inspection communication and etc. Only if the listeners have the relevant knowledge of seafarer’s working and life, i.e. the related content schema, can they understand the listening material fully and clearly.

On the other hand, the English ability of current Marine Engineering English learners in Higher Vocational Maritime Colleges is poor [8][9]. Take the students’ college entrance examination (perfect score 150) of the author’s college in the last three years (2013, 2014 and 2015) as an example, the students’ score above 90 points only takes up less than 20%, while a large number of students get 60 points to 80 points, and some students’ score are even less than 60 points. After three-term learning of college English, the percentage of the students who passed the CET 4 is no more than 5%. Thus, we can conclude that the students’ English learning ability is far from the requirements of the MEELS. With a survey of the students, the author found that in
their English learning experience, the students can hardly get the sense of fulfillment. When refers to English learning, the feeling of embarrassment, failure and torture is serious.

Thus the traditional MEELS teaching method, that is, improving students’ ability of MEELS only or mainly by relying on their English ability of vocabulary, grammar, syntax can hardly work. In order to help the students to learn MEELS effectively and let the students find the sense of achievement rather than frustration during learning process, we should help the students to learn this course by accumulating and activating the content schema

THE ENLIGHTMENT OF CONTENT SCHEMA TO THE TEACHING OF MEELS IN HIGHER VOCATIONAL MARITIME COLLEGES

Optimizing the Curriculum Setting

Since MEELS is highly professional, sufficient accumulation and effective activation of content schema is essential to the learning of MEELS. Adjusting curriculum setting will be conducive to the accumulation of content schema. The professional courses, such as Main Engine, Auxiliary Machinery, Marine Electricity and Marine Engineering English Reading are arranged to learn a little earlier than MEELS. In this way, the students can accumulate some content schema and a few related linguistic schema when they learn MEELS. Exercising MEELS on this foundation facilitates the learners to reproduce and activate the content schema, enhances the understanding ability by understanding the listening material by “top-down mode” naturally, reduces the understanding obstacles caused by language and let the students feel the sense of achievement in the process of learning English.

Compiling Practical Audio-visual-oral Teaching Materials in Marine Engineering English

Choosing the practical teaching material is the premise of improving the foreign language teaching in higher vocational colleges. The quality of the teaching material directly affects the quality of teaching. Compiling teaching material of MEELS has its own unique characteristics since Marine Engineering English is a professional language which will be highly related to the students’ future work. The consideration of compiling MEELS teaching material can be taken from the following aspects:

As to the content, we should consider the students’ future working responsibility and working scope, show the working task by selecting typical scene and the authentic language materials, create the communicative situation to cultivate students’ English communicative ability during working to meet the specific requirements of English ability made by the Manila amendment and the implementation of the "People's Republic of China seafarers competency examination and Certification Rules". The teaching materials’ content of MEELS should be similar to the actual marine engineering work and the engineer’s actual business. Since the content of the teaching material comes from the practical work, a direct connection between the current learning and their future ocean-going work can be established, in which way students’ interest and learning motivation will be stimulated. Since the content we choose are typical tasks in the real work which will be the key points in their professional class, thus the content schema can be found easily.
As to the form, the audio-visual-oral teaching material is the best choice. Audio-visual-oral materials present the scene in the form of image and sound, expressing the emotion and meaning, providing vivid language materials, showing an authentic language environment, containing abundant information which will help the students to activate the content schema easily by using both their auditory and visual sense. The tone, intonation, rhythm, facial expressions, and gestures when they are talking and the working equipment they are facing to all shown as in reality will make students feel personally on the scene, focus students’ attention, turn the passive information recipients to positive meaning constructor, and improve the students’ listening and speaking ability during working on board ship.

As to the sequence of the arrangement, the authors should consider the sequence of learning the marine engineering professional knowledge and reading to make sure that the content practiced in listening and speaking should keep pace with what they learned in other related classes which will provide rich content schema for the learning of MEELS, thus the learning of MEELS would be less frustrating. When English can be regarded as a tool for learning marine engineering rather than a burden, students’ interest of learning MEELS will be gradually cultivated and a higher level of language acquisition will be promoted.

**Improving the Class Teaching Design**

The teaching design plays a decisive role in attaining the purpose of teaching. Since the students have accumulated abundant content schema during the learning of other professional courses, in the MEELS class, our focus should be placed on how to activate the students’ related schema, especially the content schema. According to schema theory, we will introduce the PWP teaching process [10] into the MEELS class, which design the class as three periods, i.e. pre-listening, while-listening and post-listening, and organize some activities which respectively aim to activate the schema before listening, instantiate the schema while listening and consolidate the schema after listening.

**PRE-LISTENING PERIOD: WARM-UP AND ACTIVATE THE SCHEMA**

Schema theory provides strong evidence for the effectiveness of pre-listening activities. The purpose of this period is to guide the students to make good psychological preparation for what they will hear and what they are expected to do, arouse students’ interest in the listening material, help students to establish a purpose for the specific information they need to listen. Good preparation can stimulate students’ desire for the coming listening material which will make them to be active listeners. According to the characteristics of MEELS materials and the learners of higher vocational maritime colleges, we should focus on activating the students’ content schema. With predicting the content, brainstorming, asking questions, using the related audio-visual media, discovery activities and other methods to help students to establish their listening target or focus, activating their background knowledge related to the topic, improving their learning motivation, introducing the students to use the top-down listening models to focus on meaning while listening.
WHILE-LISTENING: PROCESS THE INFORMATION CORRECTLY AND INSTANTIATE THE SCHEMA

With proper preparation during the pre-listening period, students who have become active listeners can smoothly move on to the while-listening period with ease and anticipation. During this period, the students should confirm, revise their predictions and instantiate the related content schema by interpreting and decoding the incoming information. Too much teacher intervention during this period is not practical due to the ephemeral nature of listening. The main task of teacher during this process is to guide the students to utilize listening strategies of predicting the meaning of listening material with the top-down model with the help of the content schema, adjust the previous prediction to fit the upcoming information to achieve better understanding. Teacher should make the listening process interesting and full of sense of achievement by setting different kinds of tasks and exercises.

POST-LISTENING: CONDUCT VARIOUS ACTIVITIES TO CONSOLIDATE AND ESTABLISH NEW SCHEMA

After listening, check answers to make sure whether the students have understood the content and conclude the listening activities to improve the future class design. In the meanwhile, organize different kinds of activities to consolidate and establish new schema. During the post-listening stage, “understanding—memorizing—imitating—free playing” mode can be used to make the students to convert and integrate the input in MEELS class and their previous content schema properly and achieve effective language output which is also the objective of MEELS. Understanding is to make the students fully understand the material, understanding its usage, application and laying a good foundation for the following procedures. Memorizing is to make the students recite the original language materials as much as possible on the basis of understanding to achieve the purpose of imitating and free playing. Imitating is to let the students reproduce the scene by using the language materials learned. Free playing is to encourage the students to create and free play on the basis of the original language materials and scene, turning the language knowledge into suitable language materials to achieve better memory and effect. Questions, group discussions, debating, role-play, retelling, report, summarizing are good forms for post-listening activities which could urge the students to reproduce the content just learned, strengthen the comprehension, consolidate and enrich the schema.

CONCLUSIONS

Listening comprehension process is an interactive process between the listeners’ background knowledge and the listening material. The listeners’ existing schema determines the content and degree of understanding, and whether he can understand it properly. As for the MEELS in higher vocational maritime college, it is impossible for the students to improve their English ability in short time to meet the requirements of the STCW Manila amendment with the traditional teaching method. By accumulating and activating the content schema, the connection between the old and the new schema can be established, which will reduce the listening obstacles caused by the students’ low English ability, so as to achieve a successful understanding. Optimizing the curriculum setting, compiling practical audio-visual-oral teaching materials,
introducing the PWP teaching process into the MEELS class teaching design will be conducive to establish, accumulate, activate and consolidate the schema, make the students become positive meaning constructors, so as to improve the teaching effect of MEELS effectively and achieve the desired teaching objectives.

REFERENCES