Digital Textbook-Based English Class: Does It Promote Interaction Between Teacher and Students?

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The purpose of the study is to examine how communicative the digital textbook-based English classes are in a secondary school. To this end, it attempts to observe and analyze the quantity and quality of interactions between the teacher and students in the class discourse obtained from an open demonstration class at a digital textbook pilot school in Seoul. The class consisted of 24 first year middle school students whose English proficiency level is intermediate. In order to analyze the interaction characteristics of the digital textbook-based class, COLT Part B was used. The findings showed that in terms of interaction, the digital textbook-based English class was much like the traditional teacher-fronted classroom in which the teacher dominated most of class talks, and students' utterances were either ultraminimal or minimal, consisting of only one or two words. In addition, there were practically no student initiated talks. These results imply that just integrating the new technology tool into a class rarely promotes interaction in EFL classrooms. Therefore, teachers need to design a student-centered English classroom which provides students with chances to perform the target language by utilizing positive features of digital textbooks for assisting students to be actively involved in interactions.

1. INTRODUCTION

With the advancement and innovation in high technology and information communication, our world has been changing more rapidly than ever before. From the educational perspective, it implies that we are living in a world where the knowledge and information in the textbooks, which are supposed
to be true and important, could be wrong or useless in a single day. As the life-cycle of knowledge is getting shorter, revising the textbooks for knowledge updating has become a critical issue in education. However, it is virtually impossible to update knowledge in a timely fashion in school subjects through paper-based textbooks considering the procedures, time, and resources required to publish and revise them. In addition, the revised contents of textbooks could be already outdated by the time they are published and distributed. In order to cope with the challenge, the South Korean Ministry of Education, Science, and Technology (MEST) initiated the digital textbook program in 2007 and has spent $2.4 billion developing and updating digital textbooks to enable all of the schools to go digital by 2015. Byun and Song (2010) state that the project is the beginning of an innovative paradigm shift in South Korean education.

Digital textbooks, previously called ‘electronic textbooks’ and used as supplementary materials in the government-led online educational programs before the project, are simply defined as digitalized books for the purpose of teaching and learning. MEST conceptualizes digital textbooks as interactive versions of traditional textbooks that can be constantly updated in real time (OECD, 2011). Digital textbooks are electronic media materials which contain the content of paper-based textbooks, resource books, workbooks, and multimedia materials such as video clips, animation, virtual reality, and hyperlinks (Korea IT Industry Promotion Agency, 2008). Students use the digital textbooks through an online communication network. Digital textbooks allow learners to underline sections, take notes, manage their learning history, reorganize pages and create hyperlinks to online materials. They can be distinguished from e-books, a general term for all types of electronic books, in that digital textbooks are limited for the use of learning and teaching at schools (Byun & Song, 2010).

Particularly, the development of English digital textbooks was based on the possibility of teaching integrated language skills, which is hard to be supported by paper-based textbooks, using the hypertext and hypermedia features of the internet. Thus, it is expected that English digital textbooks make it possible for teachers to provide learners with opportunities to learn English through integrating language skills by using synchronous and
asynchronous computer-mediated communication tools (Kim, 2004). In other words, this new type of textbook are expected to promote more varied types of interactions in learning than conventional paper-based ones as it has interactive functions, allowing users to communicate through the communication tools they contain. Given the fact that interaction plays a critical role in learning L2 languages (Gass & Torres, 2005; John-Steniner, 1985; Long, 1981; Scarcella & Higa, 1981; Seliger, 1977), it is necessary to investigate the type and quality of interaction in digital textbook-based English learning situations. Based on this background, the purpose of the study is to investigate how communicative the digital textbook-based English classes are by observing and analyzing an English class that uses a newly-developed digital textbook in a pilot middle school in South Korea. Particularly, the study analyzes what interactions occur between the teacher and students, what utterances they exchange, and the amount of student participation in the digital textbook-based English class.

II. LITERATURE REVIEW

1. Interaction and Its Importance in L2 Learning

Generally, interaction is defined as a kind of action that occurs as two or more objects have an effect upon one another. In other words, interaction is defined as reciprocal events that require at least two objects and two actions (Wagner, 1994). Interaction has different meanings in various academic fields. In language learning or communication, Ellis (1999) defines interaction as the social behavior that occurs when one person communicates with another. Ellis also adds the intrapersonal concept which occurs within the person's mind to the definition of interaction. Similarly, Ellis (1994) makes another definition of interaction that participants whose statuses are equal and who share similar needs make an effort to understand each other. Gass and Torres (2005) also define interaction as exchanges that have some indication that an utterance has not been fully understood. They contend that in the process of learning interaction, the first step is negative evidence drawing the learner's attention to errors. They revealed that interaction
enhances language learning by conducting a study that compares performance between learners exposed to input and interaction in combination and those in conditions with only input or only interaction.

Along with Grass and Torres' study, many studies support the fact that interaction plays an important role in creating positive conditions for L2 learning. Among the studies, Long (1981) states that interaction is essential for second language acquisition. According to his empirical study on the conversations between native and nonnative speakers, Long discovered that modifications in interactions are consistently found in successful L2 learning. Scarcella and Higa (1981) argue that interaction may enhance L2 learning. They compared a number of interactions in the conversations of children and adolescents. They observed that adolescents are engaged in more negotiation of meaning or interactional modifications, which brings more successful understanding of input and thereby facilitates rapid L2 development. This result is in line with Long's research in that discourse modifications play an important role in the rate of L2 learning.

More evidences come from John–Steiner (1985) and Seliger (1977). By studying Finnish immigrant students in Swedish schools, John–Steiner reports that they had academic and linguistic difficulties as the classrooms they were placed in were so structured that there was little chance for meaningful interaction. The teacher of the classroom dominated the class dialogues and the activities were written. Seliger studied EFL learners in order to investigate the effectiveness of interactions in L2 learning. By comparing the test scores between high input generator groups, who were active in interactions with the teacher and their group peers, and low input generator groups, who were reluctant to participate in interactions or remained passive in the learning opportunities that they could have interacted, the study revealed that high input generators were more successful than their counterparts as they received more meaningful input interaction. On the contrary, the low input group learners had a tendency of not initiating interactions or becoming less involved in interactions on their own.

In short, the interaction in language learning means an event that takes places between the participants or within the participants themselves in the communication. From the foreign language classroom context, interaction
means any type of exchanging or negotiating of meanings between the key class participants: the teacher, the individual student, groupings of students, the class as a whole, and the materials (Crookes & Chaudron, 2001) for the purpose of developing the learners' target language competence as interaction has positive effect on learning the language by providing learners with target language practice opportunities.

2. Previous Studies on Digital Textbooks

Six elementary schools were first assigned as the digital textbook pilot schools in 2006. Since then, the number of pilot schools selected by MEST and KERIS (Korea Education & Research Information Service) has increased to 132 schools (122 elementary schools and 10 middle schools) in 2010 (KERIS, 2012). The pilot schools have implemented digital textbook-based learning programs and have undertaken research about the effects or effectiveness of digital textbooks on the academic achievements, learning attitudes, self-directed learning, and even health problems. Most of the pilot school research compared digital textbook user groups and paper-based textbook user groups in order to examine the digital textbooks' possibilities and effectiveness over paper-based textbooks. The results were varied and inconsistent, which makes the possibility and effectiveness of digital textbooks questionable (Im, 2010).

On top of the pilot school research, the number of studies on the effects of digital textbooks on learning has been increasing. However, most of them focused on the effectiveness of digital textbooks on academic accomplishments by comparing the test results between a digital textbook class and a paper-based textbook class (Byun, Kim, Jo, Heo, & Song, 2005; Byun & Seo, 2008; Kwon, 2008; Song, Ruy, & Jeon, 2008; Yeon, 2007). Others discussed the students' attitude toward the use of digital textbooks and relevant health issues (Yoon, 2007). However, there was little research solely on English subject and how digital textbooks contribute to the development of learners' communicative competence.

In sum, most of the studies on the use of the English digital textbooks and pilot school reports focused on the effectiveness of the digital textbooks in
terms of academic achievement by showing the improvement in test scores compared with those from the paper-based textbook classes. Although some research examined the effect of English digital textbooks on the interactions in the classroom, they concentrated on the general effects on various subjects, not particularly on English subject, and all the research contexts were elementary school classrooms (Ryu, Han, Kim, Im, & Kim, 2008). In other words, there is little research about how English digital textbooks assist the learners to acquire their target language by promoting the interactions in the classroom. In addition, there have been few studies in secondary school learning environments even if ten middle schools were assigned as pilot schools across the country in 2010. Thus, the focus of the study is to examine how communicative the digital textbook-based English classes are in secondary school by observing and analyzing the quantity and quality of interactions between the teacher and students.

III. METHODOLOGY

1. Participants

The participants of this study were twenty-four first grade middle school students. They were from a digital textbook pilot school in Seoul which was selected in 2010. According to the survey of the participants conducted before the digital textbooks were used in class, about 76% of them had positive attitude toward the digital textbooks. In addition, up to 95% of the participants knew what digital textbooks were. It was also revealed that nearly 64% of them had interest in using multimedia materials and Internet resources for studying English. The participants had several special lectures about the characteristics of digital textbooks and the effective ways of using digital learning contents.

The participants had four English classes including one with a native English teacher a week. Two of the classes were allotted for utilizing digital textbooks. The class was a homogeneous group whose English proficiency level was intermediate. The school's own periodic standardized test result was used to group students into three homogeneous proficiency levels at the
beginning of the semester. Thus, the proficiency level doesn't necessarily mean the participants' speaking and writing competence as the standardized test usually consists of reading comprehension, vocabulary, and grammar knowledge.

The teacher of this study had three year teaching experience in secondary school. Although she had no previous experience using digital textbooks for teaching English before the pilot school was assigned by MEST, she was assigned to teach the digital textbook class as she had competence in the field of utilizing ICT for teaching English. She has been teaching her students using the newly-developed digital textbook for six months. All the teachers of the digital textbook classes were required to have research experience.

2. Materials

*Middle School English Digital Textbook I* was used in this study. The digital textbook has been developed and updated by KERIS since 2009. The latest version of KERIS' English digital textbook consists of three major sections: 'Listen & Speak', 'Read & Do', and 'Think & Write'. It also has warm-up activities and three different levels of activities for differentiated learning. For the purpose of the study, among the sections, the 'Listen & Speak' section was selected because verbal interactions between the teacher and students are expected to occur more than in any other section. Using individual computers, students were required to look at the learning objectives and do the warm-up activity module at the beginning of the class and then do 'Listen & Speak' section activities. As Figure 1 shows, 'Listen & Speak' section consists of listen-and-choose questions, listen-and-speak module, which contains 'Listen', 'Listen & Repeat', and 'Talk with a Foreigner', and 'Practice with Your Friend' section. Among the speaking practice menu, 'Talk with a Foreigner' section provides students with opportunities to use the expressions they learned by showing a video clip in which an English speaker talks and wait for students to respond to his/her talk. In 'Talk with Friend' section, the teacher randomly matches students for online role-playing activities. Students can practice a conversation with/without a script.
3. Data Collection Procedure

For the purpose of the study, a demonstration class of one pilot school in an urban area was selected as the school had employed the English digital textbook for over six months and the class teacher is knowledgeable and competent about the use of the digital textbook. Rarely did the pilot schools run by secondary schools open their classes for the research analysis, the demonstration class of the pilot school was the only opportunity of looking into the digital textbook-based classes. Demonstration classes, particularly when they are meant to open to the public, are often criticized as artificial because in most cases, students in a demonstration class will rise to the occasion, co-operate easily and respond well. However, the main purpose of demonstration classes is not only to offer the most optimal example of solving a certain instruction problem, but also to generalize the example (Lee, 1968). Despite its small size of data, therefore, the demonstration class of this study may exemplify the digital textbook-based class in that it is aimed to open for providing English teachers with opportunities to explore the possibilities of digital textbook-based English classes in the situation that no secondary schools have not used English textbooks in their actual classes yet.

A digital camcorder was placed at the back of the classroom for students not to be conscious of the camera during the interaction with the teacher while doing class activities. The videotaped 45 minute class was split into 13 clips for thorough analysis. As the focus of the study was on the interaction between the teacher and students, peer interactions and interactivity between the digital textbook and the learners during the individual activities were not
included in the data analysis.

4. Analysis Instrument

In order to investigate the interactions between the teacher and students in the digital textbook–based English class, all the classroom utterances, regardless of what language (English and Korean) from the teacher and the students use were transcribed for the interaction analysis. The utterances were investigated by the COLT (Communicative Orientation of Language Teaching) scheme which consists of two parts: Part A, whose categories describe classroom instruction in terms of the types of activities and episodes; and Part B, whose categories shows the verbal interactions which take place within activities (Fröhlich, Spada, & Allen, 1985). As the purpose of the study is to examine the interactions that occur in the digital textbook–based class, it focuses on Part B of the COLT for the analysis of classroom activities at the level of verbal interaction between the teachers and learners.

The seven communicative features and their categories in Part B were analyzed to measure the utterances between the teacher and the students of the pilot school demonstration class: use of target language (what languages—first language or target language—they use), information gap (whether the information they give is predictable or unpredictable and whether the information they request is pseudo or genuine—the extent to which the information requested is not known in advance), sustained speech (whether they engage in extended discourse—sustained speech—or restrict their turns to a minimal length of one word, clause, or sentence), reaction to form or message, incorporation of preceding utterances (how they react to the meaning of what is being said and elaborate on one another's utterances) whose categories are no incorporation, repetition, paraphrase, comment, expansion, and elaboration, discourse initiation (whether students initiate discourse), and restriction to linguistic form (how much particular linguistic forms of students' utterances can be expected; production of one or more specific form(s)) which consists of restricted use, limited restriction, and unrestricted use. The last two features—discourse initiation, and restriction of
linguistic form—are used for coding student utterances only. In each feature, the total number of its occurrence was added and its subordinate categories was separately calculated by percent for comparison.

In order to ensure reliability of the analysis, the author coded all the utterances of the demonstration class after getting used to the ways of analyzing the class utterances through COLT manual (Spada & Fröhlich, 1995). To improve intra–rater reliability, the author entered the tallies into an SPSS file and repeated the coding until intra–rater reliability using Cohen's Kappa became outstanding (Kappa = .82, p < .001). In addition, an independent rater, who is a secondary school English teacher who specialized in TESOL, coded the class utterances after the training for improving the quality of the analysis. After coding all the utterances, the author and the independent rater compared the analysis results and discussed the differences. With Kappa values of .67, inter–rater reliability was considered adequate.

IV. RESULTS AND DISCUSSION

As discussed in the previous section, Part B of the COLT observation scheme is to analyze the communicative features of verbal interaction during classroom activities. Part B consists of seven categories: use of target language (L1/L2), information gap (predictable/unpredictable), sustained speech, reaction to message/code, incorporation of preceding utterances, discourse initiation, and restriction of linguistic form. Two of the categories, discourse initiation and restriction of linguistic form, are used for coding student utterances only. Each category was calculated as a proportion of its feature in the total utterances of teacher and students respectively to analyze the communicative features of verbal interactions of the class. These proportions are presented in a bar graph with data: Figure 2 and 3 for teacher verbal interaction and Figure 4 for student verbal interaction.

1. Teacher Verbal Interaction: Teacher Talks and Responses

As indicated in Table 1 and Figure 2, the teacher of the demonstration
class used the first language of the learners (Korean) more than the target language. The teacher also gave more predictable information like direction and explanation than unpredictable information. In addition, most of the request information the teacher asked were pseudo with 98.4%—that is, the teacher already has the information requested as the excerpts below show. In the sustained speech category, teacher turns in the demonstration class were rarely sustained as many of the teacher utterances were minimal with over 80%. In other words, most of the teacher’s talk was made up of one word, one clause or sentence in the target language, such as the followings:

(Excerpt 1)
T: So what are they talking about?
Ss: Stars.
T: (the) Stars. Right.
(Excerpt 2)
T: What is she doing? She is (pretending to draw a picture)
Ss: Drawing.
T: Drawing. (She is) drawing a future car, right?

| Table 1. Numbers and Proportion of Communicative Feature for Teacher Talk |
|---|---|---|---|---|
| Target Language | Giving Information | Requesting Information | Sustained Speech |
| Korean | English | Predictable | Unpredictable | Pseudo | Genuine | Minimal | Sustained |
| 80 | 56 | 30 | 5 | 63 | 1 | 103 | 18 |
| 58.8% | 41.2% | 85.7% | 14.3% | 98.4% | 1.6% | 85.1% | 14.9% |

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Table 2 and Figure 3 show the category of incorporation of preceding utterances, which indicate how teachers react to students' utterances. The teacher of the digital textbook-based English class used comments and repetitions most in reacting to students' talk like the followings:

(Excerpt 3)
T: (Reading the given sentences and stopping reading at the blank)
Ss: Radio program.

(Excerpt 4)
T: What is the answer?
Ss: Desert animals.
T: Desert animals.

The teacher also gave comments to the students' answers by clicking the button of the digital textbook program. The least used reaction to the students' utterances was paraphrasing followed by correction and elaboration. In the feature of reaction to message and form, reaction to message occurred more than that of form. However, most of the reactions (over 90%) were delivered in Korean and are thus not included in Figure 3.
Table 2. Numbers and Proportion of Teacher’s Responses to students’ utterances

<table>
<thead>
<tr>
<th>Reaction to form/message</th>
<th>Incorporation of Student Utterance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Message</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>23.5%</td>
<td>76.5%</td>
</tr>
</tbody>
</table>

Figure 3. Category as Proportion of Teacher’s Responses to Students’ Utterance (%)

2. Student Verbal Interaction

As Table 3 and Figure 4 indicate, student verbal interaction was made up of native language and target language with 57.45% and 42.55% respectively. The students used the target language only when they were asked questions by the teacher. Even the native language uses were for answering the teacher’s questions delivered in English. In other words, the students’ utterances in the class were the answers to the teacher’s questions. This result is well supported by the data from the feature of discourse initiation, which measures how often students spontaneously initiate talk to test their own hypotheses about the language (Allen, Fröhlich, & Spada, 1984). The students of the class did not initiate discourse at all. As all the students’ utterances were answers to the teacher’s questions, almost all of the information they gave to the teacher were predictable with 95.74%. Even the unpredictable information was delivered in Korean. The students did not
initiate any type of request information in the class. In the category of sustained speech, the proportions of ultraminimal and minimal student speaking turns was 87.23% and 12.77% respectively; there were no sustained students' talks regardless of language.

Finally, in the category of restriction of linguistic form, which shows the effect of different degrees of restriction imposed on the development of target language proficiency, unrestricted utterances were almost nonexistent with 4.26% (only 2 out of 47 utterances). However, they were delivered in Korean, so it can be understood that there were no actual unrestricted utterances in the class. The other categories of student verbal interaction reaction to form/message and incorporation of preceding utterances did not occur and are therefore not included in Figure 4.

Table 3. Numbers and Proportion of Communicative Features for Student Talk

<table>
<thead>
<tr>
<th>Target Language</th>
<th>Discourse Initiation</th>
<th>Information Gap</th>
<th>Sustained Speech</th>
<th>Restriction of Linguistic Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korean</td>
<td>English</td>
<td>Predictable</td>
<td>Unpredictable</td>
<td>Ultraminimal</td>
</tr>
<tr>
<td>27</td>
<td>20</td>
<td>45</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>57.5%</td>
<td>42.2%</td>
<td>95.7%</td>
<td>4.3%</td>
<td>87.2%</td>
</tr>
<tr>
<td>0%</td>
<td>12.8%</td>
<td>45</td>
<td>2</td>
<td>95.7%</td>
</tr>
</tbody>
</table>

Figure 4. Proportion of Communicative Features for Student Talk (%)
The results show that most of the classroom interactions were initiated by teachers' questions. Most of all, the types of the teacher's questions didn't invite learners to participate in the communicative interactions as the questions only required a limited range of answers which are called 'display questions'. Thus, it is estimated that the students of the digital textbook-based class felt no need to express and clarify their intentions, thoughts, opinions, etc. It is supported by the result that there was no class discourse initiated by students. In display questions, the teacher already knows the answers and the questions tend to emphasize accuracy rather than meaning, so students are deprived of the opportunities to use new, unknown information for communication. In other words, there is nothing to negotiate for meaning in this kind of display question-based class. It is because throughout the class the teacher and students just relied on the listening and speaking tasks of the digital textbook which only provide limited scope of interactive functions such as the repeating the expressions from a dialogue and responding to the students' answers.

Another finding from the results is that the teacher controlled all the processes of interaction by initiating and finishing it, which is called the Initiation-Response-Evaluation sequence (IRE) (Cazden, 1988). In IRE pattern interaction, like the following excerpt, teachers pose questions to initiate the discussions and students respond to the questions. Finally, teachers finish interactions by giving feedback or evaluating the students' answers. As a result, learners may be deprived of the opportunities to initiate interaction and actively engage in class interactions.

(Excerpt 5)
T: How is the weather today?
S: It's sunny and hot.
T: That's right.

The results are in line with some of the findings of previous studies on classroom interaction in that students usually just respond to the questions initiated by teachers (Ellis, 1999; Naiman, Fröhlich, Stern & Todesco, 1978; Wells, 1981). Moreover, the questions are generally pseudo or predictable
and students rarely interact with teachers or each other. Students also responded to teachers' utterances in restricted form and (ultra)minimal length.

Considering the fact that in foreign language classrooms it is typical that teachers control the discourse and students are expected to produce specific language forms, the results may not be surprising. As discussed in the introduction section of the study, however, one of the main purposes of introducing digital textbooks to English classrooms is to facilitate the interactions between the class participants as interaction plays a facilitative role in learning foreign languages and to increase more opportunities to perform using the target language. Although this study is a small-scale analysis of class interaction, the digital textbook-based English class failed to show the possibility of promoting more chances of communicative interactions between the teacher and students. In other words, even if the digital textbook English classes are claimed to facilitate learner-centered learning and promote the development of English competence by providing students with a variety of resources, differentiated learning experiences, and individualized opportunities of learning English, the analysis results revealed that in terms of interaction, the digital textbook-based English classes are much like the traditional teacher-fronted class in which the teacher talks for most of the class time, leads all the class activities, and thereby students are passively engaged in the class work and barely have any opportunities to use the target language. Moreover, the digital textbook-based class looked like an audio-lingual method-based class in a 'boothless' language laboratory in that the learners put on the headsets, repeat the given conversations, and respond to the cued questions. The only differences are the use of personal computers or individualized practice tools and the students answer to the visually-cued questions, not audio-cued ones.

In the digital textbook-based English class, the only communicative activities and tasks students can use to practice their spoken English are repetition exercises like recording their voices and answering the given questions. However, studies on repetition show that it seldom contributes to proficiency and skill development (Van Patten & Benati, 2010). This is because repetition requires no communication of information. Given that
language acquisition occurs when learners are engaged in processing meaningful language or interaction in communicative context, repetition is not a meaningful language activity. This implies that just depending on the tasks of the digital textbook seldom brings the promotion of interaction in English classes by itself because of the technical limitations of digital textbook that cannot provide the students with natural opportunities to construct the discourse and negotiate meaning.

V. CONCLUSION

This study was conducted to examine whether the new type of English learning environment, digital textbook–based English class, promotes the interaction between the teacher and students as interaction plays an important role in maximizing comprehension and eventually increasing chances for acquisition because acquisition comes with comprehension (Van Patten & Benati, 2010). Although this study analyzed just one demonstration class of the digital textbook pilot school, it is discovered that in the aspect of interaction a digital textbook–based English class is not different from a traditional English class. For instance, the teacher of the digital textbook–based English class controlled all the class discourses. The teacher also gave more predictable information than unpredictable information. In addition, most of the request information the teacher asked were pseudo and many of the teacher's talks were made up of minimal length in English, which doesn't mean that the teacher's English competence is low as she intentionally used them in the intention of helping students' comprehension. In case of students' utterances, they seldom initiated discourse and all of their utterances were answers to the teacher's questions. In the category of sustained speech, there were no sustained students' talks; all of their speaking turns consisted of one word or one clause. Finally, in the category of restriction of linguistic form, there were no unrestricted utterances, which means all of their utterances are the production of one specific form or a choice of more than one linguistic form, e.g. responses to yes/no questions.

Taking into consideration that it is a small-scale study and this study analyzed only one demonstration class, it needs to be pointed out that the
results are not conclusive but orientative. It is also important to bear in mind that the digital textbook–based English class may not represent all the available types of classes using digital textbooks for teaching English as the digital textbooks are continuously updated and this study did not include the digital textbook–based classes of other pilot schools. Thus, further studies should be done to thoroughly examine whether digital textbook–based English classes promote interaction between the teacher and students after the final version of English digital textbook is developed and more samples of actual classes using English digital textbooks are included for the analysis.

In spite of the limitations, this study is an small but important step toward extending knowledge about the digital textbook–based English classes and provides educators with an opportunity to reexamine the effectiveness of English digital textbooks with regard to the promotion of communicative competence by analyzing the interaction between the teacher and students amid MEST's hurried preparation for introducing English digital textbooks.

MEST has spent $2.4 billion developing and updating digital textbooks to enable all of the schools to go digital by 2015. They seem to be sure that the 'state of the art' technology tool can change traditional classroom learning and teaching and automatically improve students' communicative competence. However, simply investing huge amounts of money on the hardware and software doesn't necessarily bring improvements in learning (Goodwyn, 2009). As the results of the demonstration class showed, providing the students with personal computers and having them practice speaking with an animation figure, which is believed to promote speaking competence in the digital textbook–based English class, instead of interacting with the teacher and peers lets each student have more individualized opportunities to practice English as they control learning by using their own computer. However, it is not likely to improve communicative competence in itself as the students just repeated the sentences given or answered the predictable questions. Is the online interactive speaking activity with animation figures of the digital textbook more meaningful and helpful for improving communicative competence than interacting with the teacher or classmates? Moreover, the teacher of the class just gave display questions to monitor the learners' speaking practices rather than promoting or participating in the interactions.

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between the learners, which is one of the negative effects of digital textbooks on the role of teachers in the language classroom. Are the classrooms filled with laptops, big interactive screens and software that drills students (so the teacher's role is just monitoring the students' learning) the ideal learning environment for cultivating communicative competence?

In sum, just integrating the new technology tool into the classroom seldom promotes interaction between class participants in English classes. What is critical for improving communicative competence is not what the technology itself is capable of doing but how to effectively employ the technology. Rather than depending on the technology-based interactive activities of digital textbooks, therefore, English teachers need to design a student-centered English classroom which provides students with chances to perform the target language by utilizing the positive features of digital textbooks for assisting students to be actively involved in interactions, tasks, and projects individually or in pairs and small groups. In other words, as Johnson (1995) argued, English teachers need to create a context of language use so that students have a reason to attend to language. Regardless of types of learning materials, whether they are printed textbooks or digital textbooks, it is important that in order to make an interaction-rich English classroom teachers design classes that can provide students with positive opportunities to express and negotiate their personal meanings.

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