The Importance of English for Korean Postgraduate Engineering Students in the Global Age

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The purpose of this paper is to investigate the importance and roles of English for Academic Purposes (EAP) for Korean postgraduate engineering students in the era of globalization. This research examines the perceptions of Korean postgraduate engineering students themselves and subject lecturers in an institution of science and technology in Korea by using semi-structured interviews.

The research demonstrated that the role of English was considered as being pivotal for communication for Korean postgraduate engineering students in their academic sectors. English was recognized as a powerful medium of international communication, needed for acceptance as qualified members in the international engineering community. English was also considered as the dominant information carrier in engineering and an essential factor for efficient study and academic success.

I. INTRODUCTION

Globalization has changed the meaning of English teaching and learning in the world (Block & Cameron, 2002). The unprecedented, relentless expansion of communication in scientific, educational and economic activities on an international scale, so the argument runs, generates, in turn, the demand for a common international language, as Block and Cameron (2002) state:

Any invocation of ‘worldwide social relations’ unfettered by ‘the constraints of geography’ must immediately raise questions about language. Language is the primary medium of human social interaction, and interaction is the means through which social relations are constructed and maintained. (p.1)
For various reasons, but most notably the strong economic, political, technological and cultural power of Britain during the nineteenth century and the United States in the twentieth century, this role has fallen to English (Crystal, 2003). Under the circumstances, teachers in the English language teaching field need to research the new needs of learners who are studying in the global era, and to attempt to reshape their own modes of instruction and approaches. Globalization also calls for new understandings of the role of English in academic contexts, as English itself “at the global level has changed rapidly, calling for further paradigm revision” (Canagarajah, 2006, p. 22).

The aim of this paper is to address the data enquiring the extent to which English is important for Korean postgraduate engineering students and why it is important in the academic practices of engineering in the global community. These data are based on the perceptions of students themselves and lecturers in Korea, gathered through the administration of semi-structured interviews. I will first discuss the spread of English as an international language and its effect on EAP and the English teaching field, and draw on the data organized according to emerging issues. Then I will discuss some issues in terms of the importance of English for Korean postgraduate engineering students in the era of globalization.

II. THE SPREAD OF ENGLISH AS AN INTERNATIONAL LANGUAGE AND EAP

Globalization has created new cognitive and sociocultural demands on English education, because it has facilitated faster global cultural interaction and widened social activities (Held, McGrew, Goldblatt & Perraton, 2003), in particular, among people sharing specific communicative purposes, whether they are native or non-native speakers of English. The motives for learning English are increasingly related to the need for fluent international communication between people sharing specific communicative purposes by using a particular kind of English. Knowing the specific variety of English allows one to linguistically access to international relations, business, higher education, travel, and scientific and technological information (McKay, 2005).

 Particularly in science and technology, the vast majority of intellectual communications and international publications are conducted in English (Swales, 1990; Wood, 2001). This has led to some striking national outcomes. Among Swedish scientists in Swedish laboratories, for example, English is the common medium of communication. Institutions in Sweden and Norway have recently employed lecturers from English-speaking countries to encourage more non-native engineering students to study through English (Wallace, C., personal communication, 2007). The global trend towards publication and communication...
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in English is clearly shown by the following statement made by a Korean lecturer (KL-1) of Mechanical engineering at College K in Korea:

As for engineering students, especially postgraduate students, nearly 100% of the textbooks and all the literature, are written in English and all dissertations or theses for degrees are almost always, more than 90%, written in English...

English is an absolute factor, almost 100%, for their academic success. If they can’t use English well, even though they can do well in engineering subjects, they will suffer a lot, as their work or achievements cannot be shown or highlighted. These issues have recently become more significant. (KL-1)

Evidently, English is a critical instrument necessary for acquiring and accessing engineering knowledge and accelerating engineering development in many non-English speaking parts of the world. For scientists and engineers, the need for English as a common language is so obvious that it is “not often discussed explicitly in scientific literature, but is instead presumed” (Tardy, 2004, p. 249).

The spread of English has been accelerated by the new information and communications technology (ICT), “making on-line navigation and research...and synchronous and asynchronous on-line communication critical skills for learners of English” (Warschauer, 2000, p. 511). ICT has rapidly changed “language pedagogy and language use, enabling new forms of discourse, new forms of authorship, and new ways to create and participate in communities” (Kern, 2006, p. 183). These fast-paced innovations in ICT and international contact, which have resulted in a highly mobile culture of communication, make international communities depend on rapid information flows and maximally efficient communication in English.

In these circumstances, English language teaching is searching for more dynamic and cost-effective ways to meet the wishes, needs and purposes of global working citizens for international communication in academic fields. Naturally, EAP has developed to meet these needs against the reality of a highly competitive and demanding international community, where non-native English speakers expect to receive proper attention for their own creative work. It has effectively connected people with special purposes worldwide. Since engineers need to communicate in English at the international level, it is not difficult to see how EAP has taken a major role in English language teaching for them (Cargill & O’Connor, 2006).

EAP development in the social sciences and humanities, drawn by the need to publish research in English, is also linked with the general trend toward globalization (Flowerdew & Dudley-Evans, 2002). The increased numbers of overseas students studying in the Anglophone countries, as well as the large numbers of students in many post-colonial...
countries, such as Singapore and countries in which English has no official status, such as China, have resulted in the expansion of EAP (Dudley-Evans & St. John, 1998).

Communication and connection by means of EAP between specialists, whether native or non-native English speakers, indicates an overcoming of the barriers of country and nationality. When they have a common interest in robot techniques, for instance, Israelis and Brazilians speak to each other, communicating in English. Learning EAP can thus be considered as a definite starting point for improved global communications. The effects of EAP in producing new English-fluent people within each specific area have almost certainly accelerated the transfer of information in the global domain. In other words, globalization has activated EAP, and EAP has at the same time prompted the process of globalization. With this enormous demand for English learning for the sake of more efficient global communication in various areas, EAP has become an activity of tremendous scope, which has been accepted internationally (Belcher, 2006; Hamp-Lyon, 2001; Johns & Dudley-Evans, 1991; Kennedy, 2001; Widdowson, 1998).

Meanwhile, “changing political conditions” raise conflicting views “as to whether globalization represents an extension of Western, and particularly USA, geopolitical dominance, or whether it destabilizes the old order, opening up new possibilities for local resistance on the part of subaltern groups” (Block & Cameron, 2002, p. 5). Some EAP specialists argue that the spread of English is shown as “an insidious and destructive force eliminating other languages, imposing the cultural dominance of the nations which speak it” (Hyland, 2006, p. 28). For example, Master (1998) suggests:

In an ideal world, everybody would have linguistic access to everything. If access is denied or hedged in some way, however, a power differential, whether accidental or intended, is engendered. English clearly dominates in the world today and, because English is the acknowledged lingua franca of science, technology, and business, the field of English for specific purposes (ESP) holds a pivotal position in regard to the use or abuse of this linguistic power … It denies access, guarding the status quo and maintaining the existing power structure.

(pp.716-717)

Although English as an international language is not presumed “to adhere to all Anglo communication conventions, and traditional native speakerness holds no advantages” in performing academic practices, it is the case that “language imposes homogeneous ideologies and identities on passive users” (Hyland, 2006, p. 29), making cultural dominance prevalent in the academic community. Pennycook (1997, p. 263) thus called for the encouragement of students’ critical awareness, so they would develop “understanding and questioning how language works both within and outside educational
institutions.” “The intention is not to reject English, but to reconstitute it in more inclusive, ethical, and democratic terms” (Canagarajah, 1999, p. 2).

III. METHOD

1. Instrument

This study comes from a larger study of needs analysis of Korean postgraduate engineering students in an institution of science and technology (College K) in Korea. For the purposes of this needs analysis, semi-structured interviews were employed as a research method. This is because they elicit direct information from the participants (Robinson, 1991). The semi-structured interview permits a detailed discussion with “direct verbal interaction between individuals.” This provides insight into the “motivations of respondents,” underlying attitudes and “their reasons for responding as they do” (Cohen, Manion & Morrison, 2007, p. 351). Interview techniques are thus best utilized in order to develop a deep understanding of the object of the research inquiry (Arksey & Knight, 1999, p. 24). The interview questions for this research are shown in Appendix.

2. Participants

Since College K is a prestigious institution in Korea, it was presupposed that students (KS) and lecturers (KL) are scholarly motivated in their fields of engineering. From the Korean students, 21 sets of interview data were obtained, and from the engineering lecturers, 14 sets of interview data were collected. Each student and lecturer was coded by using Arabic numbers. To indicate students’ academic levels (M.Sc. and Ph.D. levels), I also added letters M or P after the students’ codes (e.g., KS-7P, KS-15M).

The KS respondents were all Korean and studying in various engineering departments, with the populations of the M.Sc. and Ph.D. course levels being quite similar. Many students had stayed less than one year in an English-speaking or other foreign country (35.3%) and most had remained in Korea (60.3%). All KL participants in the interview were also Korean. Apart from one lecturer (KL-1), all the KL interviewees had taught only in Korea. The KL interviewees had supervised or taught for a variety of periods: less than a year (1); 5-10 years (1); 11-15 years (2); 16-19 years (5); more than 20 years (5).

3. Procedures

At College K, in acknowledging the difficulty of contacting participants, I firstly
attempted to access my previously established personal contacts of lecturers and students. Luckily, I had a strong connection with one current member (KL-1) of the faculty of Mechanical engineering. I therefore made contact with this individual in order to ask for help with my research, which he was pleased to give. After I visited him in his office, he introduced me to some of his colleagues and students. At the end of the interviews, I asked them to help me by introducing me to some of their colleagues or friends, and they were able to do this.

Though at first it seemed difficult for me to access engineering lecturers and postgraduate students for research, once they were involved with the research they were willing to share and discuss ideas and issues (Arksey & Knight, 1999) related to the importance of English in their disciplines. During the relatively short interview time, about 20 minutes, those taking part in the interviews seemed to be enthusiastic and sincere in responding to the research questions and explaining their difficulties in studying engineering or tutoring students. During the interviews, participants replied regarding not only how far they perceive English to be important for students with whom they are concerned or for themselves, but also why they perceived this to be so in their engineering study settings. All interviews were conducted in Korean and recorded on tapes to be translated into English. Considering the large quantity of data, I attempted to set out and code the repetitively emerging themes throughout the data. The data are described in response to emerging themes, as follows.

IV. RESULTS

1. The Main Medium of International Communication in Engineering

First of all, students emphasized the role of English as a means of international communication in engineering. Engineers research and collaborate with colleagues of all nationalities in the global milieu. This requires a common language for written and spoken communications, and English has become the crucial medium through which their ideas are communicated in the global engineering academic community, as a doctoral student of Mechanical engineering (KS-7P) stated:

Engineering has been studied in all countries in the world, although each country has different cultures and traditions. Engineers in the world have researched and studied together, and therefore engineering fields have developed concurrently with other nations. Engineering is international. In doing engineering research, the common language is English. To work together with many people and read the
literature to obtain a lot of information, English is necessary. (KS-7P)

A lecturer of Mechanical engineering (KL-3) also acknowledged that English is important to enable students to share ideas and information through conferences, journals and academic collaboration in the international academic community.

Most engineering academic journals are written in English, so students must read these well and also present their academic work in international conferences and journals. Therefore, they need to write English well. Moreover, students, more and more, need to cooperate with foreign researchers when they research for a company in the global society. (KL-3)

English is thus not seen as important just for English majors, as KL-2 stated:

Even if students are not English majors, when they communicate with people in the world the only tool is English and, in that sense, the use of English in general becomes important nowadays. (KL-2)

Furthermore, the academic settings of engineering in Korea are becoming multinational due to the recent influx of foreign lecturers and students. English is used when Korean students attend lectures and communicate with students or lecturers of various nationalities at College K. Under the circumstances, KS-2P of Chemical engineering recognized that the only medium of communication and information exchange is English.

Many foreign students, mostly from Asian countries like China, India, Mongolia and Pakistan are studying here with us. There are few students from countries where English is the main language. When we study together with foreign students in the classroom, we use English. English is the so-called international language. (KS-2P)

Therefore, in spoken communication, students have growing opportunities to speak with foreign engineers from non-Anglophone countries in the Korean context as shown by KL-2:

When we communicate with non-native English speaking foreigners as well as native speakers, English is the only tool. There is more need to understand the English of people from other non-English speaking countries, rather than English speaking countries like America and England. (KL-2)
KL-1 reported that the role of English for international communication has expanded from the previous era to communicate in English with foreign engineers, not only within the educational sectors, but also in their daily lives outside the classroom for social activities.

Nowadays, in engineering, you have to be familiar with the outside world… Not only technical presentations, but also casual conversation, making friends and getting acquainted, all have to be in English as a communication tool. (KL-1)

Engineering students are thus expected to be involved with diverse kinds of international communication in English. Evidently, Korean engineering students are essentially involved with diverse international communications in English for a variety of purposes in educational and social settings in Korea. The role of English has shifted from being merely a tool for searching for information written in English towards being the main medium of diverse international communications in Korea.

2. A Crucial Medium Through Which to Obtain International Recognition for Being a Good Engineer

KL-8 of Aeronautics believed that English is a very important factor in having students gain credits or reputations as good researchers among engineering academics in the global academic community.

Although the idea is excellent, if they cannot express and display it, it is useless. English is important to demonstrate engineering ideas to others. Math is not enough for students who do engineering subjects. Mathematical symbols should be explained with proper use of English… Some say that about 70% of our engineering activities are made up of communication. (KL-8)

No matter how much knowledge students have and no matter how talented they are in engineering, other engineers worldwide may not appreciate this unless they can adequately explain themselves in English. Therefore mathematical symbols and technical skills are not enough for engineering students as communication mediums but need to be embedded in a high level of academic English.

3. A Crucial Factor for Academic Work and Study Efficiency

Numerous practices in which students are involved, such as reading literature, writing
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papers, oral presentation, and international collaboration with foreign engineers, require English in Korea, as KS-17P of Materials engineering stated:

English is important to a certain extent, in terms of thesis writing and knowledge exchange with foreigners at conferences. When we do a survey, we also need English ... We do not write papers in Korean. About 90% of the papers must be written in English, as we need to publish them in foreign international journals. (KS-17P)

As a result, students’ English competence greatly affects the efficiency of their study in engineering. KS-18P was concerned with English for study efficiency, presumably because engineers always “perceive the constraints of time” (Donald, 2002, p. 68) in performing tasks.

We can obtain information quickly without wasting time if we have fluent English proficiency, so English is very important. (KS-18P)

Korean students perceived that they had to spend more time comprehending texts compared to native English speakers, and that they were disadvantaged as non-native speakers. A master’s level student of Mechanical engineering (KS-5M) seemed to struggle with time to accomplish his subject tasks, due to his lack of English competence. He thought that English is a separate subject and that learning English requires extra time.

We are disadvantaged because we have to waste time studying English as a subject and it takes us more time to read papers than native speakers. (KS-5M)

However, KS-21M perceived that he had to spend most of his time managing engineering subjects, while he lacked time to learn and practise English during his academic years.

I know English is very important. But, I do not have enough time to study English. The demands of engineering research are huge. (KS-21M)

Seeing English as ‘separate’ and not integrated with their engineering studies, students tended to ignore the long-term goals of learning English and delayed learning English. KL-1 considered that the competence of English was required more for postgraduate students than undergraduates, because of the rigorous demands placed upon them to carry out various sophisticated oracy and literacy tasks and to produce knowledge.
As for engineering students, especially postgraduate students, nearly 100% of textbooks and all the literature are written in English and all dissertations or theses for degrees are almost always, more than 90%, written in English… English is an absolute factor, almost 100%, for their academic success. (KL-1)

However, among Koreans, KLS and students tended to communicate in Korean, because students were more comfortable with using Korean to understand technically difficult information and the subtle meanings of engineering contents, as KL-2 explained.

When foreigners join in lectures and seminars, we speak English to discuss with them. But among Koreans, we speak Korean, because technical engineering knowledge is somewhat difficult, and students are also very embarrassed with the English-medium lectures. (KL-2)

Therefore, there is significant “code-switching” (McKay, 2005) between English and the mother tongue in the local context.

4. The Relationship between English and Subject Knowledge

Both English and engineering knowledge were considered by many participants as equally important for students’ academic practices.

I consider engineering subject knowledge and English proficiency 50:50. (KS-4P)

Both engineering subject knowledge and English proficiency are equally important. A good engineer cannot ignore either of these. (KL-1)

These statements strongly indicate that English is a crucial factor for engineers in Korea. KS-17P perceived that he had become used to academic practices in English, as he had accumulated engineering knowledge over a number of years. When he had nearly completed his Ph.D. courses, he gained some confidence in English, at least for the purposes of presenting his own work.

When I was at the undergraduate level or at the early stage of a master’s degree, I had great difficulties in presenting my research in English, but now I am used to it. I can manage to write my thesis and explain my findings in English without much trouble, as far as my research is concerned… I am almost in the last period of the Ph.D. This is my fifth year of a doctoral degree... I think I have overcome English
problems through experiencing the situations over and over again… I have read texts written in English for more than 10 years as an engineering student and have written papers in English for many years. (KS-17P)

As students progressed in knowledge of the subjects throughout their academic lives, they seemed to acquire the necessary English and literacy for the discipline as an integral part of learning. This indicates that there are particular kinds of English which they require for their academic practices.

5. English as a Powerful Language

English was considered as a powerful language by KS-6P of Mechanical engineering. He explained his feelings of loss and discomfort when he was not proficient in English, in comparison to other more competent English users.

When someone presents in conferences, I do not catch the points. In that case, I sense my language limitation and feel that I have to study English much harder… When I write papers or when I am in conferences, my supervisor can use English well, but I can’t. Even if I want to express my own ideas, if my ideas are slightly different from my supervisor’s, I have to follow his ideas. I am in a passive state, because of my lack of English competence. (KS-6P)

KS-4P also acknowledged that the power of a language follows the academic, technological, economic and political power of the countries where the language is used.

Our country is still not an advanced country and a language for international communication is determined by the strength of countries. So, although subject knowledge is basic and essential, to communicate and to make my ideas known internationally, we have no choice but to use English. (KS-4P)

Therefore there seems to be a power relationship between competent English users and non-competent users, internationally or intra-nationally.

6. Concerns with Inadequate English Communicative Competence

A great number of KLs were concerned about Korean students’ poor English competency, which lagged far behind the international standards in the community. Communication difficulties with English were severe, not only for students but also for
lecturers themselves. Sometimes, there seemed to be no way for KL-13 to solve students’ problems in English, and students were exposed to potentially embarrassing situations due to lack of English competence, as follows.

Even after the Ph.D., students cannot manage writing skills in English...If someone, especially from India or China, asks questions after the presentation and if we don’t understand the questions, the students and I are very embarrassed. But we cannot help it. (KL-13)

Acknowledging students’ difficulties, KL-9 of Aeronautics provided opportunities for students to practise oral presentation skills in English in the classroom.

I sometimes have difficulty in explaining precisely in English in the lectures, and students also tend to have difficulties understanding lectures. So Korean students should have a certain level of English capability in order to listen to lectures… Once a week, my students take turns reporting or presenting their research results in English in my lab, and thus their presentation skills are improving. When they go somewhere to present, they will not be frustrated, I think. However, their pronunciation and precise expressions are still problematic. (KL-9)

KL-9 seemed to imply the urgency of appropriate EAP courses in Korea to improve Korean students’ communication skills in English so that they can competently participate in the academic practices of engineering.

7. English as a Less Important Factor

On the other hand, a few KSs reported that English was not so critical for their study, because, apart from English, other tools such as specific terminology, physical diagrams and mathematical logic were more crucial for the study of engineering. A master level student of Electronic engineering indicated:

In doing engineering research, only a minimum amount of English knowledge is needed just to read literature and to write papers. All engineering literatures are composed of subject specific terminology and if we understand the terminology we are able to work in the fields with little English knowledge and skills… Only simple patterns of English are used. Mathematical logic is more important than English in engineering. (KS-15M)
KL-13 also believed that engineering contents and techniques were more valuable and important than English.

In the mechanical engineering field, mathematical calculation and observation of phenomena following cross-sectional treatments are critical tools for research, and English is not so important as in other areas like business, MBA or the humanities… Students have used English textbooks from UG level, and they don’t seem to have difficulties in reading. Students have already studied the special engineering vocabularies, so they don’t have difficulties with those. Just reading fast, catching the main points and presentation skills are very important.

(KL-13)

Although he reported that English is not problematic for engineering, unlike for the humanities or social science, he did not neglect the importance of fast reading and presentation skills in English for engineering. Based on the results from Korean engineering students and lecturers, I would discuss arising issues in depth in the discussion section.

V. DISCUSSION

The role of English appears to be central for Korean postgraduate engineering students in the academic context; this was clearly demonstrated by the data from both groups of participants throughout the interviews. From the findings, several issues may be singled out. Firstly, the recent social move towards globalization seems to have created a radical shift in the attitudes and perceptions of engineering academics concerning English as an essential medium of communication. This is because globalization has led Korean engineering students to have plenty of opportunities to communicate with foreign engineering academics, with an increasing degree of interaction in Korea. Local engineering academic contexts seem to become more diversified and multicultural, and require more efficient and frequent interactions with other nations worldwide.

In these circumstances, the importance of English competence, academic efficiency and coordinated participation seem to be significant in the engineering academic community. Students thus seemed to be aware of the massive role that English now plays as an international language, as they proclaimed that English is not just for English majors or native English speakers. This implies that the notions of academic community and global participation are being strengthened among engineers in the era of globalization.

Secondly, as a result of these developments, all groups of participants demonstrated the
importance of English for Korean postgraduate engineering students, irrespective of the status (lecturer or student) and academic levels (Ph.D. or M.Sc.) of participants. English was viewed as an essential and major tool of international academic communication enabling engineering students to participate in the global community of practice, to access global resources, to present their findings and to gain proper recognition worldwide. This result is in agreement with Holliday (1995), who reported that the role of English was crucial for communication in the multinational engineering industry in Saudi Arabia. It also agrees with Ramani, Chacko, Singh, and Glendinning (1988), who showed the significant needs for English communication skills among science and technology postgraduates in an institute in India.

KL-1 perceived that English was more important for postgraduate than for undergraduate students. It seems that the higher the students’ academic levels are, the more English is crucial for them to obtain recognition and to be discussed and written in the community. Flowerdew, Li and Miller (1998) also showed that more mature students were perceived by lecturers to be more aware of the value of English for their academic careers at Hong Kong Chinese University.

Thirdly, English is hence considered as a powerful language. This causes various kinds of perceived needs and problems concerning English for Korean students in Korea. Competent English users are seen as empowered. Korean students have not only individual needs, such as those relating to written and spoken communication tools needed for academic fulfilment and study efficiency, but also sociocultural demands, including acceptance as qualified members and interactions in the international engineering community. Given that English is “a contact language for international relationships” (Canagarajah, 2006, p. 25), struggling due to lack of English skills and sociocultural mismanagement may lead to fatal disadvantages, an “identity crisis” (Ivanic, 1998, p. 12) and obstacles to students’ academic development and success. These situations indicate that English learning involves complex tasks including both aspects of literacy and social competence in the engineering community.

Fourthly, the current academic condition in Korea has led to a situation where the medium of communication frequently shuttles between English and Korean. That is, English use and skills facilitating bilingualism are expected for students who wish to study effectively in Korea. Flexible attitudes and strategies are thus demanded from students and lecturers, who need to adapt to situations of ‘code-switching’ and ‘code-mixing’ to allow appropriate information exchange, neither ignoring any other languages nor avoiding any situations in which English is used. For example, lecturers give lectures in English in the class; however, students are allowed to speak Korean during or after the class in order to ask personal inquiries or questions. In addition, lecturers translate some technical terms in English into Korean seeking students’ effective conceptualisation of the terms during the
class. The strategy of code-switching is likely to become a norm in the future in EAP classes both in Korea and other countries which are moving to English medium situations. Flowerdew et al. (1998), Hill and Zyl (2002) and Holliday (1995) also proclaimed that multilingual accommodation and strategies were effective for proper communication and were a crucial academic and professional resource in Hong Kong Chinese University and the South African and Middle Eastern engineering working sectors.

Fifthly, the majority of Korean participants considered English as being equivalent to, or more important than, subject knowledge in performing academic tasks of engineering. Moreover, they perceived that their English competence develops as they accumulate knowledge of engineering in the discipline. This recognition seems to be related to socio-constructivist studies, which show that students “learn the language of their disciplines as part of their apprenticeship in research” (Myers, 1988, p. 148). This finding opposes the assumption made by Allen and Widdowson (1974) that conceptual knowledge of science and engineering exists separately from language. The particular variety of linguistic rules and skills seems to be integrated with the specific knowledge and culture within the discipline, rather than skills and languages being transferable to other disciplinary areas.

A few Korean students and lecturers replied that mathematical symbols are more important than English. Historically, engineers have tended to consider language as a tool, and emphasized mathematics or diagrams as the more important vehicle of communication. However, language and skills are the main medium of conceptualization of content knowledge and communications for academics in the community. This is because “discourses carry assumptions about knowledge, relationships and how these should be structured and negotiated” (Hyland, 2000, p. 155). Moreover, the contemporary academic world asks students to communicate with people and participate in numerous academic practices. Therefore, for students, discipline-specific English, oracy and literacy cannot be neglected, and tailored EAP programmes are obligatory to improve the particular variety of English for engineers.

Nowadays, engineering postgraduate students face multiple and diverse global contacts in multicultural academic contexts. Engineers in some cases need to communicate with people from various backgrounds to solve problems in real-life situations. These situations require flexibility, cultural sensitivity and general communicative competence on the part of engineering students in communicating with engineers or lay people from other nations. This implies the need for flexible EAP programmes for Korean and other L2 students, and students should be guided into general communicative competence as well as discipline-specific literacy and culture along the continuum through tailored EAP programmes so as to participate effectively in the academic practices of engineering.
Sixthly, students were pressured by the requirement to acquire at the same time certain levels of English skills and conventions as well as engineering knowledge during their study. They perceived that this is a great burden and extremely time-consuming, because they see English as a separate subject rather than integrated with engineering contents, norms and disciplinary culture. A great number of students perceived that they were disadvantaged and ineffective in academic practices in comparison to native English speakers, since engineers often work within “the constraints of time” and must consider efficiency (Donald, 2002, p. 68). Although lecturers in Korea were concerned about students’ English competency, which was below the international standards, students tended to delay studying English, because they were busy managing the requirements of subject tasks, they did not want to invest their time in studying English remote from their academic interests and there are rarely specialized EAP programmes for engineers. These comments strongly support the view that Korean engineering students need to be provided with specially focused EAP programmes for engineers in Korea.

Finally, in teaching EAP to students in Korea, EAP teachers should ask themselves what kind of English should be taught. Korean academic sectors now have more students and lecturers from non-Anglophone countries than from Anglophone countries, and a non-standard variety of English may be used in some informal or oral communication situations. Nonetheless, engineering contents and information are mostly communicated in International Scientific English (ISE), which Wood (2001) defines for a specific variety of English for Science and Technology, and students and lecturers’ priority in the teaching and learning of English is to ensure efficient communications in the international community. Therefore it may be reasonable to focus on ISE in EAP programmes, that is, a particular variety of English for engineers at the international level. EAP needs to facilitate the specific communicative skills, rhetoric, genres and academic conventions in ISE, which are expected in the global academic community of engineering.

However, it would be a mistake for EAP teachers to apply ‘native speaker models’ to Korean students. This is because the native speaker versus non-native speaker dichotomy is being challenged nowadays within multicultural academic settings (Canagarajah, 2006; Kramsch, 1998). Therefore ‘literate English’ is not the exclusive province of native speakers (Wallace, 2002), and in specialized contexts, like engineering, non-native speakers may speak better English than native speakers. The notion of native speakers of English cannot confirm an academic identity in the community of practices (Swales, 2004, p. 57).
VI. CONCLUSION

This study focused on perceptions of Korean engineering academics about how and why English is or is not important in their academic context. The data have demonstrated that globalization has affected engineering lecturers and students in Korea, to perceive the imperative role of English as the powerful medium of international communication for academic work and study efficiency in engineering, and as necessary to obtain international recognition in the global academic community. Therefore English was seen as not just for English majors or native-speakers but also for anyone with special interests and purposes in the community. This indicates that English learning involves wide and complex tasks, including both discipline-specific literacy and social competence and flexibility.

Nonetheless, Korean engineering students tended to delay learning English. A few engineering lecturers and students were unaware of the role of language, or believed that mathematic symbols and diagrams are more important media for their communication than English. Without adequate facilities to learn necessary English for their study, engineering academics seemed to see English as a separate subject or as a burden remote from their academic interests. These circumstances imply that well-focused EAP programmes should be promoted to facilitate discipline-specific literacy and flexibility, for the sake of students’ academic development in the era of globalization. Particularly tailored EAP programmes for Korean engineering students are called for in Korea in the global age.

REFERENCES


Wood, A. (2001). International scientific English: The language of research scientists around the world. In J. Flowerdew & M. Peacock (Eds.), Research perspectives on
Appendix

Interview Questions for Students
1. Department?
2. Which course are you taking (M.Sc., Ph.D., or Post Doctor)?
3. How long have you studied your subject? What is the goal of your current subject study? Any plans for future study?
4. How important do you think English is to your current study? Is it critical or not? Please give reasons for your answer.

Applicable Level: Postgraduate level education
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