The Needs for EAP Programmes in the Korean Tertiary Institutions: Perceptions of Korean Science Students in the UK

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Shin, In-young. (2013). The needs for EAP programmes in the Korean tertiary institutions: Perceptions of Korean science students in the UK. The Linguistic Association of Korea Journal, 21(2), 139-162. This paper aims to investigate the requirement of English for Academic Purposes (EAP) programmes in Korean tertiary institutions from the perspective of former Korean science and technology students who are currently studying in the UK. Questionnaires were used to examine the perceptions of 56 Korean students at all levels (B.Sc., M.Sc. & Ph.D.) as well as researchers studying in various science and technology departments in UK universities. Among them 17 students were chosen for semi-structured interviews. The research showed that more than half of the participants were unable to access any EAP programmes. As many as 63% of respondents indicated that appropriate EAP programmes could be helpful at the tertiary level in Korea. Moreover, the majority of Korean students indicated that a successful EAP course requires a solid English for General Purposes (EGP) course as a prerequisite.

Key Words: needs analysis, EAP programmes, Korean science and technology students, tertiary institution, globalization

1. Introduction

At the age of globalization, learners' purposes and needs of learning English have expanded and diversified (Block & Cameron, 2002; Tudor, 1997). Given the current expectations of the high English proficiency that tertiary-level students

need to participate in English-medium lectures, to fulfill academic tasks at international standards and to participate in academic practices in the global community, Korean science and technology students need specialized English knowledge and skills. Language teaching at the tertiary level in Korea thus needs to become more responsive to the needs of students that arise when they take part in various social practices in the global academic community. Nonetheless, the current educational system remains inadequate as a means for educating them appropriately. The levels of English teaching in Korea still lag behind those required to produce students of science and other subjects who can meet reasonable international standards of English competence (Templer, 2002).

In this regard, EAP programmes may be desirable for equipping students with such proficiency in English. This is because EAP seeks to meet the specific needs and purposes of learners (Dudley-Evans & St. John, 1998). In order to respond in this way, it is helpful to examine whether EAP programmes are required in Korean tertiary institutions from the perceptions of Korean students who have experience studying in Korea and are now studying and researching abroad in an Anglophone setting in the UK. These students may have gone through dilemmas and deficiencies of English communication skills or sociocultural appropriacy, without having proper EAP programmes while they studied either in Korea or the UK and during the shifting period from Korean institutions to UK institutions. The perceptions of these former students concerning institutional needs of EAP for Korean students in Korea are one of the main sources of needs analysis to establish desirable EAP programmes in Korea (Dudley-Evans & St. Jones, 1998; Kaewpet, 2009).

This study aims to examine the perceived institutional needs for EAP programmes of Korean science and technology students in the Korean academic community. The needs of learners are clearly influenced by the socio-cultural contexts of their country as well as their own internal factors. Therefore I will begin by outlining the current institutional, socio-cultural, political and economic situations facing Korea that require a special focus on EAP education and the dilemma of practising EAP programmes as a background for this study. Next, I will discuss prior research findings which have dealt with needs for EAP programmes or their reform in various contexts. Then I will bring response data from Korean science and technology students studying in the UK

regarding the needs for the EAP institutional system in the Korean tertiary context.

2. English Education and the Needs for EAP at Korean Tertiary Institutions

The majority of English education programmes at universities in Korea target general English competence, regardless of students' subject areas and interests. These English courses have provided instruction to improve general reading skills and some oral communication skills, typically for freshmen and sometimes for sophomores, as part of a general liberal arts educational curriculum. Based on teacher-centred instruction, the English teaching approach normally includes "accurate translation of the formal structures of the text, rather than the direct extraction of meaning from the text" (Kim, 2001, p. 10) for students at lower levels, or communication skills on the basis of general topics for advanced learners in English. Although the programmes have aimed to aid students to fulfill expected tertiary academic tasks, courses have not yet been fully developed to offer English programmes at specific levels, with reference to students' subjects, interests or needs, with the exception of a select few universities.

Accordingly, most students apply only a general knowledge of English to manage subjects in English by themselves, for instance in the academic writing and oral presentation skills expected by their disciplinary community. This situation has often generated discomfort and dissatisfaction among students when they need to use English in academic situations. Thus there needs to be a mediator to connect general English knowledge with specific English use for real academic tasks in the disciplines.

In acknowledging the demand for educational reform in relation to globalization in Korean universities, the Ministry of Education (MOE) launched a project, Brain Korea 21 (BK21), in 1999, which aimed to establish globalization as an emerging priority for Korean higher education. The second round of BK21 was set for 2006-2013 to provide funding for select, world-class university research projects, particularly in the field of science and technology (Kim, 2008).

Naturally, universities began to acknowledge the importance of communication in English for particular disciplines, in order to seek funding from the MOE. Science and technology was the most prominent area for this. As a result, several universities specializing in science and technology have offered lectures in English, to encourage more foreign students and lecturers to study and research in Korea, although the majority of lectures and internal communication in most universities are still provided in Korean.

Given the current expectations of high English proficiency which tertiary-level students require to participate in English-medium lectures and to fulfill tasks at international standards, EAP may be an inevitable choice for equipping students with such proficiency. This is because EAP seeks to meet the specific needs and purposes of learners (Dudley-Evans & St. John, 1998). The necessity for and development of EAP education at Korean tertiary levels has been suggested by several researchers (Gulliver, 2001; Lee, 2003; Shin, 2010; Templer, 2002), in acknowledging the roles of English as the international language in academic and professional areas and as an essential communication tool for students to participate in the global communities of practice. Some measures to establish appropriate EAP programmes in Korea are envisioned, as Templer (2002, p. 139) notes:

Inventive appropriate experimentation in innovating for EAP/ESP in graduate education in the region will likely become a growing wave of the future… among its scientific and other elites. Prudent innovation to integrate creatively a flexible geometry of advanced EAP/English for Specific Academic Purposes (ESAP) options should evolve into a top priority in Korean graduate schools over the coming decade, as they tap into developments in content-based... instruction across the globe.

Despite all these suggestions, the provision of EAP remains uncommon in most universities in Korea, and Gulliver (2001) notes 'a striking shortage' of EAP courses at most Korean universities, and stresses the 'pressing need' for a new array of appropriate EAP courses. This is because of various contextual obstacles and dilemmas. A major reason for this is that most English teaching and learning is oriented toward preparing for formal examinations. For

example, the Test of English as International Communication (TOEIC), which includes a section on business English, is popular in Korea because Korean companies usually require candidates to submit certain TOEIC scores (mostly 600 to 900) as a job qualification. Students who want to study in western countries take either the International English Language Testing System (IELTS) or the Test of English as a Foreign Language (TOEFL). Within Korea, Seoul National University developed the Test of English Proficiency (TEPS) in 1998, and Korea Institute for Curriculum and Evaluation (KICE) has recently developed the National English Ability Test (NEAT).

Certain scores in these formal examinations are considered as crucial qualifications for being employed in companies, or studying in English-speaking countries. Accordingly, most students are keen to acquire high scores on the examinations for instrumental reasons, namely to use as evidence of English proficiency. Because of the extremely competitive job market demands, "English education in Korea seems to be 'English for Specific Tests' rather than English for Specific Purposes" (a presenter's comment at the 2004 KATEFL conference in Seoul).

Although these examinations encompass small-scale subject content areas, they are remote from targeting actual proficiency in English according to students' specific purposes and contexts. Students are hardly able to gain communicative competence in the kinds of English that are required in their specific academic or professional contexts, despite high scores gained on those examinations. English learning undertaken only by cramming for examinations focusing on grammar and general competence does not seem desirable, because its efficiency is obviously limited and students may quickly forget short-term gains in English knowledge (Rose, 1999). The examinations may "distort students' perceptions of the role of language use in academic performance" (Turner, 2004, p. 97). Students may not properly develop the particular communicative skills and genres which are crucially required for adequate communication and social engagement in their disciplines (Hyland, 2000).

Therefore, some leading conglomerates in Korea have decided to remove cut-lines of TOEIC scores for the recruitment of engineers and are not concerned about TOEIC scores any more, because new employees who had achieved high TOEIC scores had not been able to apply their English to real working situations (The Kyunghyang Shinmun, 5th Mar. 2013). It seems that English instruction which only targets preparation for the formal tests does not allow students to acquire the English competence needed for particular academic or occupational settings.

Another reason why EAP has received limited focus in Korean universities is because the quality of English education up to secondary school levels is generally very low (Lee, 2003). As a result, the level of students' English proficiency may not meet the threshold level of English for EAP programmes, although high English proficiency is not formally a necessary condition for students to take EAP courses. Thus general English education is mostly being provided at the tertiary level. Moreover, students' level of proficiency and aptitude in English are very diverse, even among students who are studying the same subjects in the same university. This makes it hard for English practitioners to practise EAP in classrooms in Korea.

Korean students may not have strong awareness of their urgent needs to acquire EAP, because most university subjects are still available in Korean, as exemplified in a case study of the POSTECH Live-in English Programme at Pohang High-tech University (Cho, 1998). In addition, practitioners with a solid EAP background and qualifications for teaching EAP are very rare, and appropriate teaching materials are also deficient. In recognition of the need for EAP courses in Korea, institutions may search for EAP specialists. Most English teachers, however, believe that it is challenging to teach EAP in Korean universities (Johns & Price-Machado, 2001).

Despite some suggestions for co-operation between subject-area professors and EAP instructors (Gulliver, 2001), team teaching is limited. This is because subject teachers barely acknowledge the existence of EAP courses and are not cooperative with EAP practitioners (Kim, 2007). In the university curriculum, EAP courses mostly operate as additional courses with subordinate roles, rather than as mandatory courses. In these circumstances, English education at the tertiary level has been strongly inclined towards EGP supporting general English competence.

Recently, in recognition of the increasing needs of well-targeted EAP programmes which improve specific linguistic and sociocultural competences in subject areas, a select few universities have started to offer EAP courses.

However, EAP in Korea seems to be still in its infancy, with extremely sparse facilities compared to the Anglophone countries, countries in Latin America, the Middle and Far East and other Asian countries (Gulliver, 2001; Kim, 2007). To prepare for them, a solid understanding of Korean learners' perceptions on institutional needs in EAP is crucial, as I aim to establish through this study.

3. Needs in EAP Institutions or their Reform

Numerous researchers have been concerned with establishing appropriate EAP institutions in their context. Zughoul and Hussein (1985) found that knowledge of English is a critical factor for success at Yarmouk University, Jordan, because English was used as a medium of instruction. Nonetheless, there were low standards of proficiency in English, a limited time devoted to English teaching and an overreliance on English textbooks and reference materials. This finding advocated the requirement of strong EAP programmes at Yarmouk. Hyland (1997) proclaimed the need for effective EAP programmes and adequate institutional measures for undergraduate students in Hong Kong tertiary education, because English is the official language of instruction, students need to bridge the gap between their daily use of Cantonese and academic use of English, and they are highly pressured to study English for their study. Wozniak (2010) researched professional needs of English for French mountain guides to interact with mountaineers of different nationalities in a French geographic setting. The guides emphasized the importance of proficient mountaineering English and the requirement of an English training course to develop their language expertise. This suggests the need for effective EAP programmes to be organized according to task-based language learning and problem-based learning. While examining the communication needs of Thai engineering students, Kaewpet (2009) also suggested EAP courses in engineering programmes for students be geared towards professional English.

A number of researchers have addressed the reform of EAP programmes depending on the learning situations and views of participants in varied contexts by using qualitative research tools. McKenna (1987) observed the processes by which native students form communities through discourse in a

general phonetics classroom in America, and attempted to use the data to suggest EAP programmes to help ESL students from different cultural backgrounds adjust to new ways of forming a community in lectures and activities in the classroom. She suggested using the information gained from native speakers as target needs in implementing EAP courses for non-native learners. However, this proposal was naïve, because non-native learners cannot be encouraged to simply take on the literacy and behaviours of native speakers. In some cases, non-native students can use better English in special areas, and 'literate English' is not a province only of native speakers (Wallace, 2002). Leki and Carson (1997) were particularly interested in ESL learners' EAP writing classes in comparison to their academic content classes in the US. They then suggested that EAP writing courses should require text-responsible writing, because learning how to integrate new information textually with an existing knowledge scheme is crucial for students' academic and personal growth. On the other hand, in an attempt to investigate perceptions of medical college students and faculty on the English language needs of students in Taiwan, Chia, et al. (1998) found that both groups agreed about having particular English courses for students. Participants supported general English courses in the freshman year followed by three years of specific English courses. General English courses (EGP) obviously have aims of teaching English in an educational process. Given the 'fluid nature' of the various types of ESP and EGP English on a continuum (Dudley-Evens & St. John, 1998, p. 8), it may be desirable to teach general English before students learn particular English to m eet the English needs of particular stages of learning.

Other researchers have been concerned with whether insiders or outsiders provide the data in EAP needs analyses. Ramani, et al. (1988) attempted to redesign English programmes by using an ethnographic approach to examine the varied views of students, subject specialists and language specialists at the Institute of Science in Bangalore, South India. Kaewpet (2009) interviewed stakeholders such as former civil engineering students, employers and civil engineering lecturers to examine the communication needs of Thai engineering students. Kassim and Ali (2010) also analyzed English communicative events and skills needed at the engineering workplace by gathering feedback of engineers of chemical companies in order to help engineering students in a

university in the east coast Region of Malaysia. Proper module design of EAP was suggested as a pedagogical implication.

Although these endeavours which seek to use insider knowledge for needs analysis may feed into more relevant EAP programmes for particular students, most studies have attempted to describe the students' needs within a particular context. However, in the times of frequent mobility and global incorporation, examining the needs of students by analyzing perceptions of former students in different domains of English dominant country would provide informed perspectives of English language requirements in the global community. The present research thus focuses on the institutional needs for EAP programmes for Korean science and technology students in Korea from the feedback of former students who had gone through the same academic dilemmas and went on to study abroad in an English-dominant academic community, the UK. The analytical approach of this study will be discussed next.

4. Methodology

4.1. Questions

The present study focuses on a larger needs analysis of Korean science and technology students in the UK, which was undertaken in 2000 and 2009 (Shin, 2000, 2009). On the basis of the aforementioned current circumstances of the Korean students, the aim of this research was to provide data on the institutional needs for EAP programmes in Korea from the viewpoints of former Korean science and technology students who already completed the courses in Korea and are now studying in UK institutions. Here, this paper focuses only on former students' views, because they were in an optimal position to be aware of Korean students' needs for institutional problems. The questions that guided this research project were as follows:

- 1. How do participants feel about the needs of EAP institutional systems for Korean science and technology students in Korea to provide appropriate help?
- 2. Do participants have any suggestions for EAP curricula at tertiary levels in Korea?

4.2. Participants

The analysis of academic needs in English discussed here targeted Korean students at all levels (B.Sc., M.Sc. & Ph.D.) as well as researchers studying in various science and technology departments in UK universities. Given that the students and researchers were spread all around the country and the number of possible participants was relatively small, I attempted to target for questionnaires all Korean science students/researchers who could be identified from the Korean Society student website. Table 1 provides the profile of the students who responded to the survey questionnaire.

Table 1. Profile of students for questionnaire (N=56)

	Characteristic	n	%
	Engineering	29	52
Acac Area	Physical, Chemical, Geographical, & Biological	13	23
nde a	Computer Science	7	13
Academic Area	Math	3	5.4
C	Medicine	3	5.4
	Others	1	1.8
L C	Undergraduate	9	16
Course Level	M.Sc.	5	8.9
rse 1	Ph.D.	38	68
	Researcher/Project	4	7.1
ب	Under 1 year	7	13
Γiπ	1 year- 2 years	9	16
le j	2 years - 3 years	8	14
Per	3 years - 4 years	6	11
Time Period	4 years - 5 years	13	23
.—	5 years - 8 years	7	13
	More than 8 years	6	11

For practical reasons, I restricted interview participants to those who were studying in London, where the majority of Korean students were studying. I requested interviews with 17 randomly selected students, according to the students' population ratio (5 undergraduates, 10 postgraduates & 2 researchers) (Table 2).

Table 2. Profile of students for interview (N=17)

Participant	Institution ¹⁾	Department	Course	Time period
US-1	UCL	Biotechnology	B.Sc.	1yr 6mths
US-2	UCL	Computer science	B.Sc.	6yrs
US-3	UCL	Electronic Engin.	B.Sc.	4yrs
US-4	IC	Biology	B.Sc.	6yrs 6mths
US-5	IC	Material Science	B.Sc.	1yr 6mths
US-6	IC	Chemistry	M.Sc.	4yrs 2mths
US-7	UCL	Transport studies	Ph.D.	1yr 6mths
US-8	IC	Civil Engin.	Ph.D.	3yrs 6mths
US-9	IC	Mechanical Engin.	Ph.D.	9yrs
US-10	IC	Environ. Tech.	Ph.D.	3yrs
US-11	UCL	Civil & Environ.	Ph.D.	1yr
US-12	UCL	Computer science	Ph.D.	5yrs
US-13	UCL	Chemical Engin.	Ph.D.	3yrs
US-14	UCL	Civil & Environ.	Ph.D.	2yrs 8mths
US-15	UCL	Civil & Environ.	Ph.D.	3yrs
US-16	IC	Electronic Engin.	Researcher	7yrs
US-17	King's	Electronic Engin.	Researcher	9yrs

4.3. Instruments

In order to obtain quantitative and qualitative data at the same time and to cross-check and compensate the results, I planned to use both a questionnaire and a semi-structured interview. By modifying previous needs analysis examples (Chia et al., 1998; Johns, 1981; Zughoul & Hussein, 1985) and after pilot research with four chosen Korean science students, I developed an 'Academic Needs Analysis Questionnaire' to analyze the needs of institutional change for EAP (see Appendix). The questionnaire was designed to be straightforward allowing students could complete it relatively quickly, and respondents were given an opportunity to write comments in response to open-ended questions. Then I devised a similar set of questions for the semi-structured interviews, 'Academic Needs Analysis Interview Questions' (see Appendix), on the premise of a questionnaire, allowing for working from the purpose of in-depth interactive research to focus on their opinions, expectations

¹⁾ UCL (University College of London), IC (Imperial College), King's (King's College)

and explanations. After checking the probability of statistical analysis and possible data analysis tools, I confirmed both documents (questionnaire and interview) were appropriate to use for the real practice. Both documents were written in English, and both Korean and English were used during interviews to communicate efficiently depending on circumstance and to limit confusion among participants.

4.4. Procedures

With the name list and the e-mail addresses of Korean science students and researchers identified by the Korean Society student Internet website, I distributed my questionnaire and a formal letter around the country by e-mail or by post. In the London area, however, where the majority of students were living, I contacted students/researchers directly through the regular meetings of the University of London Korean Society. I received only 8 replies by e-mail for a response rate of roughly 4%. In contrast, I received a considerable amount of responses by personal contact through the committee of the Korean Society or by post for a response rate of approximately 65%. In total, as shown in the questionnaire participants' profile, Table 1, I was able to obtain 56 responses. After the questionnaire search, I also conducted individual interviews by random selection from questionnaire respondents in the London area. I attempted to conduct the questionnaires first, and then follow up with the interview. All information from the questionnaires was coded for statistical analyses and entered into a computer database. Statistical procedures employed included descriptive statistics for the various items on the questionnaire owing to frequency occurrence. Students' comments on interview questions recorded on tape were transcribed and translated into English for citation.

5. Results

5.1. Previous Academic English Learning Experience

As many as 55% of respondents to question 6 of the questionnaires replied that they had not been educated in specialised English learning activities (Table

3). Participants in the interview stated that this is because not only were there hardly any suitable education facilities but also they believed that taking special English courses would be time-consuming. Without any support from the educational system, the replies showed that some had overcome the difficulty of English with the help of supervisors or colleagues, while others had attempted to watch TV or listen to the radio on their own to overcome their difficulties.

Table 3, Previous Academic English Learning Experience (N=56)

Question 6	n	%
Yes	25	45
No	31	55

Table 4. Participation Courses (N=25)

Question 6	n	%
Pre-sessional course	13	52 %
British Council course in Korea	3	12 %
Computer company	2	8.0 %
In-sessional course	2	8.0 %
Not specified	5	20 %

Among the remaining 45% of respondents, the majority of students (52%) participated in pre-sessional courses in UK universities for 1 to 6 months before starting their subject courses. Three students participated in British Council English courses and other 2 students took courses offered by American computer companies such as Microsoft Corporation in Korea. Others took part in in-sessional courses such as thesis writing courses for overseas postgraduate students in UK universities. Interview participants replied that pre-sessional courses for learning oral presentation skills in relation to each major subject, pre-sessional courses for intensive immersion programmes with native speakers, in-sessional courses for thesis writing skills in the UK, and special English skills courses to improve writing skills or reading skills offered by the British Council in Korea were reported as helpful for them in preparing for their academic work. A Ph.D. student of civil engineering who has studied in the UK for more than 3 years stated as follows.

I took a writing skills course at my UK university for a term. I thought it is not bad. The course itself was very good for students' academic support. Even British students would feel helpful (US-8).

He seemed to believe that EAP programmes would be beneficial for all who are studying particular subjects regardless of English proficiency or native/non-native speakers. This is probably because EAP focuses on particular skills, genres and disciplinary conventions of English students should learn for studying particular subjects.

5.2. Necessity of EAP Programmes in Tertiary Level Institutions in Korea

In question 7 of the questionnaire, which inquires about whether a university level EAP programme in Korea would be/have been helpful, as many as 63 % of students replied *yes*, while only 20% said *no*. 5.4% left blanks without any comments, and about 11% responded that they had no idea about the meaning of EAP. Therefore the majority of students seemed to agree that, in light of the current circumstances of science and technology students, and there should be appropriate EAP programmes in Korean tertiary institutions.

Table 5. Necessity of EAP	Programmes (N	=56)
Question 7	n	%
Yes	35	63 %
No	11	20 %
I don't know	6	11 %
Blank	3	5.4 %
Other	1	1.8 %

Table 5 Necessity of EAP Programmes (N=56)

In interviews most of the Korean participants stated the necessity of EAP courses to improve students' academic English in Korean universities, especially in light of globalization. A doctoral student of mechanical engineering stated as follows:

If there are specific English courses such as teaching academic writing

skills and presentation skills in Korea, certainly it would be very helpful. Nowadays the movement of globalization in Korea facilitates the importance of English in science and technology (US-9).

Participants tended to be concerned with academic writing skills and oral presentation skills. Some of them said that the general English in the liberal arts programme during their university period was of no use at all, and that EAP might be a more efficient method of motivating them to learn English. At the same time, however, a few participants doubted the possibility of teaching specific English through non-native teachers in Korean universities, because it may be significantly difficult to satisfy both the areas of English and subject knowledge.

A Ph.D. student in civil and environmental engineering stated that EAP would be more beneficial at postgraduate level than at undergraduate level.

If an EAP programme is practised in a postgraduate course, it may be enormously helpful; however, for undergraduates, it may not be, because many of them tend to transfer to other subject areas after the undergraduate level. So they might not have secure motivation and purposes for learning EAP (US-14).

Postgraduate students may thus have higher motivation for learning EAP, possibly because disciplinary-specific English is a more important factor to write theses and give oral presentations for postgraduates than for undergraduate students (Flowerdew, Li & Miller, 1998; Shin, 2010).

In contrast, a few students do not agree with the ideas, saying that academic English courses are unnecessary. For example, an M.Sc. student of chemistry puts it:

I don't think academic English is necessary in science and technology, not like business or management area. When I did my project, formula, mathematical symbols, data and computer programmes were added in writing papers. So general English is enough in my area. Also in discussion with my supervisor, he always understands me well (US-6).

He considered science-specific English more simple than other areas, and believed that mathematics and diagrams are more important tool of communication. However, the communicative use of English should not be ignored in science and technology in conceptualizing content knowledge and communicating with other academics in the current academic world (Shin, 2010).

5.3. Appropriate English Curriculum

In question 8 of questionnaire, which inquires the best English curriculum for science and technology students at university level in Korea, students replied as follows (Table 6). Except for a few students (14%), who preferred a pure EAP course, the majority of students indicated on the questionnaire that EGP should precede EAP in tertiary English education curriculum.

Question 8	n	%
EGP at UG + EAP at PG	18	32 %
1 year EGP + 1 year EAP at UG	10	18 %
1-2 years EAP at UG	8	14 %
4 years EGP at UG + EAP at PG	4	7.1 %

3.6 %

Table 6. Appropriate English Curriculum (N=56)

The interview results suggest that, to activate EAP, general communicative skills in English should be established beforehand. The student, who has been an undergraduate student majoring in biology for six and half years in a UK institution, stated that:

1-4 years EGP at UG + 2 years EAP at PG

English learning is essential nowadays and should be continued forever, I think, and without basic general English, it might be difficult to use and learn specific English knowledge. On the basis of general English, specialised English needs to be focused for their specific purposes (US-4).

An Ph.D. student of chemical engineering also put it that EAP courses are necessary; however, general English should be preceded, especially focusing

speaking with decent usage of grammar and pronunciation.

In Korea, people are not educated in speaking. If people don't practice speaking when they are young, they cannot pronounce well, I heard. When people can speak with correct grammar and pronunciation, then it will not be late to study academic writing skills and presentation skills (US-13).

As appropriate curricula for Korean institutions, teaching EGP at first and EAP later to meet special interests, aims and purposes that are clarified at tertiary level seems to be the rational choice of participants.

6. Discussion

Throughout the present study, I have attempted to analyse and describe perceptions of former Korean science and technology students on the needs of institutional change of teaching English in the Korean academic context. Regarding their experiences of learning English in their home country, they would have certain views of institutional problems in the English education they received there.

First of all, more than half of the participants (55%) reported that they did not participate in any EAP facilities, because most of them were not able to access the programmes. If EAP prorgrammes had been widely provided, they would have been beneficial for many students regardless of English proficiency and nationality. This is supported by the fact that many students who participated in EAP programmes claimed that EAP study had a positive impact on improving oral presentation skills, thesis writing skills and sociocultural strategies related to mixing with colleagues of other nationalities. Terraschke and Wahid (2011) also found that postgraduate students who completed a pre-sessional EAP course outperformed students who did not attend an EAP course in terms of use of learning strategies, confidence in dealing with writing assignments and understanding the demands of their courses. Given that the ultimate aim of learning English is to communicate and participate in their

academic practices in international domains, I argue that if Korean students are exposed to specialised EAP approaches in Korean universities they may be better prepared to study in any multicultural settings by enhancing both their English and their subject knowledge. EAP may enhance students' discipline-specific skills, academic conventions and understanding of behaviours encountered within their study areas. Such courses would allow students to achieve their own purposes and their aims in the study of their subject, and to be more proficient users of English in their academic communities.

Moreover, others did not take part in English or EAP programmes because they considered the programmes a waste of time. Traditionally, science and technology students have focused on technical knowledge or mathematics, and learning languages has not been their main area of concern (Abhearn, 2006). They tended to emphasize studying disciplinary subjects, neglecting long-term goals of language learning in Korea. They often delay studying English and EAP, for example, until they need to write a thesis in English for graduation or present proceedings at international conferences. However, as Shin (2010, p. 235) states, the current academic world demands that students communicate with people from diverse nationalities and participate in numerous academic practices in English. Accordingly, tailored EAP programmes taking consideration of learners' needs and subject-specific academic purposes would be desirable for more efficient English teaching and learning outcomes for students in Korea.

Secondly, as many as 63% of respondents indicated that appropriate EAP programmes could be helpful at the tertiary level in Korea. In considering the current tertiary English education, which is mostly EGP, EAP programmes in accordance with learners' needs and purposes were shown to be required in Korean tertiary institutions. In particular, for students writing papers and presenting at conferences were major skills that they wanted to be supported by EAP programmes. Given that science and technology students eagerly aspire to participate in the global academic community and the use of these skills is expected to conform to the norms of the community (Shin, 2011), well-organized EAP programmes may provide students with better preparation for participating in academic practices in the community. Additionally, EAP may be more crucially necessary for postgraduates than undergraduates, as US-14 stated. This is because the competence of English is required more for postgraduate students

to perform diverse oracy and literacy tasks and to produce knowledge in the community (Shin, 2010).

Lastly, as most of the respondents replied, however, the success of EAP rests on sound EGP. Master (1998, p. 721) also points out that "when EAP is not built on a solid EGP foundation, problems can arise." The majority of students thus chose a sequential combination of EAP and EGP programmes as the most adequate curriculum in Korean tertiary institutions. Depending on learners' needs and contextual situations, combined facilities of EGP and EAP programmes would be necessary for Korean science and technology students in Korea. These findings correlate with Chia, et al.'s (1998), which reveals that EGP in the freshman year followed by three years of EAP is the most desirable curriculum. Students should thus be equipped by general communicative competence as well as discipline-specific literacy in the community (Shin, 2010).

Moreover, unless students have special interests or subject areas, EGP might be more adequate than EAP. Therefore, precise tools to clarify learners' motivations, interests and needs in learning English are required. In this regard, the role of EAP practitioners is expanding and being challenged to estimate each learner's needs. English teachers' awareness of learners' needs in the global age is important. EAP practitioners should become sensitive and flexible, given that the scope of learners' needs is becoming wider in this multi-faceted and diversified era of globalization. Under the "institutional constraints" (Hyland, 2002, p. 392), how teachers meet the needs in English and how they can set up desirable directions for students' subject study are crucial issues for EAP teachers.

The outcomes of this study suggest that there are real implications associated with conducting appropriate EAP programmes in Korea. Despite the continual innovations to settle appropriate English education, the current practice of English language teaching programmes in Korea is predominantly centred on improving general reading skills and test-based English teaching. Heightened pressures to play a part in the international academic fields of practice urgently call for innovative and qualitative EAP programmes for Korean science and engineering students. Given that most students have not participated in EAP activities and yet still insist on the necessity of appropriate EAP programmes, adequate EAP in Korean tertiary institutions are considered to be desirable on

the basis of solid EGP programmes. Therefore institutions in Korea should consider science and technology students' needs and purposes with great care when it comes to learning English, and devise appropriate programmes as compulsory courses for both EGP and EAP. Korean tertiary institutions are in urgent need of a wider expansion of EAP programmes.

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Appendix Academic Needs Analysis Questionnaire

Α.	General Information.
1.	Name:
2.	Institution:
3.	Department:
4.	Course you are taking:
	Undergraduate course M.Sc. course
	Ph.D. course Research or Project course
5.	How long have you been in England?year(s)month(s)
	B. Possibility of Institutional Change.
6.	Have you ever taken part in any organised learning activity either in the U.
	K. or Korea to develop these language/study skills in relation to your
	specific study? (e.g. pre-sessional course for 3 months in the U. K., science
	specific English course in Korea)
7.	Do you think that an ESP (EAP or EST) programme in university level in
	Korea would be/ have been helpful?
	Yes No
	(cf.) ESP= English for Specific Purposes
	EAP= English for Academic Purposes
	EST= English for Science and Technology
8.	If you choose 'yes' in No. 7, which English curriculum do you perceive
	would be/have been the best for you in Korea?
	(e.g. 2 years specific English in undergraduate course, 1 year general

Interview Questions

English & 1 year specific English in undergraduate course, English in undergraduate & specific English in graduate course)

- 1. Which course you are taking (B.Sc., M.Sc., Ph.D., or research)? How long have you been in England? How long have you studied your subject? What is the goal of your current subject study? Any plans for future study?
- 2. Have you ever taken part in organised learning activity either in the U.K. or Korea to develop language skills and study skills for your major? What are your strategies for your study? Are you satisfied and does your supervisor

seem to be satisfied with you in doing your course now? How do you think English teachers could support your needs?

- 3. Do you think an ESP (EST or EAP) programme would be/ have been helpful?
- 4. If 'yes', which English curriculum do you think would be/ have been the best for you in Korea?

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