

The Future of English as the Lingua Franca for Young Scientists in EFL Contexts

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Abstract

The future of English has become a hot topic of discussion in recent years where stakeholders in EFL contexts are considering the current and future needs of students. This three-year research project in a research university in Japan aimed to contribute to this discussion where current talks about the curriculum raised questions about the role of English as a lingua franca for young researchers. Two key questions which this project sought to answer regarded the changing role of English for the future of young researchers and if current curricula met their needs. A mixed method approach was taken through conducting surveys and semi-structured interviews with the stakeholders—student surveys (n=78) and interviews with professors (n=3), and industry experts (n=2). Interviews were recorded, and analysis was done by identifying areas of similarities in perceptions and gaps which emerged through differences. Initial findings showed similarities in the need for more opportunities for academic and research discussion with international students to be provided such as real-life simulations of specific future research and professional situations they will encounter. Core differences identified included perceptions of language and professional skills required to prepare students adequately for future research and job-related tasks. The key insight gleaned from this research is that although English remains the international language among researchers in global contexts, without ample opportunities for university-wide scientific discussions and a core understanding of skills needed to succeed, students cannot prepare sufficiently for their professional lives.

Keywords: English as a Foreign Language (EFL), English as a Lingua Franca (ELF), Student Professional Development

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Introduction

English as a Lingua Franca (ELF) has been at the forefront of the second language classroom for decades, especially for students in research universities. Numerous studies over the years have questioned, debated, and espoused the development of proficient English speakers as essential for students to navigate life successfully after graduating from university and entering the professional world of research or specific industry-related jobs (Jenkins, 2009; Jenkins, 2017; Seidlhofer, 2004). As technology continues to insert itself into all aspects of education—generating language to write research, and improving collaborations on global research projects through real-time translation of documents and interactions, universities are revisiting the concept of ELF as the core element for young researchers.

Over the years, English has become the established international language as it has helped to streamline communication around the world. In Japan, the focus on developing communicative “competent” English speakers had resulted in several guidelines from the Ministry of Education to be implemented from kindergarten to upper secondary schools. The 2002 Strategic Plan (MEXT, 2002) set out to foster “Japanese with English abilities” [*Eigo ga tsukaeru Nihonjin*], and described English as essential for the students’ future and the development of Japan in a globalized world:

With the progress of globalization in the economy and in society, it is essential that our children acquire communication skills in English, which has become a common international language, in order for living in the 21st century. This has become an extremely important issue both in terms of the future of our children and the further development of Japan as a nation.

A year later, in 2003 (MEXT, 2003), a more detailed Action Plan followed to cultivate “Japanese with English Abilities” [*Eigo ga tsukaeru Nihonjin” no Ikusei no tame no Kōdō Keikaku*].

In 2010, seven years later, MEXT began to make a shift towards building stronger relationships with neighboring countries in Asia focusing on intercultural development (MEXT, 2010). The mode of communication during these international exchange programs was English, further emphasizing the importance of ELF. Further reform in the following years continued to place English as the dominant language in the Japanese educational context, which led to institutions developing various mandatory language programs and courses which students were required to take to gain enough credits for graduation.

In 2011 (MEXT, 2011), the following year, MEXT published “Five Proposals and Specific Measures for Developing Proficiency in English for International Communication”:

1. English ability required of students – assessment and verification of attainment level
2. Promoting students’ awareness of necessity of English in the global society, and stimulating motivation for English learning
3. Providing students with more opportunities to use English through effective utilization of ALTs, ICT and other means
4. Reinforcement of English skills and instruction abilities of English teachers/Strategic improvement of English education at the level of schools and communities
5. Modification of university entrance exams toward global society

In 2013, the Ministry published the “English Education Reform Plan Corresponding to Globalization” [*Gurobaru-ka ni taio shita Eigo Kyoiku Kaikaku Jisshi Keikaku*] (MEXT, 2013), which promoted a more communicative style of language teaching over the typical test-taking, academic approach typically found in secondary schools. In 2018, a massive reform was implemented in secondary schools to focus mainly on logic and expression [ronri hyogen] which encouraged teachers to focus more on debate and discussion.

Thus, with the past two decades of MEXT implementing various reforms to promote ELF, students have naturally entered the tertiary classroom with the idea that English proficiency is at the core of their academic and professional life, with little thought given to other factors. In this kind of landscape, ELF has been positioned at the center of education for young researchers. However, questions have recently been asked by young researchers in post-graduate programs and instructors regarding whether English proficiency solely is enough to prepare students for the world after graduation.

The researchers in this three-year project thus sought to identify the current state of English as a Lingua Franca for young researchers from the perspectives of students, professors, and industry experts, and secondly, if the current methods of teaching were sufficient to prepare students for their future professional lives.

Research Context: A Multinational Learning Space

This research took place at a highly ranked research university in Japan. There is intense competition among students to secure a place in Japan’s top universities with an acceptance rate of about 25%. Students who are successful are usually the best in their fields and considered to be the ones who will contribute positively to the future of Japan. Graduate students are expected to give presentations in international conferences as part of their preparations for graduation. Students join small labs and engage in discussion and presentations about their research in their L1 and L2. Depending on lab professor’s expectations for students, there is a wide range of English proficiency levels across labs in different faculties. Labs consist of both Japanese and international students and there are few (or no) opportunities for communication between labs in different faculties. Participants in this study were purposively selected from students who enrolled in intensive presentation courses which aimed to assist students with their preparations for international conferences.

There was a mix of students from various faculties (e.g., Medical, Engineering, Agriculture, Integrated Human Studies, Economics, among others). Within each faculty, there were further subdivisions of departments, thus even if students were in the same faculty, they belonged to different labs and conducted research in vastly different areas. The presentation course mostly comprised of students from Japan, but there were also international students from countries such as China, Korea, Indonesia, Mongolia, Pakistan, Thailand, and France. Language proficiency among learners ranged from intermediate to fluent (CEFR¹ B1-C2) (CEFR, 2024). The various types of research content, different nationalities, and range of English proficiency levels made for an authentic international experience which students would face when they presented their research to a global audience.

¹ The Common European Framework of Reference for Languages (CEFR) is an international standard for describing language ability. It describes language ability on a six-point scale, from A1 for beginners, up to C2 for those who have mastered a language.

Methodology and Data Analysis

This qualitative research employed surveys and interviews to collect data from participants based on first-hand accounts. Over a period of two years, 78 graduate and doctoral students completed open-ended surveys including questions asking which professional skills they felt they required to become successful researchers and employees, which language skills were most important to achieve this success, and if the university provided sufficient services and opportunities to prepare them sufficiently for their future. Interviews with three professors and two industry experts asked comparable questions in the hope to understand similarities and differences in perceptions and identify gaps (see Appendix). Interviews lasted between 45 minutes to an hour and were transcribed. One professor did not have time for a long interview and chose to respond to interview questions over a few days in writing.

Data analysis was done by carefully reading through the survey results and transcripts and categorizing the data into areas of similarities and differences between students, professors, and industry experts. Both researchers conducted their own analysis of the data at first and then met later to share their interpretations. From the analysis, the researchers could construct a story and share their individual analysis of the data. Having two researchers analyze data in this way minimized the risk of applying pre-existing knowledge or biases to the data and allowed for a more objective examination. The key findings will be discussed in the following section.

Results and Key Findings

The researcher first sought to identify similarities and any gaps which emerged through differences in perceptions. This section provides findings in three main areas:

1. Perceived requirements for the future professional life of young researchers
2. Perceived core language and professional skills required for young researchers
3. Gaps identified by stakeholders and suggested course of action

Perceived Requirements for Future Professionals

Research students in Japan have been taught since secondary education that a high proficiency in English is essential for success in their future. Survey data showed that while English is indeed the most important requirement for effective participation in the global arena, other skills also need to be acquired. Based on survey and interview data, six points were identified which would benefit students as they prepared for their future professional life (Table 1).

Skill (ranked from most to less important)	Descriptor
1. English	The ability to convey thoughts about one's professional field in English.
2. Research	The ability to create innovations for a sustainable society or provide fresh ideas to the industry.
3. Code of Conduct	To understand the rules, the purpose of the rules, and how to act in an international situation to follow/participate in them.
4. Professional Development	To acquire skill sets and mindsets that would be helpful in the real professional field for example, business or research based and to exert leadership.
5. Interdisciplinary	To communicate and share ideas with peers who may not be from the same background.
6. Confidence	To have a positive attitude towards research and daily work activities.

Table 1: Perceived requirements for future young professionals

Regarding English as a Lingua Franca, as can be seen from Table 1, young researchers, professors, and industry professionals all considered English to be the lingua franca for sharing research and ideas in a global context. It was noted however, that English competency does not necessarily equate to having a successful future in a particular field. For all participants, having the ability to do research to create a sustainable society or to keep an industry moving forward into the future were also essential skills. Without deep knowledge of one's research field, it would not be possible to be an indispensable part of a team in the future. A surprising finding was students' concept of acting with a specific code of conduct. This idea featured strongly in the data, possibly because there were a significant number of medical students participating in the course who were bound by strong ethical guidelines. However, students in other faculties also agreed that having a strong code of conduct in research practices transferred to other areas of life as it ensured credible and transparent practices. Professional development skills did not lie only with the ability to communicate effectively in English (both speaking and writing) as today's AI generative technology makes communication easier. More importantly, participants noted that the ability to show leadership skills and problem solve were essential whether as a researcher or employee. A few students and an industry professional also mentioned that being able to learn tasks quickly in unfamiliar environments, being flexible, and managing stress well were other important skills when starting out as a new employee or working in a research lab. The final two skills, although less important to participants, were also key. Being able to share ideas effectively and keeping a positive attitude during daily tasks created a positive environment which would promote more teamwork and improve the collective mindset.

Perceived Required Core Language and Professional Skills

Participants were further asked their perception of which language and professional skills were most important for their future. Student perceptions were compared to professors and industry professionals to see if a gap existed. Regarding language skills, there was a small difference in perceptions when ranking them. Professors and industry professionals agreed that students should place importance first on speaking, then listening, reading, and finally writing. Students placed emphasis on listening as the primary skill followed by speaking. The

researchers followed up on this response by asking participants to explain the main reasons for their choice.

Skill (ranked from most to less important)	Reason
1. Speaking	<ul style="list-style-type: none"> • Giving effective scientific presentations to share research findings • Informal dialogue during daily routines in the lab or office • Giving feedback to others about their performance
2. Listening	<ul style="list-style-type: none"> • Understanding instructor and employers' guidance • Actively listening to presentations to deepen knowledge
3. Reading	<ul style="list-style-type: none"> • Keeping up to date with current research • Accessing relevant information to improve the quality of research or job-related assignment
4. Writing	<ul style="list-style-type: none"> • Accuracy on presentation slides

Table 2: Main reasons for ranking language skills in order of importance

For students, most of their reasons were connected to their current lab experiences in which they mainly gave presentations about their research progress. They did not think more broadly about their future after graduating. Professors and industry professionals, on the other hand, considered the wider world in which students would have to negotiate unfamiliar situations. In this case, having more “functional” language was most essential to adapting to various situations—delivering strong presentations for research or product launches, networking, seeking collaborators on new research projects, asking questions about how to perform a specific role, and making meaningful contributions during meetings.

Regarding skills for the workplace, many students had done part-time jobs as an undergraduate student and relayed what they thought was most important. Two main points were given by all participants: People skills and professionalism. First, students wanted to understand how to interact smoothly with researchers in similar fields as well as those in other fields to expand their network. Industry experts and professors encouraged the same. Concerning professionalism, students felt that it was important to be quick to learn new things in the workplace to establish a routine quickly. They further felt that it was important to have a critical mind to solve problems. Industry experts and professors agreed with this, but also added the necessity of understanding strong teamwork and collaboration.

Gaps Identified and Actions Taken

Based on results from surveys and interviews, participants were later asked what kind of action they could take to close the gap between their academic and research life, and the real world.

Language skills: Students noted that their language classes focused mainly on academic writing and reading with few courses focused on presentations. They explained that there are few university-wide courses teaching how to give effective scientific presentations, so students learn these skills independently through observing others as well as trial and error. One of the actions taken by the researchers to help narrow the gap was to offer presentation workshops and develop a presentation course for young researchers based on their immediate needs. The researchers also organized a mock international conference at their respective

universities, so students had an opportunity outside their labs to practice networking and presenting. After the event, the researchers were asked to make it an annual event so that students could continue to meet students from other labs and get to know what kind of research was being conducted at the university on a wider scale.

Functional English: Regarding functional English, students noted that when they entered their graduate labs, they were suddenly forced to communicate with international students and give weekly presentations in English about their research progress. This was especially challenging for students who had a lower proficiency level. Professors who took part in this study were informed of the result and one of the solutions discussed was to encourage Japanese and international students to eat lunch together and engage in a daily language exchange. One of the professors in this study had already established a bilingual policy in his lab. That is, all Japanese students were asked to communicate in English as often as possible while in the lab while international students had to practice their Japanese language skills in order to become more familiar with Japanese culture and customs. This professor later encouraged other heads of departments to take a similar action. Industry professionals encouraged students to try and develop a more professional mindset upon entering graduate school so that they showed the appropriate level of social decorum and developed the confidence to communicate appropriately with people in senior, as well as junior positions.

Conclusions

This research examined first-hand account of the current situation young researchers were experiencing and if it was sufficient enough to help them to perform effectively in the real-world after graduation. The researchers questioned if English was still the lingua franca of the scientific community in this quickly changing world of technology and global partnerships. The response to this question was a resounding affirmation that English is indeed still the common language for global research and business practices and will continue to be the lingua franca in the near future. However, all participants stressed that this was not enough to be successful. There are three main points that the researchers gleaned after conducting this study.

The first is that practical actions need to be taken to prepare students for the real world. According to industry professionals, students should have a high enough level of communicative skills (as opposed to strong academic language skills) in order to operate in unfamiliar environments and when doing new tasks. In particular, professionals encouraged students to develop a sense of professionalism as early as possible. Professors highlighted the need for university labs to engage in multilingual practices to prepare students for the global arena.

The second is creating more opportunities for students to experience what life will be like after graduation, whether continuing in their respective research fields or entering employment. Joining university events such as the mock international poster session or other activities with international students would help students learn how to network and form strong relationships. In the first year of this study, weekly lunch time consultations were organized by the researchers to help students understand how to write CVs, improve scientific presentation points, and write grant proposals. Industry professionals thought that students could apply for internships to understand skills needed in the workplace and practice professionalism in their labs before they graduated.

Finally, a major gap was found between current university curricula and language skills needed for students' future needs. While a focus on academic skills is useful to build language skills during students' undergraduate years, it was found that there were not enough English courses in their third and fourth year of undergraduate school which may become a challenge for lower proficiency learners to communicate effectively with international students and present their research coherently. The researchers are thus in the process of writing a proposal for the administrative office recommending that an English course be offered at the end of undergraduate study focusing on functional language students need for research and business environments. As a university's curriculum cannot be changed overnight, students have been encouraged to use more self-study leaning materials (apps, websites, or services at the university) to expose themselves to more English. The researchers subsequently developed a database of useful websites and apps for self-study that students could access for free.

To conclude, research on English as a lingua franca continues to be conducted as the world becomes more technology dependent. This study has shown that ELF is indeed essential for young researchers for future research and business contexts. It has further shown the need for universities to offer more practical courses to help student prepare for graduate school and beyond. The limitation of this study is that findings based on the small sample population (87 students, 3 professors, and 2 industry professionals) cannot be generalized to the larger university population. As such, the researchers hope to collect more responses from students and professors across all faculties at the university to gain a wider perspective.

After concluding this research, the implications going forward for young researchers are that they should build a catalogue of useful skills to perform effectively in unfamiliar environments and develop a sense of professionalism early in their research careers. By considering life outside of their immediate research space, opening themselves up to new opportunities and reflecting on future skills they will require, they will certainly be able to feel more prepared for the new experiences they will face beyond the walls of the university.

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Appendix

Survey questions for student participants

1. What does the term “professional development” mean to you?
2. Which skills do you think are most important for your life as a research or working in your specific field (e.g., research skills, language skills, communication skills, etc.). Please explain.
3. Do you feel that the university is preparing you sufficiently for your future careers as a researcher or employee? Please explain. (e.g., services provided, lab experiences, etc.)
4. How important is learning English for your future? If you responded no, what kinds of courses or services would you like the university to offer?
5. Rank in order English language skills that are most important to least important for your future as a researcher and also as an employee (reading, speaking, listening, writing, vocabulary, pronunciation, grammar).

Semi-structured interview questions for professors and industry-experts

1. What is your role in your current position?
2. How important is English language proficiency in your lab/workplace today? Do you think English is as important today as it was in the past in global settings?
3. How is English used on a daily basis in your environment? (e.g., reading and responding to emails, attending meetings, networking, etc.)
4. How important is English for young researchers? Are there any other skills that will prepare students better for their future?
5. How are you preparing your students currently for a future in research?
What do you expect from new employees when they first enter the workforce?
6. What piece of advice would you give young researchers before they graduate from university?

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