

生産工学部の英語科目運営状況の報告

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Report on the State of English Courses in the College of Industrial Technology

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To equip students for the demands of a globalized world, the College of Industrial Technology requires English courses designed to develop communication skills for international, academic, and professional contexts. Under the curriculum introduced in 2022, placement for second-year courses is based on surveys reflecting students' preferences for oral communication, business English, or four-skills balanced classes. This paper examines course management practices and analyzes survey trends. Results show that over 30% of students in each department selected four-skills balanced courses, but preferences varied across departments. For instance, more than 30% of the Industrial Engineering and Management Department students prioritized business English for career goals, while the Civil Engineering Department favored conversational skills for practical communication. These findings highlight the need for tailored course design. Future efforts will focus on aligning materials and content with departmental objectives, such as career-specific vocabulary or enhanced conversational activities.

Keywords: English as a Second Language, Needs Analysis, Common Textbooks

1. Introduction

This paper reports on the implementation of English courses in the College of Industrial Technology (CIT), Nihon University. First, we examine how the operation of compulsory English courses up to the 2021 academic year (AY 2021) changed with the implementation of the 2022 curriculum. Next, we focus on the compulsory second-year courses, where class placement is conducted based on students' preferences, and analyze trends in

their responses. Through this analysis, we discuss the advantages and disadvantages of the current English course implementation and propose improvements to enhance students' English proficiency.

1.1 English courses before AY 2022

Until AY 2021, English courses offered by the Department of Liberal Arts and Basic Sciences were classified as "Compulsory Foundational Courses." Under this previous curriculum, as shown in **Table 1**, students were required to take six types of English courses during

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their first and second years, earning a total of six credits.

For each department, the following number of classes was offered: Mechanical Engineering (4 classes), Electrical and Electronic Engineering (4 classes), Civil Engineering (4 classes), Architecture and Architectural Engineering (4 classes), Applied Molecular Chemistry (4 classes), Industrial Engineering and Management (4 classes), Mathematical Information Engineering (4 classes), Sustainable Engineering (3 classes), and Conceptual Design (3 classes). Class placement was determined based on students' proficiency levels, assessed through a placement test taken upon admission. Each class consisted of approximately 45 to 60 students.

Additionally, since AY 2018, a quarter system has been applied to all students from the first to the fourth year. Under this system, English classes are held twice a week during two of the four quarters in an academic year. This structure has been maintained in the current curriculum as well.

Table 1 English courses before AY 2022

Quarter	1st-year	2nd-year
1	Practical English IA/IA(S)	Practical English III/III(S)
2	Practical English IB/IB(S)	Practical English III/III(S)
3	Practical English IIA/IIA(S)	Practical English IV/IV(S)
4	Practical English IIB/IIB(S)	Practical English IV/IV(S)

Before AY 2022, the following materials were used as common textbooks for English courses:

- Practical English IA/IA(S) : *Four Corners Level 2 Student's Book with Self-study CD-ROM*
- Practical English IB/IB(S) : *Four Corners Level 2 Student's Book with Self-study CD-ROM*
- Practical English IIA/IIA(S) : *Four Corners Level 2 Student's Book with Self-study CD-ROM*
- Practical English IIB/IIB(S) : *Four Corners Level 2 Student's Book with Self-study CD-ROM*
- Practical English III/III(S) : *New Headway 4/E Pre-Intermediate Student Book iTutor Pack*
- Practical English IV/IV(S) : *New Headway 4/E Pre-Intermediate Student Book iTutor Pack*

1.2 English courses from AY 2022

Tables 2 and 3 present an overview of the English courses in the current curriculum, which has been applied

to students enrolled from AY 2022 onward. In this curriculum, English courses offered by the Department of Liberal Arts and Basic Sciences are categorized as "International Communication Courses." Students in the general courses are required to take four compulsory courses (4 credits), while students enrolled in a program accredited by the Japan Accreditation Board for Engineering Education (JABEE) must complete six compulsory courses (6 credits).

The quarters in which students take compulsory English courses vary by department. However, for students in the general courses, the typical course flow consists of taking one course in either the first or second quarter and another in either the third or fourth quarter during both their first and second years.

For first-year students, English I and English II use two common textbooks: *Unlock 2 2nd Edition Reading, Writing & Critical Thinking* and *Unlock 2 2nd Edition Listening, Speaking & Critical Thinking*. The *Unlock* series is published by Cambridge University Press, and Level 2 is designed to correspond to the A2 level (Basic User) of the Common European Framework of Reference for Languages (CEFR).

Table 2 English courses under AY 2022 curriculum: General courses (example)

Quarter	1st-year	2nd-year
1	English I	English Skills A
2		
3	English II	English Skills B
4		

Table 3 English courses under AY 2022 curriculum: JABEE courses (example)

Quarter	1st-year	2nd-year
1	English I	English Skills A
2		English Skills C
3	English II	English Skills B
4		English Skills D

In the second year, English Skills A and English Skills B are offered with three different class types. Each focuses on four skills, business English skills, and speaking skills. Students review the provided materials outlining the concept and textbooks for each class type and then submit their preferences through a survey. In

principle, class placement is determined based on students' responses.

This new initiative was adopted to satisfy the need for an English education approach tailored to the interests and future benefits of students in the CIT. As noted by Kuroda (2010)¹⁾, English education for students in science and engineering faculties should focus on their specific needs. Similarly, Shi (2018)²⁾, in reporting on efforts to establish and manage English for Specific Purposes (ESP) programs at Japanese science and engineering universities, mentions the limitations of general English education frameworks in developing specialized English skills. At the CIT, it is also expected that the courses offered reflect the unique needs of students in science and engineering, as well as the specific characteristics of the college itself. To achieve this, the first step was to explore whether students could take compulsory courses in a way that better aligned with their preferences, leading to this first-time implementation.

The selection of the three class types was determined through discussions among full-time faculty members in the English Section, considering both the role of English classes as compulsory subjects and the skills that students are expected to acquire in today's society. The following sections describe the objectives of each class type in detail.

1.2.1 Class Type I: Focuses on Four Skills

This class type aims to help students comprehensively improve their four English skills—reading, writing, listening, and speaking—so that they can use English at a higher level than in their first year. The course is designed to expose students to various cultures around the world through the course materials while also developing their international awareness and logical thinking skills. This class uses the same common textbooks as English I and English II: *Unlock 2 2nd Edition Reading, Writing & Critical Thinking* and *Unlock 2 2nd Edition Listening, Speaking & Critical Thinking*. In English I and English II, students cover the first half of the textbook units, while in this second-year course, they complete the remaining units.

1.2.2 Class Type II: Focuses on Business English Skills

In the second type of classes, students aim to develop communication skills for both daily life and business situations through exercises designed with the format of the TOEIC® Listening & Reading Test. The course is taught by instructors who have knowledge not only of English but also of Japanese grammar rules, allowing them to provide instruction that considers the linguistic interference students learning English as a second language may experience from their native language and common errors they tend to make. The designated textbook for this class is *Winning Formula for the TOEIC® L&R Test*, published by National Geographic Learning/Cengage Learning. While not mandatory, students in this class type are encouraged to take the TOEIC® IP Test, which is offered on campus approximately three times per year.

1.2.3 Class Type III: Focuses on Speaking Skills

This type of class focuses on helping students develop their ability to clearly express their ideas and engage in meaningful discussions on global topics. Through structured activities, students are expected to enhance their listening, speaking, and critical thinking skills while practicing problem-solving, group discussions, and presentations. Active participation and thorough preparation of assignments and projects are encouraged to maximize learning outcomes. Using the *Unlock* textbook from Cambridge University Press, students should acquire essential communication skills and vocabulary. Students are also encouraged to apply knowledge from their particular field of engineering to class discussions and projects. In the previous curriculum, the large class sizes were a major challenge in almost all English courses. However, since the introduction of the AY 2022 curriculum, all classes of this type have been adjusted to have approximately 30 to 40 students per class.

For students in general courses, English Skills C and English Skills D are offered as elective courses, allowing them to further enhance their English skills if they choose to take these courses.

One of the major changes in the AY 2022 curriculum is that the compulsory second-year courses, English

Skills A and English Skills B, are now assigned based on students' preferences collected through a survey. This initiative aims to encourage each student to engage in English learning with higher motivation by allowing them to choose a class based on their interests and goals. In other words, the survey responses reflect students' needs, and analyzing this data is expected to provide valuable insights for future considerations in the English curriculum.

The next chapter describes students' responses to the preference surveys conducted in the AY 2022 and 2023.

2. Data & Methods

2.1 Survey for Second-Year Compulsory English Courses

Since AY 2022, the class placement preference survey for the second-year English Skills A and English Skills B courses has been conducted over a period of several weeks starting in mid-October. The survey targets first-year students across all nine departments. During the third and fourth quarters, students receive materials outlining the course details and instructions for responding in their English classes. They are then required to access a Google Form using their university account and submit their responses within the designated period. Each student was allowed to respond only once. **Appendix** shows the questionnaire form used in English Skills A.

2.2 Methods

The first-choice responses from AY 2022 and 2023

were aggregated for English Skills A, which all students are required to take in the first semester of their second year. The Google Form used for the survey was designed as a multiple-choice format, where students selected one choice from four options: the three class types or "Any class type is acceptable." Additionally, each student was allowed to submit a response only once per account.

3. Results

Table 4 presents the response rates for the preference surveys conducted in the AY 2022 and 2023. Even though the notification methods, content, and survey period were almost the same in both AY 2022 and 2023, Table 4 shows that the response rate dropped significantly in AY 2023. This decline can likely be attributed to the fact that AY 2022 was the first year of implementing this class placement system based on the preference survey. Since students in AY 2022 could not obtain information from upper-year students, they perceived the survey as something they had to complete and participated with a heightened sense of urgency. In reality, students who did not respond were still able to enroll in the course. As this information was passed down from the AY 2022 students to those in AY 2023, the sense of urgency surrounding the survey likely diminished, leading to a lower response rate.

Fig. 1 presents the first-choice responses for English Skills A in the AY 2022 survey, broken down by department.

Table 4 Response Counts and Overall Response Rates for the English Skills A Class Placement Preference Survey

Department	AY 2022	AY 2023
Mechanical Engineering	132 (64.7%)	91 (45.0%)
Electrical and Electronic Engineering	131 (66.8%)	125 (67.6%)
Civil Engineering	166 (81.0%)	88 (44.7%)
Architecture and Architectural Engineering	170 (73.6%)	120 (57.4%)
Applied Molecular Chemistry	150 (80.6%)	67 (38.7%)
Industrial Engineering and Management	131 (70.4%)	102 (54.3%)
Mathematical Information Engineering	109 (60.6%)	63 (38.0%)
Sustainable Engineering	106 (80.3%)	49 (37.1%)
Conceptual Engineering	101 (74.8%)	64 (45.7%)
Total	1,196 (72.3%)	769 (48.3%)

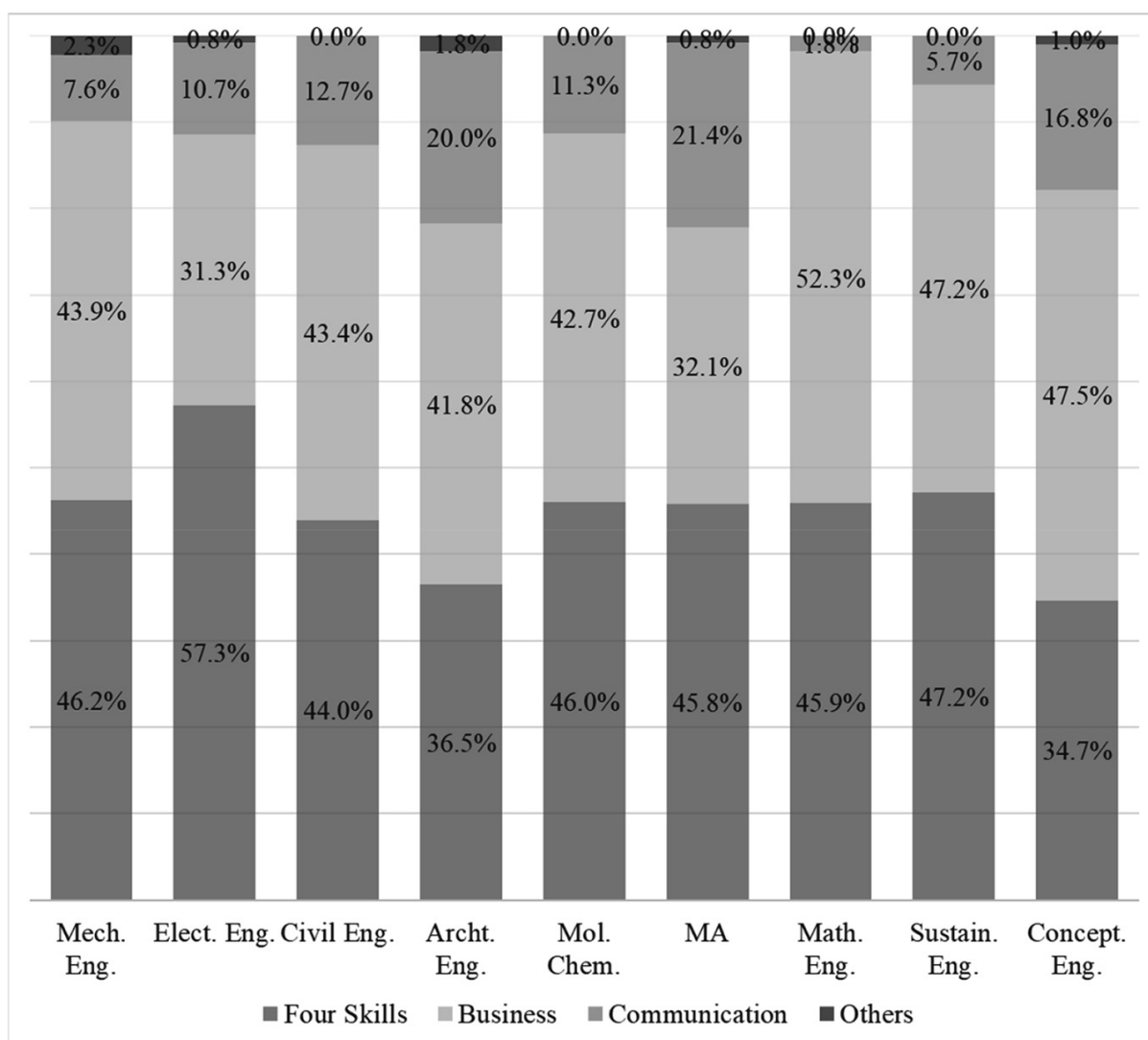


Fig. 1 First Choices for English Skills A by Department in the AY 2022 Survey

As shown in Fig. 1, for AY 2022, the Four-Skills class was the most selected first choice in five out of the nine departments, while the Business English class was the most preferred in three departments. Additionally, in all departments, both the Four-Skills and Business English classes accounted for over 30% of the total responses.

The Four-Skills class uses the same textbook as the compulsory first-year courses English I and English II. Therefore, students who selected this class may have done so for several reasons: (1) they developed a general understanding of the English courses through English I and English II and wished to continue learning similar content, (2) they preferred to complete the remaining units of a textbook they already owned rather than purchasing a new one, or (3) they were hesitant to engage in a learning approach different from previous courses and thus made a passive selection.

Students who selected the Business English class may have been dissatisfied with the content of English I and English II or wanted to study English from a different perspective.

The Speaking class had the fewest first-choice responses in all departments. However, it was relatively more popular among students in the following departments: Architecture and Architectural Engineering, Industrial Engineering and Management, and Conceptual Design. Like the Four-Skills class, this course also uses the same textbook as the first-year compulsory English courses. However, students who selected this class likely did so with the intention of shifting their focus from basic language skills to improving their speaking and presentation abilities, building upon their first-year studies.

Fig. 2 presents the first choices for English Skills A in the AY 2023 survey, categorized by department.

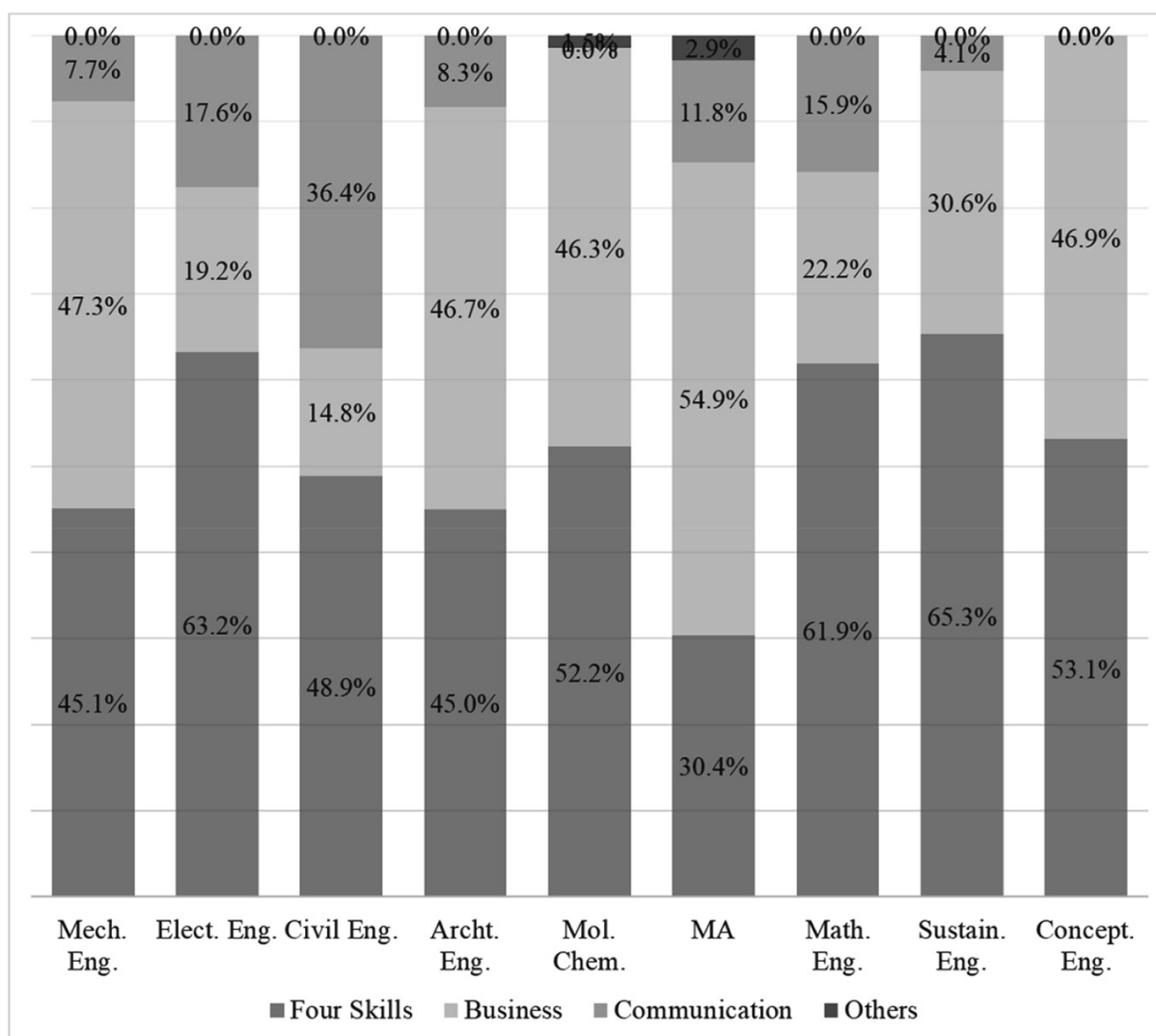


Fig. 2 First Choices for English Skills A by Department in the AY 2023 Survey

As shown in Fig. 2, the Four-Skills class was the most selected first choice in six out of the nine departments in the AY 2023 survey. Compared to AY 2022, the number of students choosing this class increased significantly. This trend is likely to be influenced by the ongoing economic challenges, such as the rising cost of living, leading more students to prefer a course that continues using the same textbooks from English I and English II rather than purchasing new ones. Additionally, the responses in the AY 2023 survey show significant differences by department compared to those from AY 2022. In the Mechanical Engineering, Architectural Engineering, and Industrial Engineering and Management departments, the Business English class was the most popular choice. In particular, the Industrial Engineering and Management department saw a majority of students selecting this option. This suggests that students in these departments, even in the second

semester of their first year, already have a strong interest in developing English skills for business settings or achieving concrete outcomes, such as improved test scores, that could serve as strengths in their future careers. On the other hand, in the Civil Engineering department, less than 15% of students chose Business English as their first choice. Instead, 36% of students selected the Speaking class, a higher proportion than in other departments. Possible reasons for this preference include students' motivation and recognition of the importance of oral communication, a preference for practical exercises over grammar and pragmatic rule-based learning, or a desire to enhance their English proficiency from a different perspective while still using the same textbook as in previous English courses.

4. Conclusion

This report analyzed the changes in the implementation of English courses at the College of Industrial Technology, Nihon University, with a particular focus on the initiatives introduced in the AY 2022 curriculum. The analysis revealed the following key findings:

First, one of the main features of the AY 2022 curriculum was the introduction of a class placement system that reflects students' preferences. This initiative aimed to enhance students' motivation for learning English by considering their interests and objectives. However, in practice, a large proportion of students chose the Four-Skills class, which can be seen as an extension of the first-year compulsory courses. This trend appears to be strongly influenced by the fact that the same textbooks used in first-year courses were assigned to this class. This suggests that when introducing new textbooks or teaching approaches, careful consideration is needed to minimize the psychological and financial burden on students.

Second, differences in class-type preferences were observed across departments. For example, in the Mechanical Engineering, Architectural Engineering, and Conceptual Design departments, over 40% of students chose the Business English class in both academic years, suggesting a stronger career-oriented mindset. This indicates that the educational goals of each department and students' career outlooks influence their decisions in English course selection. In contrast, in the Civil Engineering Department, a high percentage of students selected the Speaking class as their first choice, reflecting an emphasis on conversational skills for future job hunting and practical work settings. While these interpretations help us understand possible motivations, they remain speculative; we cannot directly infer students' intentions from their choices alone. Further investigation—such as follow-up surveys or interviews—will be essential to validate these assumptions and gain more accurate insights into the reasons behind their preferences. These findings indicate the necessity of further analyzing the specific needs of each department when designing English courses.

Additionally, students' responses in the class placement preference survey provide valuable data for curriculum

improvement. For instance, given the high proportion of students from specific departments selecting the Business English class, promoting TOEIC® or business English-related seminars and proposing new initiatives in these fields may be effective. Similarly, for students choosing the Speaking class, implementing more activity-based learning approaches to develop practical conversational skills for global settings may be beneficial. Measures such as connecting students with overseas internship programs could also contribute to aligning English education with departmental educational goals and student needs.

While the AY 2022 curriculum has expanded the potential for more flexible English education that accommodates diverse student needs, further refinements are necessary for its effective implementation. In particular, a deeper understanding of the characteristics of each department and students' psychological aspects (such as reluctance to deviate from familiar classroom practices and embrace a new type of English class) will help optimize textbook selection and class management to maximize educational effectiveness. Additionally, the issue of two quarters within the academic year during which no compulsory English courses are taken by students warrants examination. These gaps in instruction may have an impact on educational effectiveness and students' motivation. As a future task, surveys among faculty members of specialized departments and industry representatives will be conducted to explore more effective approaches to English education in the context of ESP for science and engineering students.

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Appendix Sample Questionnaire: English Skills A

(4) イングリッシュスキルAについて、第1希望を選んでください。 *

- ☐ 4技能バランス型
- ☐ 資格ステップ型
- ☐ コミュニケーション重視型
- ☐ どの授業でもよい

(5) イングリッシュスキルAについて、第2希望を選んでください。(第1希望と異なるものを * 選んでください)

- ☐ 4技能バランス型
- ☐ 資格ステップ型
- ☐ コミュニケーション重視型
- ☐ どの授業でもよい

(6) イングリッシュスキルAについて、第3希望を選んでください。(第1希望および第2希望 * と異なるものを選んでください)

- ☐ 4技能バランス型
- ☐ 資格ステップ型
- ☐ コミュニケーション重視型
- ☐ どの授業でもよい

概 要

グローバル化が進む社会の要請に対応できるよう、生産工学部ではコミュニケーション能力を養うための英語科目を必修としている。2022年に導入されたカリキュラムでは、2年次の必修英語科目について、学生を対象とした希望調査アンケートの回答に基づき、4技能を総合的に学ぶクラス、ビジネス場面の英語を重点的に学ぶクラス、また口頭でのコミュニケーションに焦点を当てたクラスの3種類へのクラス分けがなされる。本稿では、これら英語科目の運営について報告し、2022年度と2023年度のアンケート結果の傾向を分析する。結果として、いずれの年度においても30%以上の学生が4技能バランス型のクラスを選択したが、学科ごとに異なる傾向も見られた。例えば、マネジメント工学科では、30%以上の学生がキャリア目標を考慮してビジネス英語のクラスを第一志望とする一方で、土木工学科では実践的な会話能力が重視され、コミュニケーション重視型のクラスが選ばれる傾向が認められた。これらの結果から、学科ごとのニーズに対応した授業設計の必要性が示唆される。今後は、キャリアに特化した語彙やコミュニケーション活動の充実など、教材や授業内容を学科の教育目標に沿って調整することを検討する。