Teacher and student perceptions of English usage in the engineering workplace

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Descriptive Information

Problem:

Understanding English usage in the environments in which students are likely to work is an important prerequisite when developing an ESP course (e.g. Anthony, 1997; Channa, Soranastoporn, Engchuan, & Tirataradol, 2013; Cowling, 2006; Miyama, Kanzaki, Noguchi, Sasajima, & Terauchi, 2000). Typically, this might involve an extensive needs analysis of both the professional and academic arenas into which learners matriculate. However, due to logistical and pragmatic reasons (e.g. time and access limitation) such a needs analysis is not always conducted. In such a situation, course content is often determined according to the tacit understanding of professional environments held by the course designers/teachers (Anthony, 1997; Cowling, 2006; Gilabert, 2005). Therefore, it is important that this tacit understanding be accurate otherwise learners may well be unprepared for the realities of post-university professional English usage. This poster reports the results of a needs questionnaire distributed to companies (n=136) who often employ graduates of an engineering faculty at a Japanese university. The same questionnaire, after slight adaptation, was administered to faculty (n=71) and student populations (n=1713) of that institution.

Procedure:

In the spring semester of AY2014, questionnaires were distributed to numerous employers of Ehime University engineering students. The same questionnaire, after slight adaptation, was administered to faculty and student populations.
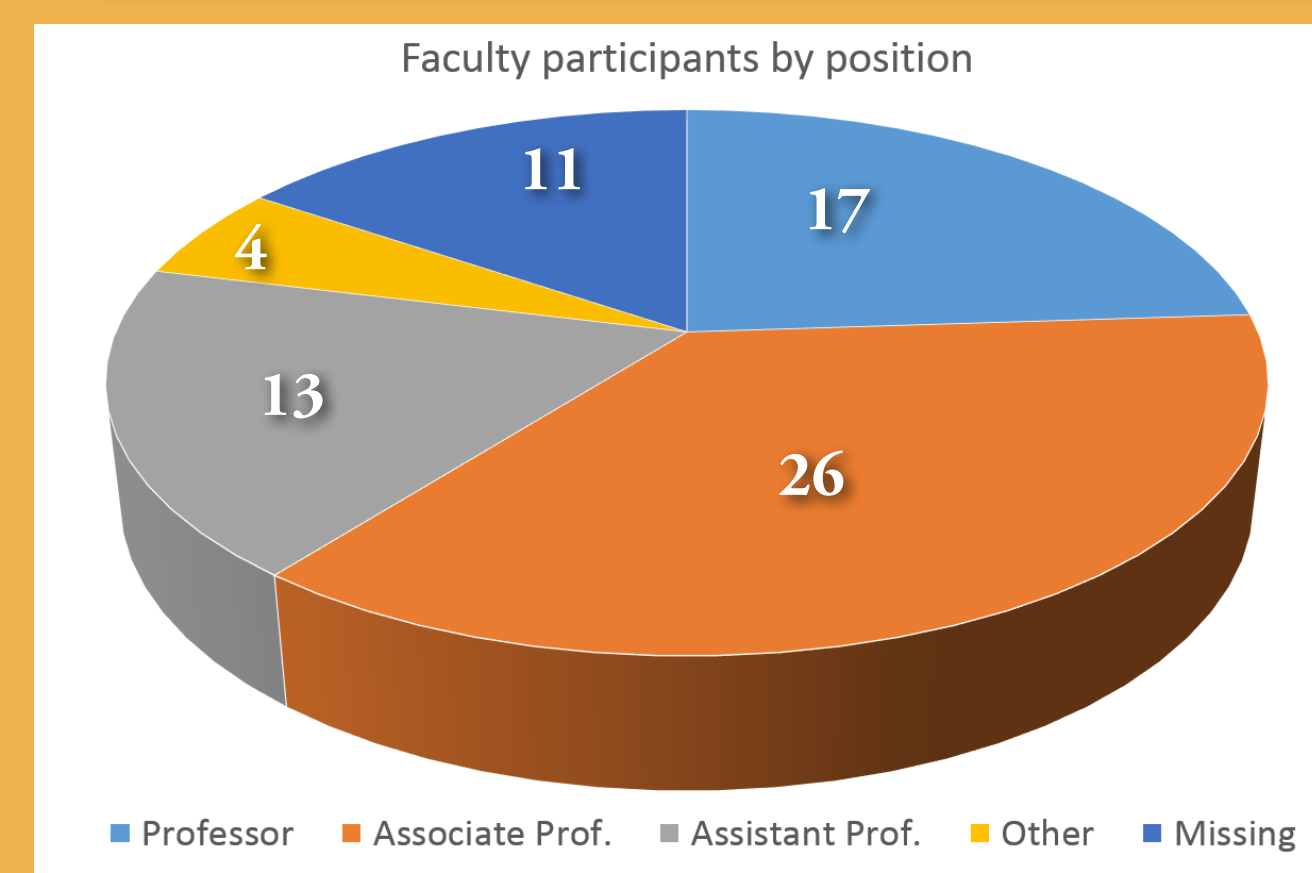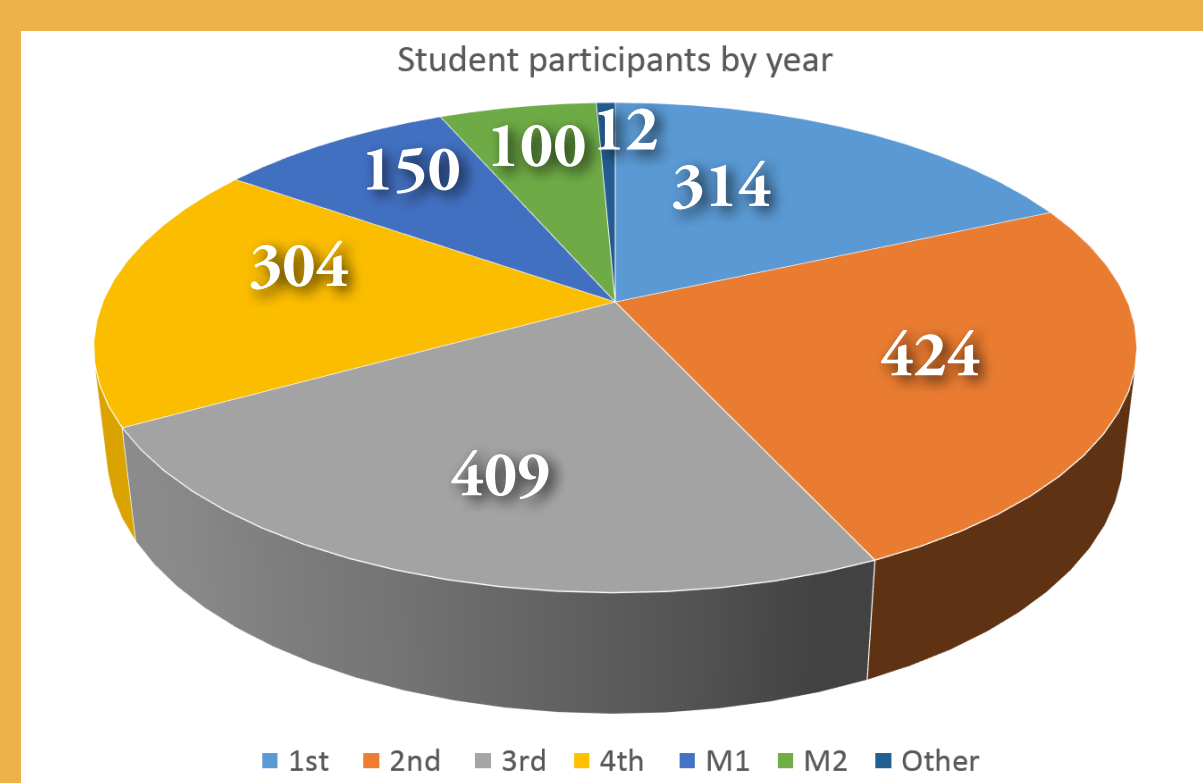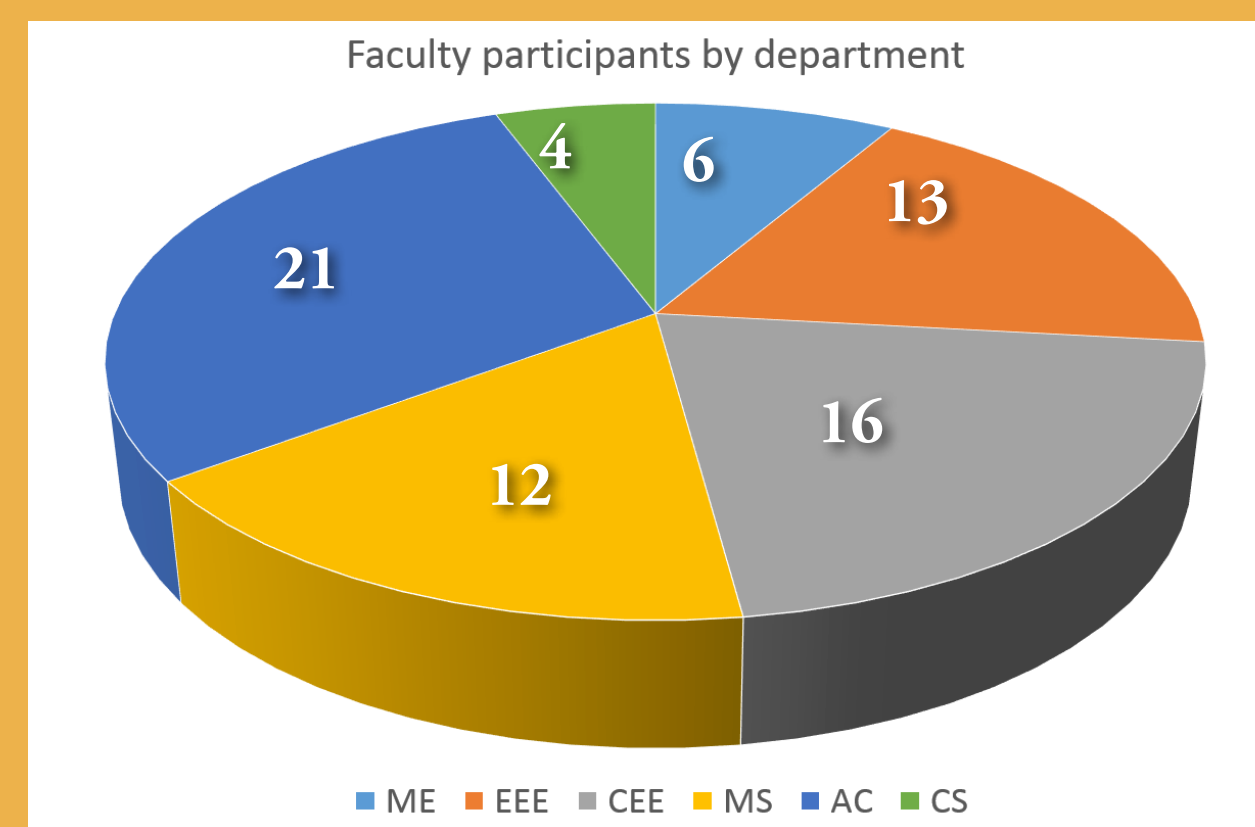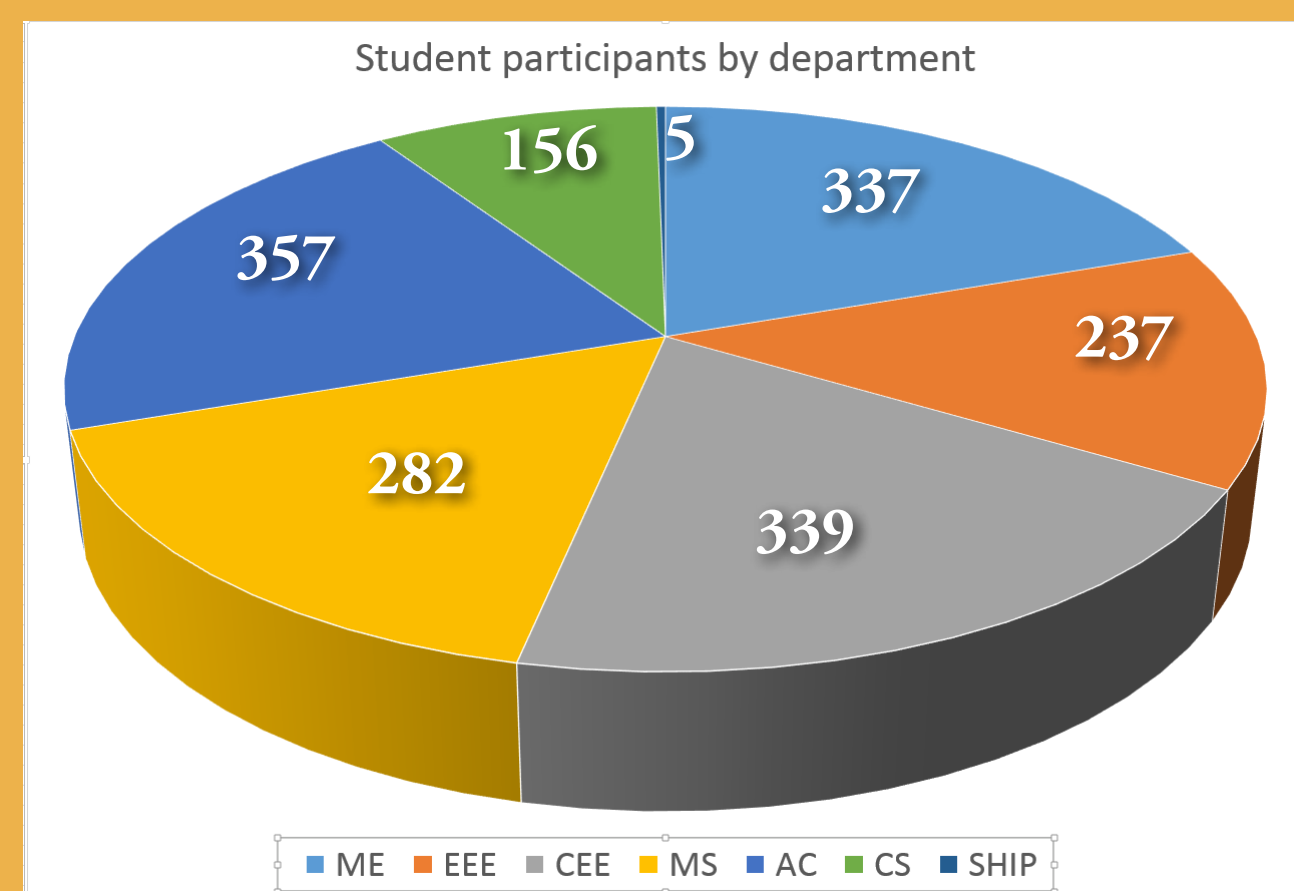
Company participants by industry

Group	Number	%
製造業	95	69.9
建設業	16	11.8
卸小売業	9	6.6
複合サービス業	6	4.4
情報通信業	4	2.9
運輸業	2	1.5
Other	3	2.1
Missing	1	.7
Total	136	100.0

Company participants by company size
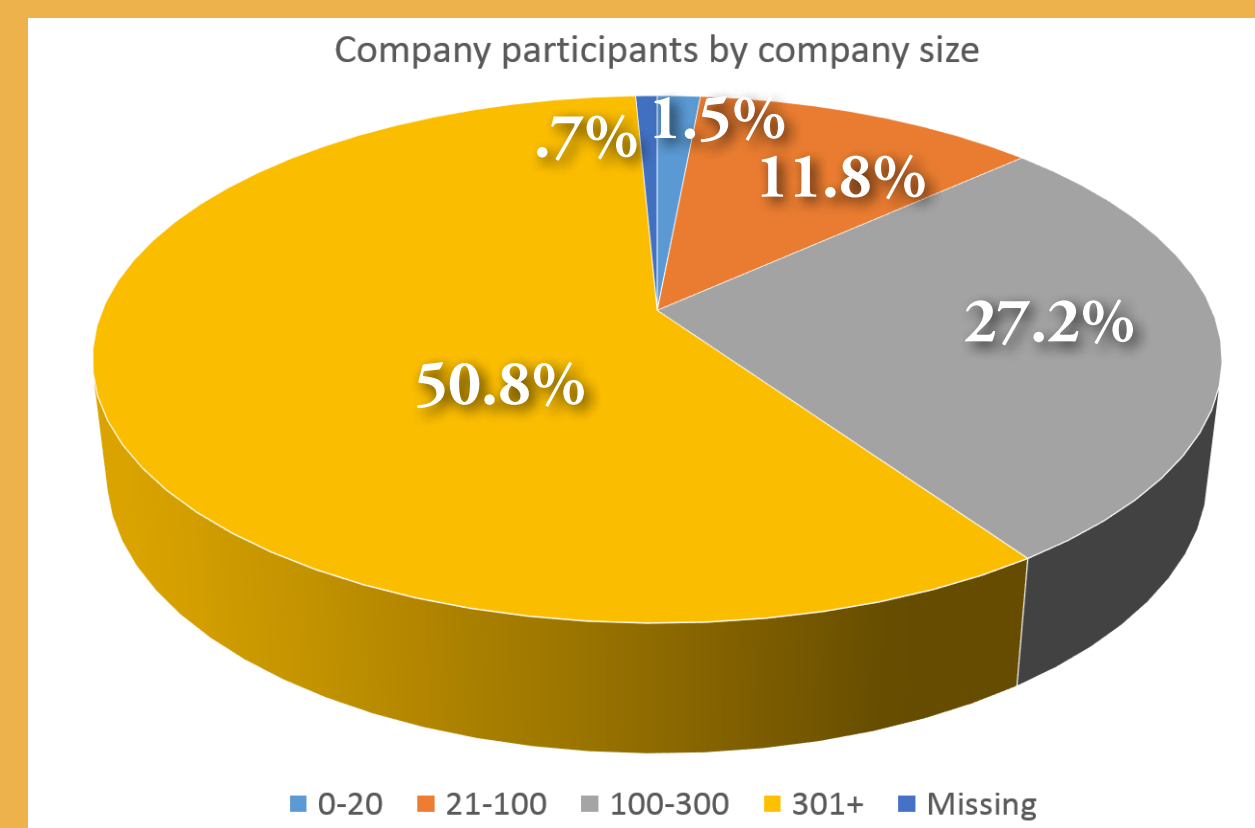
Participants by group

Group	Number	%
Industry	136	7.1
Faculty	71	3.7
Students	1713	89.2
Total	1920	100.0

Student participants by department

Faculty participants by department

Student participants by year

Faculty participants by position

Comparative Analysis

1. Answers to the question "Is English an employment condition at your company?" Participants chose from three answer choices: *Necessary; Unnecessary;* and *Desirable*. The data show that students and teachers believe English to be a more important criterion for entering employment than companies. Furthermore, this is true for those companies with a presence in urban areas (kansai, kanto), and foreign countries.

Group	n	"Necessary"	"Unnecessary"	"Desirable"	Missing	Total
Companies	136	4.4%	30.9%	64.7%		100%
Urban	78	5.1%	33.3%	61.5%		100%
Overseas	16	12.5%	25%	62.5%		100%
Teachers	71	22.5%	9.9%	66.2%	1.4%	100%
Students	1713	51%	4.3%	44.4%	4%	100%

2. Answers to the question: "What skill is most needed by companies?" There is a clear difference between the impressions of the participating teachers and students. Teachers regard reading as the most important skill (57.7%); whereas students consider speaking to be most desirable (43.5%).

Group	n	Speaking	Listening	Writing	Reading	Grammar	Missing	Total
Teachers	71	8.5%	9.9%	14.1%	57.7%	5.6%	4.2%	100%
Students	1713	43.5%	21.7%	3.7%	29.7%	1.2%	4%	100%

Although the same question was not submitted to the industry participants, the answers to part 3 of the questionnaire, imply that all four skills are important. The results of part three also revealed some differences between the three groups.

a) It seems that in general, teachers and students imagine English to be much more important to companies than industry participants indicate. In fact, a look at the mean for all Part 3 questions is revealing: All companies 3.06; urban companies 3.12; overseas 3.71; Teachers 4.33; Students 4.40.

b) Independent samples t-tests were conducted on the responses of teacher and student participants. The results indicate that the impressions of these two groups are highly similar. In fact, only one statistically significant difference was found (Write Reports). ** ANOVAs showed significant differences on all items between industry and the other two groups

c) t-tests were conducted to compare urban with non-urban companies, and international and domestic companies. No statistically significant differences were found between urban and non-urban groups; however, statistically significant differences were found between the responses of international and domestic companies. These are indicated with an asterisk below.

d) It seems that teachers and students overestimate the importance of academic skills to companies. For example, teachers and students consider reading an academic paper and giving a presentation to be very important; however, these skills are not considered necessary by industry participants.

e) Conversely, industry seems to value business English (emails, TOEIC, etc.) more than academic English.

f) A comparison of the rankings (response – high to low) for each group indicates that there is little agreement between industry, and teachers and students. Furthermore, this disagreement appears indicative of the divergent focuses of the groups: industry seem to prefer business English, whereas faculty and students prioritize academic skills such as reading an academic journal, giving a presentation, etc.

3. The qualitative data gathered during the questionnaire adds additional support to the above findings.

References

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Miyama, A., Kanzaki, Y., Noguchi, J., Sasajima, S., & Terauchi, H. (2000). Theory and Practice of ESP. Tokyo: Sanshusha.

Group	n		Speaking Explain Products	Telephone	Give Presentations	Discuss	Meetings	Give Instructions	Listening Receive Instructions	Listen to Presentations	Non-tech. Language	Reading Academic Reading	Read Correspondence	Writing Write Reports	Write Correspondence
Industry	136	Mean	3.13**	3.11**	2.92**	2.83**	2.91**	2.76**	2.87**	3.08**	3.18**	3.05**	3.59**	2.99**	3.38**
		SD.	1.52	1.42	1.46	1.46	1.50	1.41	1.46	1.41	1.30	1.46	1.46	1.41	1.52
		Rank	4	5	9	12	10	13	11	6	3	7	1	8	2
Urban	78	Mean	3.23	3.05	2.95	2.93	2.95	2.92	2.96	3.14	3.28	3.24	3.53	3.00	3.37
		SD.	1.66	1.44	1.48	1.56	1.55	1.55	1.57	1.47	1.35	1.60	1.56	1.47	1.63
		Rank	5	7	10	12	10	13	9	6	3	4	1	8	2
Overseas	16	Mean	4.13*	3.53	3.67*	3.73*	3.67*	3.73*	3.53	3.60	3.67	3.67	3.87	3.80*	3.67
		SD.	1.69	1.30	1.45	1.49	1.45	1.62	1.30	1.30	1.05	1.88	1.19	1.37	1.50
		Rank	1	12	6	4	6	4	12	11	6	6	2	3	6
Faculty	71	Mean	4.18	4.08	4.55	4.37	4.17	3.86	4.42	4.55	3.87	4.80	4.69	4.25	4.52
		SD.	1.54	1.34	1.24	1.29	1.27	1.31	1.23	1.22	1.38	1.34	1.23	1.44	1.32
		Rank	9	11	3	7	10	12	6	3	13	1	2	8	5
Student	1713	Mean	4.31	4.26	4.67	4.45	4.36	4.03	4.62	4.65	3.98	4.67	4.42	4.46*	4.33
		SD.	1.25	1.32	1.18	1.21	1.24	1.24	1.22	1.12	1.27	1.16	1.21	1.20	1.21
		Rank	10	11	1	6	8	12	4	3	13	1	7	5	9