

Developing English Language Education in the Faculty of Human Sciences

人間科学部での英語言語教育の発展

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〈Abstract〉

The previous study (Lynch, 2018) investigated the situation of English language education in a Japanese university in Ishikawa, Japan, and focused on the Faculty of Human Sciences (comprising the Department of Childcare Studies, and the Department of Sport Science). It laid out benefits of English language education in that faculty, and then argued for quality English education for all students, not only for the high performers, in the form of quality teachers assigned to each class. That research found that, of the teaching staff, the more able teachers were assigned to students with the highest initial skills, with the others assigned to lower levels. This situation, it was pointed out, could result in a “low skill trap” for lower students, despite all paying the same tuition fees and having similar goals. This paper expands the previous research by adding new research data, increasing the data set and making the study more robust. It brings in ideas such as the learning curve model combined with the diminishing returns model. It concludes by calling for the faculty in question to take charge of its English programme in order to ensure better quality teaching resources.

〈Keywords〉

educational opportunity disparity, teacher assignment, English language education

1. Introduction

1-1 Equal educational opportunities?

Previous research (Lynch, 2018) found that positive educational discrimination (the assigning of higher performing teaching staff to higher ability students) can exist in English language education in Japanese universities, and is naturally coupled with corresponding negative educational discrimination (lower level teachers consistently assigned to lower ability students). This suggested that students entering a university do not have equal educational opportunities, despite paying the same fees, and having similar goals (of completing the university prescribed course). The students in the previous study all took the same in-house examination (mock-TOEIC paper), both at the beginning of the academic year and, again, at the end of the year, and all were in their first year of university. The student cohort (of about 600 newly

entering freshmen) were split up into groups of approximately 30 students, designed to put them with others at or about their level, and then a teacher was assigned to each class. A trend was found in which previously higher performing teachers were assigned the highest ability classes, while the lower level students were assigned teachers who performed less highly in previous years. The data used to gauge teachers performance was the performance of their students after one academic year of English language education using the same test taken after one year.

1-2 Diminishing returns in educational investment

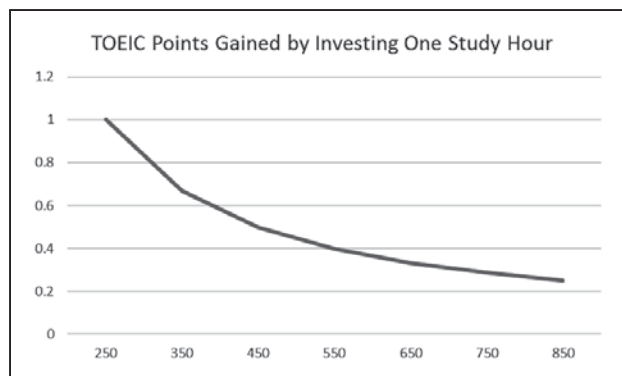
Initially, students who were at a low level were expected to increase their skills by a greater percentage than higher level students, according to a theory that suggested increasing one's score from a low place is easier

than from a high place, especially in percentage of initial score terms (see Lynch, 2015, for an in-depth discussion on this, or read the following short explanation). As the placement test was a TOEIC-style one, we can look to the TOEIC related research for evidence to back up this expectation. Bois-Simon (2000) takes evidence from Childs (1995), and Saegusa (1985), and cross references it to the TOEIC parent company's website (ETS) to find the study hours needed to gain one TOEIC point at various beginning levels. The data is reformatted to a table, below (Table 1).

Initial TOEIC Level	Study Hours to Gain One TOEIC Point
250	1
350	1.5
450	2
550	2.5
650	3
750	3.5
850	4

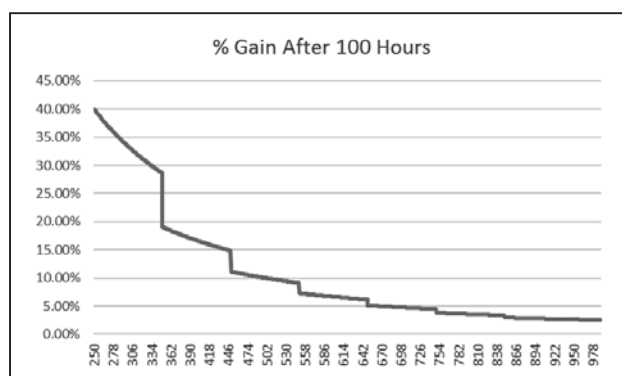
Table 1: Study Hours Needed to Gain One TOEIC Point, According to Initial Student Ability (from Bois-Simon, 2000)

It can be seen that, as a student's ability increases, it becomes more difficult (i.e., needs a bigger investment in terms of time at least, and presumably cognitively and even financially - in order to purchase supplies such as mock tests and study guides, and provide human resources including teachers) to improve further. The above time investment can be put in another way, showing how many (TOEIC) points can be gained by each hour of English study. This then shows how the expected gains decrease as the student's ability increases, for each hour of study. This is more relevant to this research as each of the classes (and each student in each class) under research for this paper are expected to study for the same number of hours, as they have the same curriculum and a common syllabus for English classes. The expected gain in points, or part points, (y-axis) per study hour for students according to their initial skill level in terms of TOEIC points previously obtained or their presumed level (x-axis) is shown in the following graph (Graph 1).



Graph 1: TOEIC Points Gained per Hour Invested at Each Initial Skill Level

Lynch (2018) gave research findings in terms of the percentage gain (in ability, inferred from the gain in TOEIC points on an in-house TOEIC mock test) realized by students, grouped by teacher. Therefore, to fit with that data, the above is recalculated to express the data in terms of percentage gain (as a percentage of the original score). The resultant graph is below (Graph 2). A reference of 100 study hours is used (instead of one study hour, above) to avoid showing tiny percentages. The y-axis shows what percentage of their current score they are expected to gain/improve after 100 hours of study, and the x-axis shows the current ability in terms of TOEIC points.



Graph 2: Percentage Gain per 100 Hours Study Invested at Each Skill Level

It should be stressed that the above graph does not show decreasing ability (all of the gains shown are in positive territory), but that the ROI (return on investment) decreases as a student's ability increases. Of course, it could be argued that the return (the 'R' in 'ROI') comes in other forms, such as confidence using a language. However, for the purposes of this study, the return is measured in terms of the percentage gain realized by students.

The above can be confirmed with different data sets for English language education by referring to Lynch (2015), where a case for considering a law of diminishing returns model to combine with, and then supersede the learning curve model was put forward.

1-3 Managed education

The education of the students was managed by assigning two teachers to each class. One teacher was put (mainly) in charge of reading and writing skills, while the other was assigned the same class for listening and speaking skills, as outlined in Lynch, 2018. The teachers taught separately, and did not have to meet or discuss. What was common was the class TOEIC textbook (similarly, with Teacher 1 in charge of the reading section, with Teacher 2 covering the listening section of the two-skills TOEIC examination training), while another class textbook was chosen independently by each teacher.

The academic year was divided into four quarters (Q1, Q2, Q3, Q4), with Teacher 1 taking Q1 and Q3, while Teacher 2 was responsible for Q2 and Q4. At the end of Q2, students had a placement test which allowed them to move out of their class and up (or down) to another level. In general, however, most students remained in the same class and this was particularly true for the highest and lowest class. One reason for this could be connected to the question this paper attempts to tackle: that the highest level classes were assigned the highest performing teachers, while the lowest level classes had the lowest performing teachers assigned to them, resulting in the students with initially greatest ability performing even better, while those with initially lowest ability tended not to gain any ground. This is in direct contrast to what was expected based on the argument in 1-2 of this paper, *Diminishing returns in educational investment*.

The next sections add new research data to the study, and should be read after perusing the previous paper, *The Situation of English Language Education in the Faculty of Human Sciences in a Japanese University* (Lynch, 2018). What is different about this paper is that, for some of the data, the previously “top performing” teachers were not assigned the top class, allowing us to gain new insights.

2 Data Collection

2-1 Teacher Analysis (results of their students)

As before, student results for the faculty in question (the Faculty of Human Sciences) were gathered together with those of another faculty in the same university. The reason is that the same teachers can be in charge of students in either faculty, or both, so there is benefit in adding data regarding teachers’ performance in other faculties. All students, regardless of the faculty they belonged to, followed the same common syllabus with the same common textbook, and the same ability test (and it was even taken at the same time).

Data was collected for the 2015 academic year. All students under consideration in this study (n=587) were freshmen, the TOEIC was used on entering the university for placement and initial level data recording, while an in-house created TOEIC was used at the end of their first year of English language education in order to reveal the gains (or otherwise) made during the year of study.

However, in order to create more accurate data (data that can be compared, in terms of comparing a beginning point and a comparable end point), we have to consider whether or not the beginning point is a “valid” one. In order to do that, we should consider the TOEIC, and the chances of getting a score that is greater than one that should be achieved, on average, by simply guessing answers randomly. To do that, let’s first carry out a basic consideration of the structure of the TOEIC.

TOEIC Part	No. of Questions ①	Multiple Choice Options ②	Average Random Score ①/②
1	10	4	2.5
2	30	3	10
3	30	4	7.5
4	30	4	7.5
5	40	4	10
6	12	4	3
7	48	4	12
Total	200		52.5
Avg.pts/item	4.95		4.95
TOEIC Score	990		259.875

Table 2: Question Style and Random Expected Score of the TOEIC

The TOEIC is a test that gives a maximum of 990 points on 200 multiple choice questions (therefore, approximately 5 points per question, with some leeway for later adjustment for difficulty). A breakdown of the TOEIC was referenced from the parent company, ETS (ETS, 2015), and is shown below, in Table 2. Note, that the breakdown is for the TOEIC that was used in the year in

question, 2015 (as since 2017 a new version of TOEIC was introduced, so the question format slightly changed, although it has not changed a great deal).

From Table 2, it can be seen that, for someone attempting the TOEIC with no English ability at all, they should be able to get about 260 points based on guessing

Teacher	Class Level Assigned (1=highest)	Human Sciences:1 Other dept: 0	2015 Avg. Apr. 2015 ~	2015 Avg. ~ Feb. 2016)	% Change in Student Scores	Avg. % Change of All Classes	Performance Ranking
C	11	1	348	366	5%	13%	8
	2	0	408	492	21%		
D	31	0	298	349	17%	17%	3
	9	0	353	411	16%		
E	35	0	285	335	18%	10%	12
	13	0	344	373	9%		
	7	0	370	380	3%		
	21	1	322	353	10%		
H	29	0	298	320	7%	11%	10
	17	0	330	405	23%		
	15	0	335	366	9%		
	11	1	348	366	5%		
I	31	0	298	349	17%	16%	5
	19	0	330	355	8%		
	17	0	330	405	23%		
J	2	0	408	492	21%	21%	1
K	2	0	408	492	21%	21%	1
L	25	0	314	329	5%	4%	14
	5	1	376	409	9%		
	23	0	316	314	-1%		
M	27	1	299	371	24%	17%	4
	15	0	335	366	9%		
N	29	0	298	320	7%	11%	9
	7	0	370	380	3%		
	27	1	299	371	24%		
P	25	0	314	329	5%	10%	11
	13	0	344	373	9%		
	21	1	322	353	10%		
	9	0	353	411	16%		
Q	35	0	285	335	18%	16%	6
	1	0	412	497	21%		
	5	1	376	409	9%		
	33	0	292	336	15%		
R	23	0	316	314	-1%	-1%	15
S	33	0	292	336	15%	15%	7
T	19	0	330	355	8%	8%	13

Table 3: Teacher Performance over One Year as Reflected by Student Results in TOEIC in 2015

the answers to all the questions and having average luck. Therefore, with this in mind, we disregarded the scores of students who scored 260 points or less as we cannot be confident that their scores are indicative of English ability. Of course, the reasons a student scores 260 points or lower can be varied, such as having low English ability, not understanding how to do the test, falling asleep during the test, not caring enough about the test, personal sabotage, or even simple bad luck. In any case, only students who scored over 260 points on the TOEIC are included, resulting in a smaller data set ($n=587$ becomes $n=313$).

Table 3, below, shows the teachers (labeled with alphabetical markers matching those they were given in Lynch, 2018), the class level (as decided based on the placement test at the beginning of the academic year), as well as the final teacher performance ranking calculated based on the percentage increase seen in their students.

The above data should be viewed together with the data in the previous study by Lynch (2018). Examination of the data above finds that the students in the Faculty of the Human Sciences are not the highest level assigned, and the highest level when they begin is level 5. This means that the higher levels (level 1-4) will be assigned better teachers (meaning, teachers who can increase their students' scores by a larger amount). This should be seen as a threat to the quality of English education in the Faculty of the Human Sciences. Looking at Table 3 above, it should be clear that, for the upper echelon of students (say, the top five classes by rank), the Faculty of the Human Sciences students are not improving as much as their peers in other departments.

The data reveals a lot more, and this will be dealt with in further papers. For this paper, the point is made that the Faculty of the Human Sciences students are possible not receiving the best care or opportunities that their peers in other departments are, despite paying the same fees.

3 Conclusion and Discussion

This paper discussed the expectations that can be made regarding the percentage improvement in students' English language ability, when measured using a (mock) TOEIC examination. It showed that the increase should reflect a diminishing return for time and resource input and, in contrast, revealed that that is not the case in the cohort under study. Furthermore, the data exposed the fact that the more able of the student in the Faculty of the Human Sciences were, possibly, not being assigned the best teachers (meaning the teachers who are able to increase the scores of their students as much or more than their peers in other departments). The quality of teaching, and the attainment of high results should be critically examined by the Faculty of the Human Sciences in order to provide them with a better learning environment (that is, if an improvement in examination scores is a goal of that department).

Interestingly, in one of the following years to this study (namely, in the 2017 academic year), one of the best performing teachers was assigned to teach a class of students from the Faculty of the Human Sciences. This data, when gathered and analyzed, will provide an insight into whether assigning a more adept teacher is a solution to improving the quality of English education in that department.

In any case, this paper hopes to have provided reasons to focus on teacher rotation and on strategically assigning them to classes, or may even support the argument that the Faculty of the Human Sciences should hire their own high quality teachers, rather than being assigned them from a pool of university-wide teachers. This would allow greater quality control.

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