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Relating Academic Fields and Career Paths after College Education in Japan: Through Comparison of the Trend in National and Local Public Universities

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Abstract

This study aims to find efficient ways of future career-path selection by high school students by visualizing the relationship between academic fields and career paths after college graduation. In this study, we examine the relationship between major fields and career paths after college graduation by comparing types of universities: national or local public universities. Through the analyses, some differences were found in the distribution of the ratio of sub-classification of specialized/technical jobs that national and local public university graduates choose, suggesting the relationship between academic fields and career paths after college differs also by type of university. These results imply the value of the information provided for choosing the college and the major academic field in relation to the future career path.

Keywords: international recognition of qualifications, career path selections, academic fields, national university, public university, career paths after college education, career education

1 Introduction

It has been criticized that excessive diversification of the nomenclature of major fields appearing in diplomas might disrupt the international recognition of qualifications issued by Japanese higher education institutions [1]. This problem impacts high school students' choice of college major in Japan. Career advisors in high schools, in fact, strongly require colleges to make "faculty/department names understandable" as it is difficult to understand/foresee learning content and career paths after college graduation, given the too much variety of academic fields appearing in these names [2]. It is also suggested that, for prospective students, having a long-term vision for their future career at the stage of college selection will provide clearer foresight for choosing the majoring field and relevant aspired occupation, and will lead to higher satisfaction in college life and higher success rate in future job-hunting [3]. Given these findings, it is considered to be necessary to clarify the relationship between academic fields and career paths after graduation to secure efficient and appropriate career paths selection.

A previous study examined the relationship between academic fields and career paths after college. It showed that studying a specialized area of the profession, such as Engineering or Health Sciences, has been related to employment in a specific occupation and industry, while studying an interdisciplinary major, such as Humanities or Social Sciences, has been linked to

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jobs in a wide variety of occupations [4]. However, that study did not examine the characteristics of universities, such as years of establishment, size of student bodies, and other specific traits that would relate to career paths after graduation.

Therefore, this study aims to find effective ways for career path selection for high school students by examining the relationship between academic fields and career paths by type of the university. For a start on research from this perspective, we focused on the national and local public universities (national universities and public universities, hereafter). Both are universities established with public funds. However, the roles of national and public universities differ significantly: national universities tend to have a nationwide focus, whereas public universities place a greater emphasis on their connection to the local society. We examine how these differences in roles are related to the employment trends of graduates focusing on the major fields.

2 Method

The School Basic Survey data on the occupations immediately after graduation from national and public universities (FY 2018-22) were used. Nominal data on the career paths of all graduates from 82 national and 88 public universities have been classified into 12 occupations, 18 industry categories, and 11 academic categories (Table 1 and 3) [5].

As for the occupation classification, specialized/technical jobs have 14 kinds of sub-classification (Table 2). Since the School Basic Survey is a complete census, this study chiefly relies on descriptive statistics for data summary and presentation. The ratio of graduates' occupations, sub-classification of specialized/technical jobs, and industries they entered by academic field were calculated based on the average value with a five-year window.

Because no public university had departments of Merchant Marine Science, the field was excluded from analyses. Also, following [4], each occupation/industry category with shares of less than 1% and 1-10% have been merged into categories "less than 1%" and "1-10%," respectively.

Table 1: Classification of occupation

	Occupation classification
1	specialized / technical workers
2	administrator
3	desk work
4	sales clerk
5	customer service
6	maintenance security
7	agriculture, forestry, fisheries
8	manufacturing line, laboring
9	transportation, machinery operation
10	construction, mining job
11	carrier, cleaning job
12	others

Table 2: Sub-classification of specialized / technical workers occupation

	specialized / technical workers classification
1	researcher
2	technical in agriculture, forestry, fisheries
3	technical in manufacturing(development)
4	technical in manufacturing (other than development)
5	technical in architecture, civil engineering, surveying
6	technical in information processing, communication
7	other technologist
8	teaching
9	doctor / dentist, veterinary, pharmacist
10	health nurse, midwife, nurse
11	medical technician
12	other health/medical worker
13	art, photography, designer, music, show business
14	others

Table 3: Classification of industry

	Industry classification
1	agriculture, forestry
2	fishery
3	mining, quarry, gravel-digging
4	construction
5	manufacturing
6	electricity, gas, thermal energy, water supply
7	info-communication
8	transportation, postal service
9	wholesaler, retailer
10	finance, insurance
11	real-estate dealing, property lease
12	academic/development research institute, specialized/technical service
13	accommodation, food-service
14	business related to living, entertainment
15	school education, learning support
16	medical service, welfare
17	multiple service supplier
18	other service supplier
19	national government, local government
20	others

3 Results and Discussion

The ratio of graduates' occupations, sub-classification of specialized/technical jobs, and industries that graduates entered by academic field are shown in Figures 1, 2, and 3, respectively.

In Figure 1, both types of universities show tendencies similar to those found in [4], which is studying a specialized area of the profession, such as Engineering or Health Sciences, has been related to employment in a specific occupation and industry, while studying an interdisciplinary major such as Humanities or Social Sciences has been linked to employment in a wide variety of occupations. It is noted that, in Home Economics, the ratio of "specialized/technical jobs" with public universities is around 70% and more than twice that of national universities.

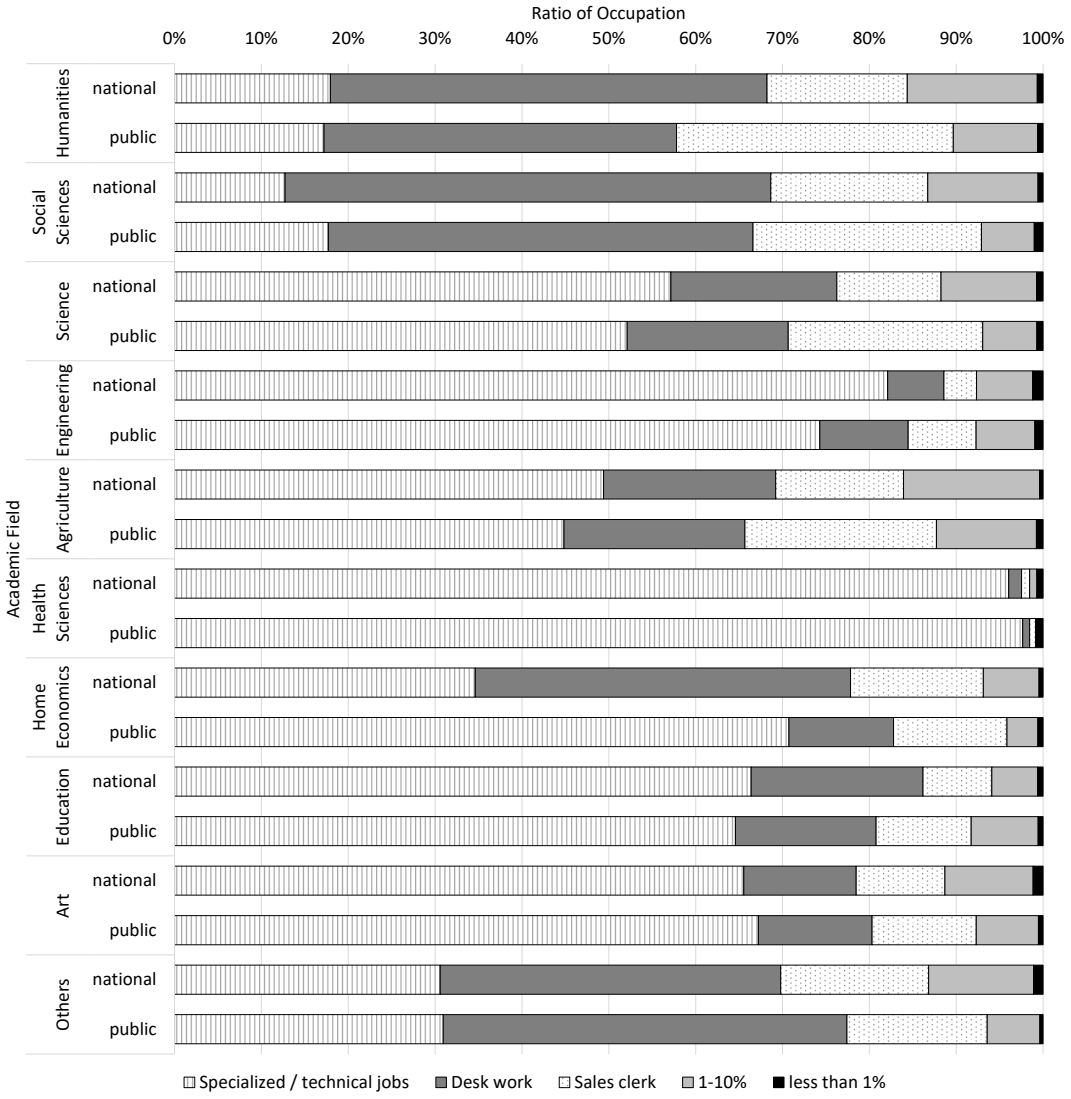

Figure 1: The ratio of occupations of graduates by academic field

In Figure 2, some difference was found in the distribution of the ratio of sub-classification of specialized/technical jobs. For example, in the field of Education, the ratio of "teaching" in national universities is around 85% and higher than that of public universities (50%). On the other hand, in Health Sciences, the ratio of "doctor/dentist, veterinary, pharmacist" in public universities is around 75% and higher than that of national universities (60%).

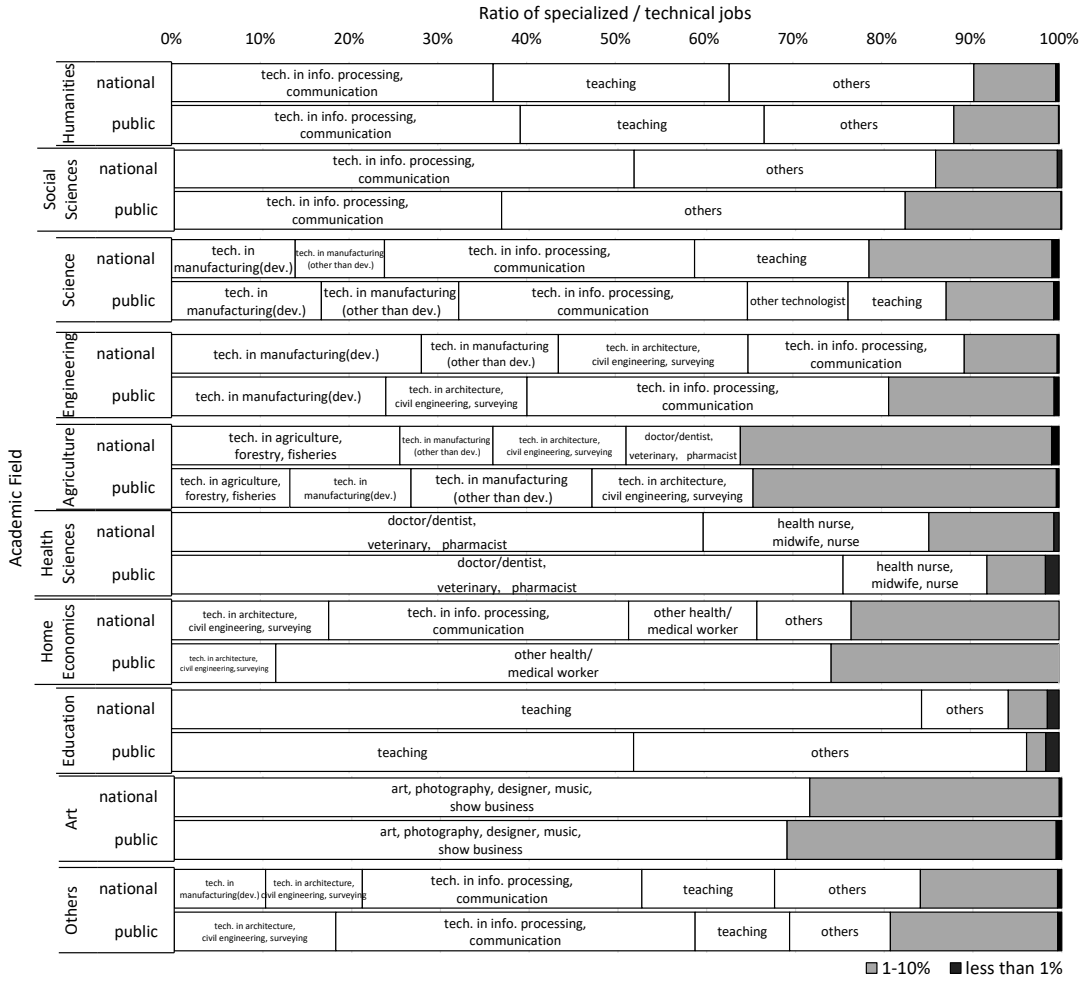

Figure 2: The ratio of graduates with specialized/technical jobs by academic field

As seen in Figure 3, the ratios of "manufacturing," "info-communication," or "wholesaler/retailer" were over 10% in every academic field in both types of universities except for the fields of Education and Health Sciences. Moreover, 60% of the graduates studied in the field of Education entered the "school education/learning support" industry, while the ratio was less than 40% with those from public universities.

It is suggested that expectable career paths after graduation vary, defined not just by major fields but also types of universities. This finding can help career consulting at high schools. In college choice, advisories on a high level of cohesiveness in career paths within some academic fields will be available, which provides concrete prospects. Additionally, emphasis on employability, even in non-mainstream fields, will be possible. By visualizing objective data, career guidance tailored to the characteristics of each student becomes realistic.

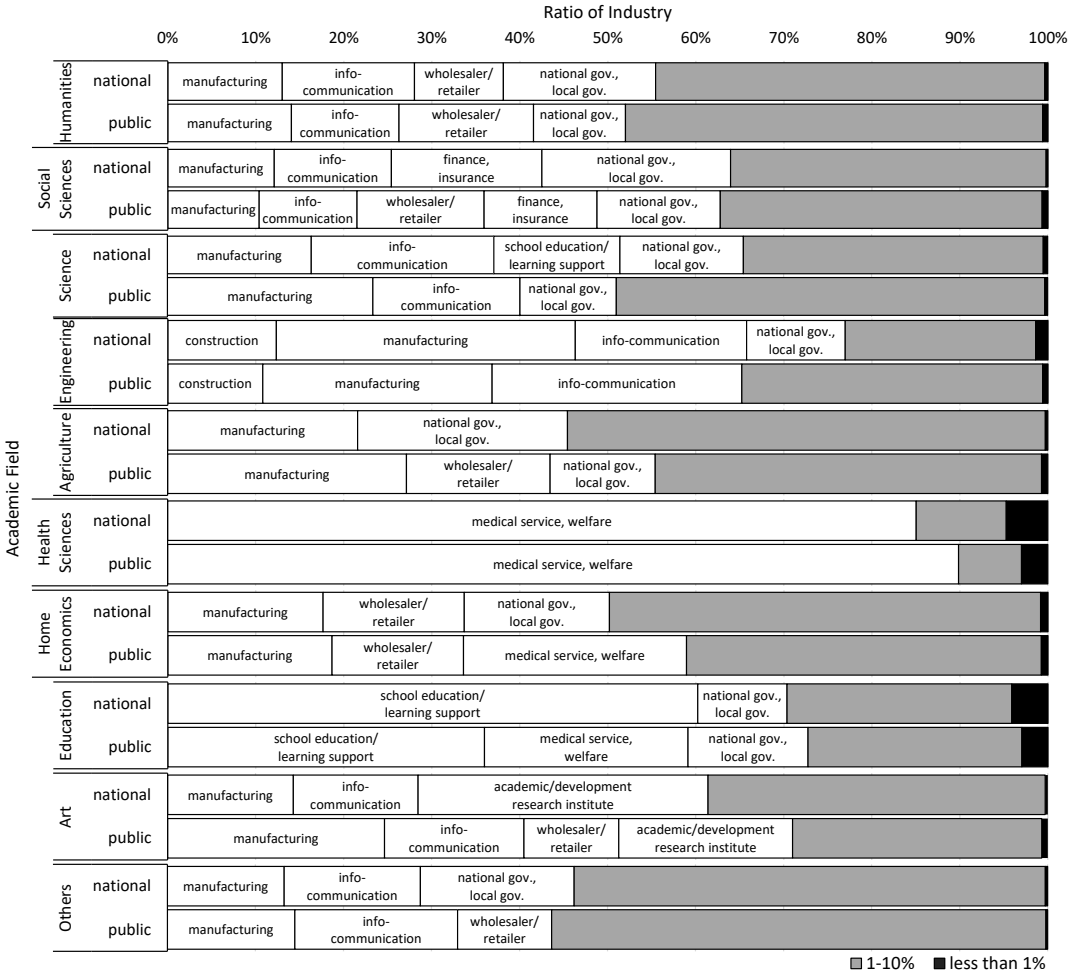

Figure 3: The ratio of industries graduates entered by academic field

Acknowledgement

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