

An Empirical Study of Entrepreneurship and Identity Education in Japan

Abstract

Project based learning (PBL) prepares students for academic, personal, and career success. Although there are many concrete examples of PBL, many only include school teachers as leading PBL education. This paper clarifies the role of the local company in entrepreneurship and local identity education and verifies its effects. A cohort study was used for this experiment, in which 160 eleventh grade students from a high school in Fukui Prefecture in Japan participated. The participants were divided into two groups, with one group working with local companies, and the other being taught only by the school's teachers. Over the experimental year, the students self-evaluated their learning and the numerical educational effect differences were assessed, from which it was found that the company group experienced significant "local identity" and "entrepreneurship" growth.

Key words

education, entrepreneurship, identity, project based learning

1. Introduction

Japan’s postwar economic growth was extremely rapid up until the 1980s, with the period from the 1950s to the 1980s being classified as “Efficiency-Driven Economic Growth.” At that time, a catch-up education style was employed and found to be efficient. However, from the beginning of the 1990s to the present, Japan’s economic growth slowed significantly and was reclassified as “Innovation-Driven Economic Growth;” however, the catch-up education style was maintained even though

education in entrepreneurship and innovation was required.

At the same time Japan was experiencing a significant population decline, especially in the provinces. As shown in Fig. 2, although the population was decreasing across Japan, the decreases in the provinces were much higher, as shown in Fig. 3.

The background to this study is, therefore, the need to tailor Japanese education to its economic conditions, and the provincial population decrease.

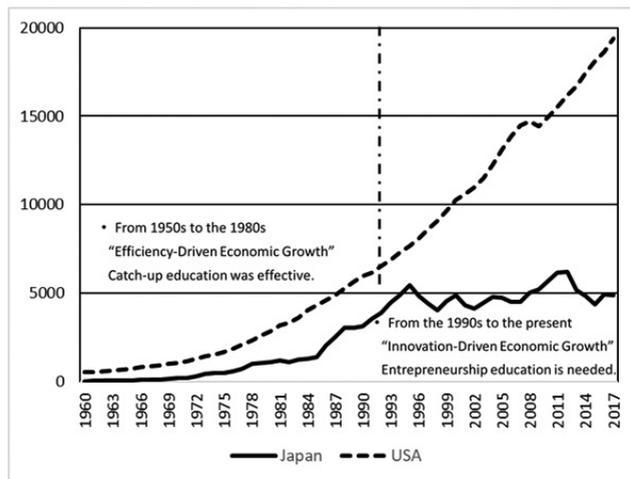


Figure 1. Japanese and USA GDP Transition from 1960 to 2017 (current US billion \$)

Source: World Bank Open Data

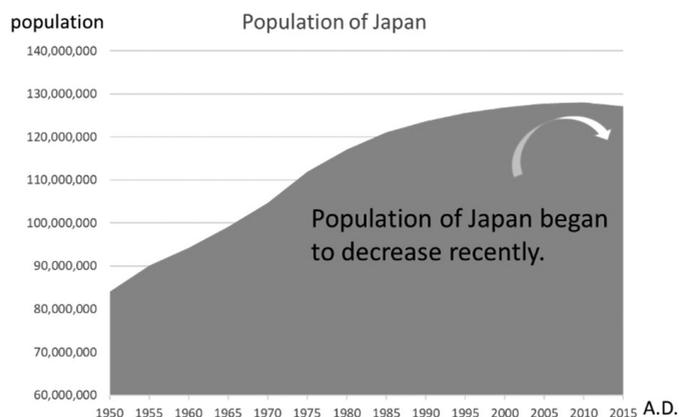


Figure 2. Japanese Population from 1950–2015

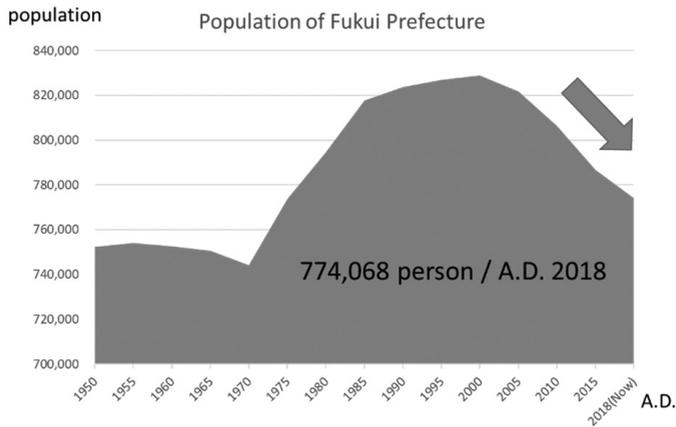


Figure 3. Fukui Prefecture Population from 1950–2015

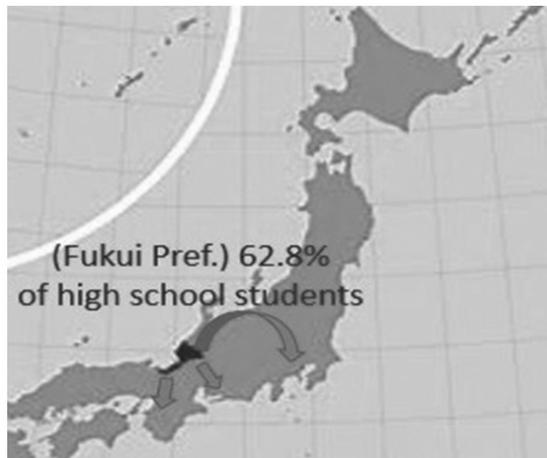


Figure 4. Location of Fukui Prefecture

2. Learning required for regional revitalization

Providing provincial employment opportunities is one the best ways to increase the population. However, even if there is an increase in available provincial employment, this does not mean that the population flow to urban areas will stop. For example, even though the opening ratio in Fukui Prefecture (“job openings” divided by “the number of job seekers”) was the highest in Japan at 2.15 in September, 2018, 62.8% of high school

graduates were attending universities outside Fukui Prefecture.

Unfortunately, less than 30% of those attending outside urban universities return home after graduating, even if there is employment, which leads to a further decline in population. That is, even if entrepreneurship education is provided and even if there is sufficient provincial employment, this may not lead to regional revitalization as provincial populations need to want to develop their hometowns.

Entrepreneurship that encourages organizational growth can increase local employment and develop local company leaders. Tamaki (2016, p. 2) defined entrepreneurship as “developing organizational innovation with fresh ideas to add value and induce organizational growth;” therefore, the emphasis was on developing and growing the business. Bygrave & Zacharakis (2010, p. 532) also stated that the primary task after the startup stage was to create a professional organization capable of managing its current growth and setting the stage for continued entrepreneurship to ensure the organization has sustained growth as it matures. A passionate focus on the area to be developed and continual effort is also required to encourage entrepreneurial regional revitalization.

As well as a focus on entrepreneurial activities, clear provincialism is also needed, which is desire to develop one’s hometown. Igarashi (2006, pp. 35–40) believed that provincialism training/study can only be effective if people identified what was important to them, which included having deep conversations with the local people and finding out what they needed. Morikawa (2011, pp. 272–273) outlined the following elements for studies on regional revitalization.

- (1) Learning about the area
- (2) Inheriting the resources in the area
- (3) Building an organization and developing associated projects
- (4) People Exchanges

- (5) Developing talented people interested in regional revitalization

Provincialism requires people to study their hometowns to develop Morikawa’s five elements into an overall “local identity.”

Entrepreneurship and the development of a local identity are generally considered difficult for students to learn in a classroom situation because of the lack of immediate detailed experience; however, this can be overcome through properly focused project Based Learning (PBL). The Buck Institute for Education (BIE) in the United States claimed that students are able to develop deep content knowledge, critical thinking, creative abilities, and communication skills when involved in authentic, meaningful projects. Schuetz (2018) also claimed that PBL was important because we live in a Project-Based World. Therefore, provincial revitalization could be seen as a Project-Based task that requires deep content knowledge, entrepreneurship, and the development of a local provincial identity. Duch, Groh and Allen (2016, pp. 214–215) found that Problem Based Learning was able to provide students with a clear career model as it helped them understand and clarify the knowledge in context. Therefore, using PBL for provincial revitalization could assist students clarify their future careers.

However, it is difficult for high school teachers to teach entrepreneurship and local identity because even though they are subject professionals, they are generally unfamiliar with the problems in their hometowns and are poor

at career education. Further, the problems being experienced by local companies are not the types of subjects being taught at school. However, some of the problems being experienced by the local companies could be suitable for “Problem Based Learning” or “Project Based Learning,” which could also assist local companies find talented people for their future development. An investigation in December 2016 found that of the 87 local companies associated with the Fukui Prefecture economic organization, 77% expressed a willingness to participate in teaching entrepreneurship and local identity to high school students.

As mentioned, developing entrepreneurship and a local identity is vital to encourage provincial revitalization, which could be achieved through specially focused PBL, the educational structure for which is shown in Fig. 5.

3. Hypothesis and method

The following hypothesis was developed to drive this research study; The involvement of local companies in entrepreneurship and local identity education in high school education develops valuable skills in the students.

This research used a cohort study method, which has been widely used in medical research to compare two groups. The participants, who were eleventh grade students from one local high school, were divided into two groups of 40, with one group (Group B) working with local companies and with the other group (Group E) being taught by a teacher.

Questionnaire data were collected in April 2016 and in March 2017 to assess student growth in entrepreneurship and local identity knowledge, for which students were required to answer on a linear measure from 0 to 100. Initially, the study was set for 2016; however, as the 2016 results

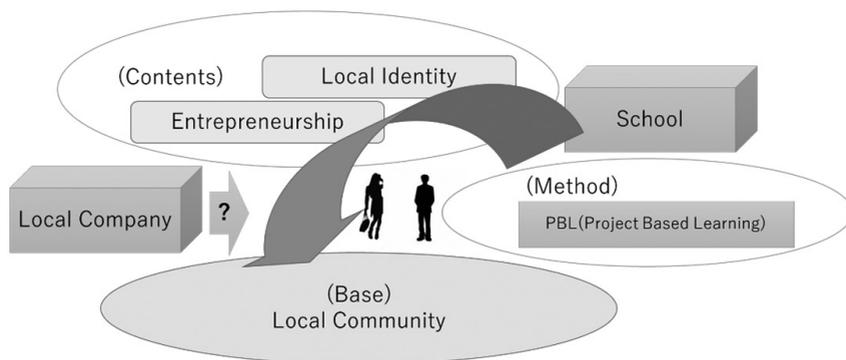


Figure 5. Educational structure for the development of entrepreneurship and local identity

were unable to confirm or deny the hypothesis, the experiment was corrected and rerun again in 2017.

The experimental method is outlined Table 1 and Fig. 6.

The career education curriculum for Group B was designed based on the 11th grade “Super Global High School Course” (SGH) course from the Ministry of Education, Culture, Sports, Science and Technology in Japan, which was developed to prepare talented young people for the world of work.

Presidents from local company gave lectures about their company, the local economy and the

problems being faced in their companies. The students were required to select a problem and then design a solution over the year.

When the local companies gave the lectures, they were asked to cover the following five elements.

1. “Understanding industry and the economy”
 - The business activities of your company
 - The business environment
2. “Identity of the Fukui area”
 - Relationship between your company and the Fukui area
 - Why you started your business in Fukui Prefecture?

Table 1 Outline and method of this experiment

	2016 fiscal year	2017 fiscal year
Experimental Method	Cohort study method style	Cohort study method style
Experimental Period	2016.4 2017.3	2017.4 2018.3
Research participants	11th grade 80 students (40×2group)	11th grade 80 students (40×2group)
Check style	Questionnaires 2016.4, 2017.3 Subjective numerical evaluation	Questionnaires 2017.4, 2018.3 Subjective numerical evaluation

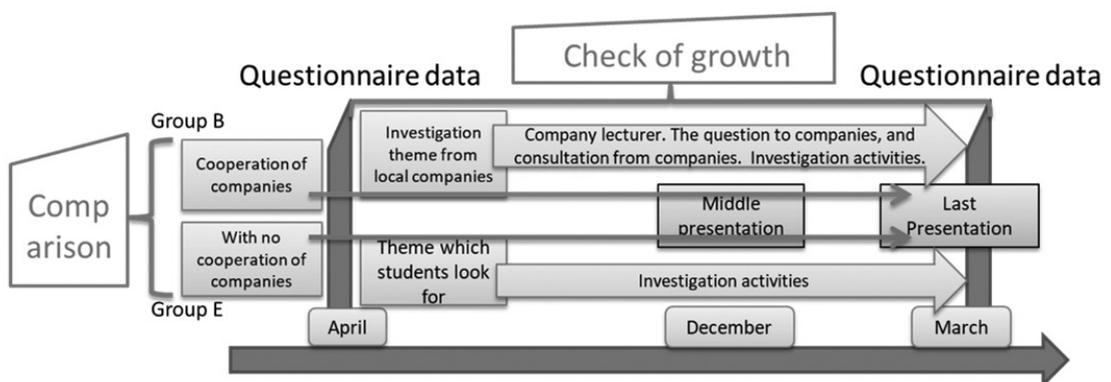


Figure 6. Experimental Method

3. “Overseas business intentions”

- Present overseas business
- Sales strategy for foreigners visiting Japan, or how to sell more in an overseas market

4. “Entrepreneurship”

- Business challenges
- Biggest past difficulty and how it was solved

5. “Others”

- Student Encouragement

After the lectures, the student groups developed a hypothetical solution, for which they were required to give three main presentations; at the beginning, in the middle of the year and at the end of the one year research period (as shown in Figure 6). The company presidents and the researcher were also available throughout the year to address the high school students’ questions, and Group B also attended the local companies to gather information.

Student growth was measured over the year based on student self-evaluations based on a linear scale from 0–100, as follows;

1 Understanding of industry and economy

The degree of interest in industry or the economy regardless of the area was set at 50 with an interval scale of 25.

2 Identity of the Fukui area

The degree of familiarity was set at 50 with an interval scale of 25.

3 Overseas business intention

As the experimental focus was on a global student course, this item was set to understand the degree of overseas-oriented change. Hope for foreign travel was set at 50 with an interval scale of 25.

4 Entrepreneurship

The degree of entrepreneurship was assessed, with neutral feelings about the challenge set at 50 with an interval scale of 25.

4. Results

The numerical values for entrepreneurship and local identity in Group B were found to be greater than in Group E at the end of the 2016 fiscal year; however, as the grown-up numerical value for Group E was greater than for Group B, the superiority of Group B entrepreneurship was not clear. Interestingly, the dispersion value for Group B was 36% for local identity compared to only 21% for group E.

In addition, both groups were found to have extended their understanding of industry and economy, and there were also significant changes in their overseas business intentions.

Therefore, the PBL education that involved local company participation appeared to have increased student knowledge of the provincial local identity, but did not appear the increase in entrepreneurship abilities was not evident in Group B compared to Group E.

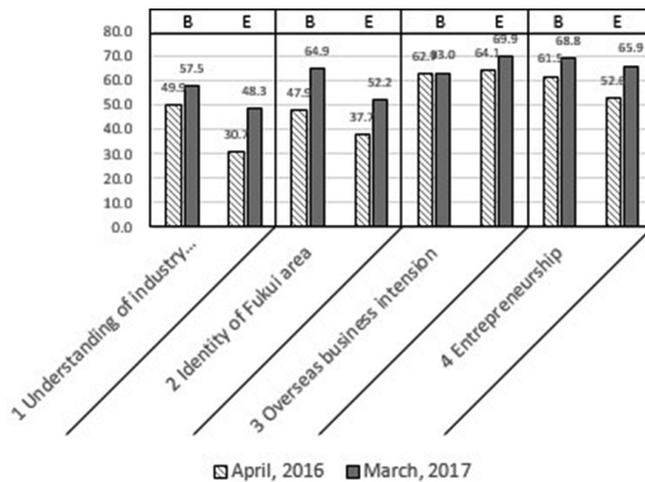


Figure 7. 2016 fiscal year results

As the entrepreneurship hypothesis was not proven in the 2016 fiscal year, this item was again assessed in the 2017 fiscal year.

A qualitative investigation found that besides the increase in their knowledge of local identity, the students also gained entrepreneurship knowledge from the local companies, as evidenced in the following quotes;

“The success of city planning certainly requires ‘a hot minded leader.’ I thought that we had to become so.”

“I felt that it was important to trust myself, to challenge, to have curiosity, and not to give up.”

“I thought that an entrepreneur’s mental abilities should be strong.”

“I got to know that an entrepreneur needs the elements of ART (Active Risk Taking).”

“I understood well that we had to be adaptable to change.”

“I was charmed by the language that the aim was progressing in the direction I believed.”

“It is important that I am interested in what I

do; I need to find my life from its viewpoint and challenge life.”

“What can change can be survived. I learned that ‘Challenging the soul which does not flinch from everything,’ ‘Aspiration’ and ‘Dreams and passion’ were required.”

These comments indicated that the students had learned the value of being flexible and challenging themselves. As it was assumed from these remarks that these entrepreneurship elements could be learned from the local companies, in the 2017 fiscal year “Entrepreneurship” was divided into “Feelings of challenge,” “Business solution power” and “Flexibility and understanding of diversity.”

Although an identity effect had been found, the “Identity of Fukui area” element was also further divided in the subsequent 2017 research into; “Understanding Fukui industry and economy,” “Identity of Fukui Prefecture,” and “Desire to work in Fukui.”

The results for the 2017 fiscal year are shown in Fig. 8.

The results for the 2017 fiscal year were significantly clearer than in the 2016 study. Group B showed a higher effect for all items, with both the last numerical value and the grown-up numerical value being somewhat higher than for Group E.

The factors for the above results were checked in the following section.

5. Consideration

First, the 2016 and 2017 results differences were assessed. In 2016, there was a high Group B effect found for identity; however, as stated, the entrepreneurship results were inconclusive. The high school teachers felt that this was due to the initial grouping in April, 2016, as many of the students who wished to join Group B had high

active capabilities from the beginning, which meant that the predominance of Group B was not evident in the entrepreneurship growth results; that is, as entrepreneurship growth was found in both groups, only the PBL effect was evident.

Therefore, in the 2017 fiscal year research, the high school teachers were asked to randomly divide the students into the two groups. As a result, the growth in Group B in the 2017 fiscal year became clearer compared to the 2016 fiscal year, as shown in Fig. 8.

The determination method for the students' investigatory themes was also changed in the 2017 fiscal year. In the 2016 fiscal year, the local companies had determined the themes for the Group B investigations; therefore, as the Group E students had greater freedom to choose their own projects, they had greater entrepreneurship

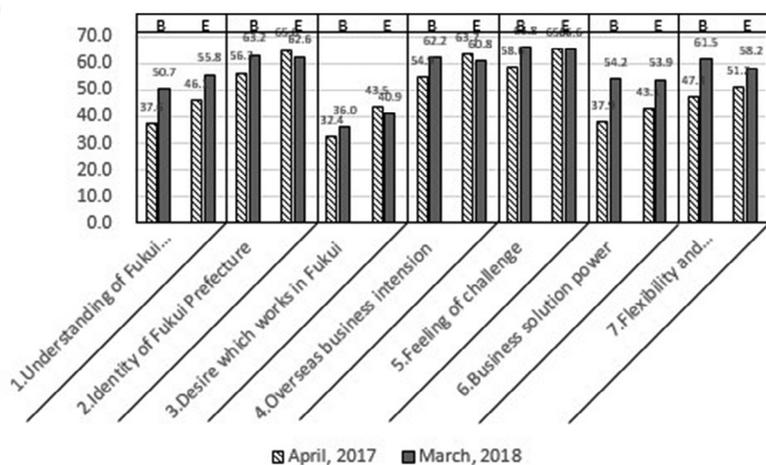


Figure 8. Results for local identity in the 2017 fiscal year

growth; Group B rose from 61.5 to 68.8, while Group B rose from 52.6 to 65.9. This result indicated that the business solution capabilities grew more strongly if the students were able to select their own themes to investigate. Therefore, with the change in the methodology in 2017, both groups showed “Business solution power” entrepreneurship improvements of up to ten points.

Therefore, after the changes in the experimental methods, the following conclusions were made. Good entrepreneurship and local

identity results can be achieved when local companies cooperate in high school education; however, when being involved in entrepreneurship, students should not be fully guided by the local company as growth was found to be greater when the students were able to select and independently investigate their own problems/theme. Even though the students deepened their understanding of their hometown and their provincial local identity, it was not evident that the student willingness to stay and work at their hometown had increased.



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