Development of a Virtual Survey of a Familiar Region to Develop Students’ Content and Method Wisdom:
“Why Is the Shopping Center Located Where a Factory Used to Be?”

Kazuhiro Nakamoto
Shitennoji University

1. Introduction

The following are the objectives and questions posed in the “Geography B” section of the National Educational Policy Laboratory’s Curriculum Execution Condition Investigation for high schools (2005) and their completion rates.

Objectives for students
• Complete a study that sets a theme and examines it: → No and Hardly: 53.3%
• Complete a field and study consisting of observation and investigation: → No and Hardly: 57.9%

Questions for teachers
• Does the class in which study was done complete the task well?
  → No: 37.5%
• Does the class that conducts observation, investigation, and a site visit have a positive experience?
  → No: 62.7%

The answers to these questions demonstrate the problems present in schools today. Such objectives are set because the course of study in Japanese schools requests that students conduct fieldwork, observation, investigation, and site visits; this generates positive experiences. Moreover, many believe that it is not possible to learn geography without performing these tasks. However, these answers find that it is difficult to survey of familiar regions around the schools. Some reasons why it may not be possible to survey sites outside of schools may include inability to secure enough time to survey the region and inability to arrange for the presence of two or more teachers in order to conduct the site survey safely. This is the first problem with educational surveys of
familiar geographical areas ("survey of a familiar region").

The second problem with surveys of a familiar region classes is an internal one. The Survey of a familiar region class can give too much priority to students' interests and concerns. Moreover, it can be seen as a class that gives too much priority to student announcements. It can also be seen as a class that gives too much priority to the understanding of a familiar region. It is important to value students' interests and concerns, but nurturing students' interests and concerns does not guarantee increased knowledge of the studied content. The quality of knowledge can be seen as subjective and accessible by common sense, and it can be assessed through surveys in which students describe and summarize independent investigations conducted based on students' interests and concerns. The acquisition of method wisdom, which includes investigatory skills, reporting skills, and communication skills, is certainly important. However, the deeper and more essential content becomes, the more difficult the needed skill becomes. Therefore, it can be said that content wisdom will create difficulties in the acquisition of method wisdom. Certainly, it is important to understand familiar regions. Conducting an investigation of a familiar region may also lead to new discoveries that are usually not considered. However, by living their lives, students acquire understanding of many familiar regions. Moreover, students do not necessarily stay in the region where they were born and grew up as they go through life. Contemporary society has undergone globalization and has become more complicated. Society is under the influence of a system by which culture in familiar regions exceeds regional boundaries. If regions with which students are familiar are limited, students do not necessarily have much motivation to learn about them. Moreover, it might be difficult for students to grasp the meaning of what they study.

As mentioned above, the survey of a familiar region classes have two problems. The purpose of this essay is to propose a type of survey of a familiar region class that solves these two problems. The method outlined in this essay is possible to practice within schools; it proposes a "virtual survey of a familiar region" ("VSOFR") as a type of survey of a familiar region class that guarantees rich study content.

2. Virtually Experienced Survey of Familiar Region That Can Be Practiced

During a class in which students conduct a "VSOFR", students do not actually survey a region outside of the school. Students survey the region by virtually experiencing it inside their classrooms. Time- and system-related restrictions can be overcome by a "VSOFR".
However, there might be some backlash against "VSOFR" that occur in the classroom. For instance, when the experiences of actually seeing the region and actually hearing the stories of people in the region are important, objections are likely to be encountered. There might be some things that are not possible to obtain because the investigation is not done outside the classroom. However, in these classes, the investigated object is a familiar region to which the student is exposed daily. Students can observe events in the region while going to school and on holidays while going out, they can talk with people in the region even if the teacher does not make it part of the class. Moreover, if the teacher prepares in-class interviews and videos in advance, adequate firsthand information will be available to students. And if the Internet is used, significant amounts of information can be obtained easily even without travelling to the location. If significant amounts of class time to survey the region are secured, and the execution of outside-school investigation is easy, a familiar region need not be surveyed within the classroom. Students can experience, and acquire information. However a really important thing is not them. Students are not good at absorbing information. Moreover, they are not good at using information to verify hypotheses. It is more important to spend class time improving those abilities.

3. Virtually Experienced Survey of a Familiar Region That Unites Content Wisdom with Method Wisdom

A "virtual hero" of a similar age and similar interests to the students is used in the "VSOFR". In the "VSOFR", an actual student will proceed through the investigation alongside a virtual hero. Students experience a social event that the hero also experiences. Students set up their own hypotheses after seeing the question that the hero sets up. The hero also sets the hypothesis. The hypothesis set by the hero is compared with the students' hypotheses, and students thereby learn how to set up hypotheses. Next, the students examine methods of verifying their hypotheses. The students also learn methods of content verification by observing the hero's methods for such. Finally, students are made to compile their verification results, and their results are compared to the hero's summary. As a result, the student learns the content and how to summarize it. Thus, the student learns method wisdom with content wisdom during the "VSOFR" with the hero.

However, there might be disagreement about using the hero during such virtually experienced survey of a familiar region classes. For example, one shortcoming of this method could be that students are constrained to the hero's
ideas and investigations, limiting students’ freedom to think creatively and create their own methods. However, I think that students try to learn when it meets challenging problem that students cannot solve themselves. After the class, students will encounter many problems inside and outside school. An intellectual search may have to be first experienced during the class. After the class ends, it might not be too late for students to independently search for answers.

Content wisdom derived from questions is important here. It is especially important that the students ultimately acquire theoretical knowledge. Content wisdom facilitates the acquisition of method wisdom, as previously described. It is important that students learn to use the scientific method to analyze society while completing "VSOFER". Scientific knowledge and search methods cannot be acquired easily in students’ daily lives. Therefore, the hero should lead the students. Students are led by the hero during this virtually experienced investigation, and the students think and find answers. Students acquire high-quality content wisdom and method wisdom by comparing the hero’s answers with their own answers. Moreover, the high-quality content wisdom and method wisdom can be applied to other pursuits. As a result, "VSOFER" will have a greater impact on students than would only learning about a familiar region.

4. Practical Example of a “Virtual Survey of Familiar Region”
Topic: “Why Is the Shopping Center (SC) Located Where a Factory Used to Be?”

Next, I propose a practical example of a virtual survey of a familiar region.

4.1 Generalities of SC locations in Japan and SC locations in Hiroshima City
4.1.1 Location of SC

SC locations in Japan are divided into three types. 50.9% of SCs are located in suburban areas, 26.1% are located in the center areas, and 22.9% are located in the around areas. The fundamental plan for the construction of SCs is investigated, and next, the policy is examined. The fundamental plan contains the following items:

< Soft approach >
① Grasp of market potential
② Development area
③ Development techniques
④ Characteristics of location and consumers
⑤ Competitive environment

< Hard approach >

⑥ Shape, height difference, and lot area of site
⑦ City and district planning and usage
⑧ Real estate condition
⑨ Infrastructure and road maintenance

Dynamic population trends in the surrounding area are indices that help to investigate ① of the fundamental plan. Moreover, knowledge of population

Ion SC opens a new Gion shop in Hiroshima.

This is a photograph of the old Mitsubishi Industries factory site on which Ion will open a large shop at the end of 2008.

Ion SC, operated by the largest business in Chiba City, will open a large-scale SC on the Mitsubishi Industries Hiroshima factory site in Asaminami-ku Gion, Hiroshima City by the end of 2008. It is expected that the SC will become the largest in the Chugoku, Shikoku region when it opens. When three city planning law revisions come into effect at the end of November, shop openings in the suburbs will be restricted. Therefore, Ion is accelerating its preparations to open. The newly-opened Ion will be a shopping mall with about 100 specialty stores on two floors.

("Chugoku newspaper" February 23, 2007)
composition helps to relate (4) to SCs. Lot area becomes an index for (6), and traffic convenience of the road, etc. helps to determine (9).

4.1.2 SC in Hiroshima City

SCs were developed in 2007 in Hiroshima City, especially in the center area and in suburban areas. Many of them are located on old factory sites, where commodious premises, traffic convenience, etc. were optimal. They were constructed in order to cater to the population of the region. Soleil SC is located on a site that used to be a brewery for Kirin Brewery Co., Ltd., Ion SC is located on the site of an old Mitsubishi factory, and Yume Town SC is located on a site of an old Japan Tobacco factory. For our purposes, Soleil, which was one of the first SC constructed in Hiroshima City, is examined as a case.

4.2 Activity “Why Is the SC Located Where a Factory Used to Be?”

Situation Kazunari read the following newspaper articles.

→ The newspaper article is reprinted below.

Step 1 Kazunari, who read this newspaper article, thought, “A big SC is being built.” And, he recalled having been told that a SC called Yume Town would be constructed on the old Japan Tobacco factory site in the vicinity. Moreover, he recalled having been told that Soleil SC had been constructed on the old Kirin Brewery Co., Ltd. factory site.

He had questions.

→What questions could Kazunari have had? Suggest your ideas.

Step 2 Kazunari had the question, “Why is the SC being built on the old factory site?” He set up a hypothesis.

→What hypothesis did Kazunari set up?

※The teacher guides students to propose his or her answer as a hypothesis.

Step 3 Kazunari set up the following hypotheses.

< Hypothesis >

“Because the requirements of a factory location correspond to the requirements of a SC location, the SC is located on the site of the factory.”

→What should Kazunari do to verify his hypothesis first? What should
he do next? Propose your ideas.

**Step 4** To verify the hypothesis, Kazunari first established the object of the investigation. He decided to investigate Soleil SC, which was already located on the site of a factory. He decided to do a preliminary investigation as follows:

→ What method would you use as a preliminary investigation?

**Step 5** Kazunari collected documentation, statistical information, old and new topographical maps, and other items on the Internet and at the library.

→ The material that Kazunari collected is distributed to the class. The class begins to understand that these provide useful information related to the object of investigation.

< Material that Kazunari collected >

○ Documents on industrial location theory

○ Statistical material on the population
Transition of the number of distinct homes and population (1998–2004): Hiroshima City statistics 2005

Population and number of homes in Fuchu-cho (2001–2004):

○ Old and new topographical maps
Hiroshima City (25,000:1) (1987)
Hiroshima City (25,000:1) (2006)

※ It is preferable that students see and investigate the prepared material as much as possible. The unprocessed state of the documents and the statistical materials challenges students’ reading abilities. When the teacher’s support is necessary, the teacher guides the students.

**Step 6** Kaunari learned industrial location theory from a book on geography.

→ Let’s read a document on industrial location theory.

**Step 7** Kazunari learned the following about industrial location theory:

Factors for the location of industry include the costs of land,
<table>
<thead>
<tr>
<th>Year</th>
<th>Ku</th>
<th>Number of homes</th>
<th>Population Total</th>
<th>Natural movement</th>
<th>Social movement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Birth Total</td>
<td>Death Total</td>
<td>Moving in etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>122,357</td>
<td>993</td>
<td>915</td>
</tr>
<tr>
<td>1999</td>
<td></td>
<td>62,895</td>
<td>122,363</td>
<td>962</td>
<td>964</td>
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<tr>
<td>2000</td>
<td></td>
<td>63,187</td>
<td>121,939</td>
<td>944</td>
<td>969</td>
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<tr>
<td>2001</td>
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<td>63,722</td>
<td>121,618</td>
<td>954</td>
<td>1,007</td>
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<td>2002</td>
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<td>64,354</td>
<td>121,831</td>
<td>981</td>
<td>1,011</td>
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<tr>
<td>2003</td>
<td></td>
<td>65,224</td>
<td>122,505</td>
<td>967</td>
<td>974</td>
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<tr>
<td>2004</td>
<td></td>
<td>66,388</td>
<td>124,179</td>
<td>977</td>
<td>993</td>
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<td></td>
<td>Higashi-ku</td>
<td>50,262</td>
<td>124,299</td>
<td>1,398</td>
<td>768</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>50,345</td>
<td>123,639</td>
<td>1,308</td>
<td>755</td>
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<tr>
<td>2000</td>
<td></td>
<td>50,810</td>
<td>124,085</td>
<td>1,302</td>
<td>823</td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td>51,115</td>
<td>123,908</td>
<td>1,274</td>
<td>807</td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td>51,334</td>
<td>123,478</td>
<td>1,269</td>
<td>807</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>51,490</td>
<td>123,045</td>
<td>1,232</td>
<td>809</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>51,753</td>
<td>122,671</td>
<td>1,184</td>
<td>884</td>
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<tr>
<td></td>
<td>Minami-ku</td>
<td>61,555</td>
<td>135,663</td>
<td>1,318</td>
<td>1,032</td>
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<td>1998</td>
<td></td>
<td>61,830</td>
<td>135,357</td>
<td>1,235</td>
<td>1,031</td>
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<tr>
<td>2000</td>
<td></td>
<td>61,993</td>
<td>135,106</td>
<td>1,271</td>
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<tr>
<td>2001</td>
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<td>62,405</td>
<td>135,496</td>
<td>1,256</td>
<td>1,009</td>
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<tr>
<td>2002</td>
<td></td>
<td>62,609</td>
<td>135,694</td>
<td>1,246</td>
<td>1,057</td>
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<td>2003</td>
<td></td>
<td>63,128</td>
<td>135,274</td>
<td>1,251</td>
<td>996</td>
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<tr>
<td>2004</td>
<td></td>
<td>63,852</td>
<td>137,174</td>
<td>1,245</td>
<td>1,039</td>
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<td></td>
<td>Nishi-ku</td>
<td>78,622</td>
<td>178,186</td>
<td>2,003</td>
<td>1,012</td>
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<tr>
<td>1998</td>
<td></td>
<td>78,817</td>
<td>177,654</td>
<td>1,817</td>
<td>1,134</td>
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<tr>
<td>2000</td>
<td></td>
<td>79,476</td>
<td>178,464</td>
<td>1,855</td>
<td>1,077</td>
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<td>2001</td>
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<td>80,008</td>
<td>179,226</td>
<td>1,898</td>
<td>1,141</td>
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<td>2002</td>
<td></td>
<td>80,895</td>
<td>180,233</td>
<td>1,948</td>
<td>1,060</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>81,955</td>
<td>181,999</td>
<td>1,920</td>
<td>1,148</td>
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<tr>
<td>2004</td>
<td></td>
<td>83,015</td>
<td>183,384</td>
<td>1,993</td>
<td>1,121</td>
</tr>
<tr>
<td></td>
<td>Asaminami-ku</td>
<td>76,007</td>
<td>196,915</td>
<td>2,602</td>
<td>971</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>78,347</td>
<td>201,185</td>
<td>2,627</td>
<td>1,096</td>
</tr>
<tr>
<td>1999</td>
<td></td>
<td>79,973</td>
<td>204,585</td>
<td>2,866</td>
<td>981</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td>82,010</td>
<td>208,570</td>
<td>2,947</td>
<td>1,051</td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td>83,621</td>
<td>211,562</td>
<td>2,851</td>
<td>1,082</td>
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<tr>
<td>2002</td>
<td></td>
<td>84,825</td>
<td>213,733</td>
<td>2,864</td>
<td>1,060</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>86,102</td>
<td>216,011</td>
<td>2,775</td>
<td>1,157</td>
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<td></td>
<td>Asakita-ku</td>
<td>56,902</td>
<td>159,698</td>
<td>1,411</td>
<td>1,027</td>
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<td>1998</td>
<td></td>
<td>57,679</td>
<td>160,218</td>
<td>1,400</td>
<td>1,105</td>
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<td>1999</td>
<td></td>
<td>58,361</td>
<td>160,358</td>
<td>1,412</td>
<td>1,087</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td>59,077</td>
<td>160,137</td>
<td>1,321</td>
<td>1,037</td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td>59,584</td>
<td>159,540</td>
<td>1,231</td>
<td>1,110</td>
</tr>
</tbody>
</table>

(Author making from "Hiroshima City statistics 2005" (Hiroshima City))
construction, labor, and transportation. Land and construction costs are important initially, but they are temporary or one-time costs. However, the transportation and labor expenses are always needed, and it is important to think about these two factors when deciding the location of an industry.

Next, Kazunari examined the population and the number of homes of Hiroshima City Higashi-ku from the statistical material, because Soleil is located close to Hiroshima City Higashi-ku.

→What change in the population and the number of homes in Higashi-ku do you see in the population statistics of Hiroshima City Higashi-ku?

(Refer to the table on the following page for population statistics of Hiroshima City.)

**Step 8** Kazunari discovered the following from population statistics:

< Higashi-ku >
Number of homes: Increased  
Population: Decreased  
Natural population change: Positive  
Growth from population migration: Negative

→According to these four facts, what did Kazunari discover about the population composition of Higashi-ku?

**Step 9** Kazunari described the population composition of Higashi-ku based on these facts as follows:

In Higashi-ku, it is evident that many young couples have babies, because the natural population change is positive. However, it is also evident that large families tend to move away, because the population has decreased in Higashi-ku even though the number of homes has increased. Overall population change is negative because people tend to migrate away. Higashi-ku is understood to have many young homes. There are single-person households, young cohabiting couples, and homes consisting of a couple and a young child.

Kazunari next examined the population and the number of homes in Fuchu-cho, where Soleil SC is located.

→How can you explain the trends in the population and the number of homes in Fuchu-cho?
Step 10 Kazunari understood from reading population statistics that Fuchu-cho is a region where population growth is likely in the future. Next, he examined the population and the number of homes in Asaminami-ku, where Ion SC (seen in the newspaper) was being built, and in Minami-ku, where Yume Town was being built. 
→Examine population levels and the number of homes in those regions. What do you conclude based on these data?

Step 11 Kazunari reached the following conclusions about the population and the number of homes in Asaminami-ku and Minami-ku.

< Asaminami-ku >
Number of homes: Increased  
Population: Increased  
Natural population change: Positive  
Growth from population migration: Positive  
< Minami-ku >
Number of homes: Increased  
Population: Decreased →Increased  
Natural population change: Positive  
Growth from population migration: Negative →Positive
※The teacher explains the fact that the population of Minami-ku increased because many apartment buildings were constructed in Minami-ku.

Next, Kazunari decided to examine the exact locations and the regions where Soleil and Ion were being built by comparing old and new topographical maps.
→Can you understand the conditions of each location by comparing the old and new topographical maps? Let’s explain what we now know about these locations.

Step 12 Kazunari reached the following conclusions by comparing old and new topographical maps.

• The residential quarter has expanded to the surrounding areas.
• There is a new apartment complex.
• The lot area of the factory (SC) is large.
• There are major roads and an interchange near the factory (SC).
There are enough public transportation facilities, such as railroad stations, near the factory (SC).

Then Kazunari summarized the current examination.
→Let’s summarize our understanding of these areas based on reading documents and examining statistical materials.

**Step 13** Kazunari summarized his findings as the following:

<table>
<thead>
<tr>
<th>Conditions of factory location → Conditions of SC location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Land expenses (temporary) → ○ (Similar)</td>
</tr>
<tr>
<td>2 Construction expenses (temporary) → ? (I still do not understand this well.)</td>
</tr>
<tr>
<td>3 Labor expenses (permanent) → ? (○?)</td>
</tr>
<tr>
<td>4 Transportation expenses (always necessary) → ○</td>
</tr>
<tr>
<td>5 Other → I still need to expect future population increase in the surrounding area.</td>
</tr>
</tbody>
</table>

1 It is understood from the topographical map that the location is a large lot. It is also possible to secure a large lot area to convert into a parking lot. (○)

2 Issues surrounding construction have not been understood yet. (?)

3 It can be guessed the SC is to be able to hire workers at any time. There is a residential area near the location, and its population is expected to increase. (○?)

4 There are main roads and an interchange around the SC’s location. Moreover, as public transportation facilities develop, more shoppers will be able to come to the SC. (○)

5 An increase in population is expected in the surrounding area. This can be seen as an important factor for securing customers.

Next, Kazunari decided to investigate the locale by conducting a survey. →Based on the preliminary research, how should he investigate the locale? Propose your ideas.

**Step 14** Kazunari decided to ask a person who worked for Soleil about construction and manpower. Moreover, to consider the relationship between an increase in population and the number of shoppers in the surrounding area, he decided to ask guests to complete a questionnaire
survey about where they came to shop.
※The teacher guides students to clarify the preliminary research and the investigation.

Then, Kazunari examined his interview questions and his questionnaire survey items. Moreover, to secure an interview with a person who works for Soleil, he decided to call their office. In addition, he prepared a notepad and a digital camera, etc., and formed a concrete schedule.

→What questions would you ask the person who works for Soleil? What questions would you ask to people who have come to Soleil to shop?

**Step 15** Kazunari surveyed the locale. During the interview, he heard various stories from the manager of Soleil. Moreover, a junior high school student who had come to shop became his friend. Kazunari learned that a similar questionnaire survey had been conducted before. Fortunately, he was able to get the results of the other questionnaire.

The following information came from the interview with the manager and the questionnaire for the guests: 2

< Interview with Soleil manager > (June 20, 2005)
“We opened Diamond City Soleil on the Kirin Brewery Co., Ltd. factory site in March 2004.”
“Diamond City Soleil is a company owned jointly by Mitsubishi Corp. and Ion; its headquarters are in Osaka. This SC becomes the 16th SC. We planned to be able to serve over 16 million customers when we opened this SC. We aimed for 40 billion yen in sales. We achieved these goals. Soleil has the most floor space of any SC in West Japan. JR "Tenjingawa" station was newly built to be near this SC. From here to the station is a 5 minute walk.”
“Our development concept is ‘Creating enjoyment of life and Show Stage.’”
“We want to serve the families of the children of the ‘baby boom’ generation. They consist of families from 25 years old to their thirties.”
“The reason to pay attention to this generation is because it is populous; this generation is a baby boom generation too. And they often drive cars. They also tend to enjoy dressing up, even if they are married. Therefore, we designed the building and the shops to cater to their tastes.”
“The SC is designed to be one shopping mall with two central stores.”
“Our SC has two central stores and 201 specialty stores.”
“The two central stores are called ‘Jusco’ and ‘L.A.S.’ (a department store).”
“Our 201 specialty stores have four themes.
   ① Kids and babies’ shops
   ② Fashion
   (Even though this is also the specialty of one of the central stores.)
   ...Because the specialty store deals in premium quality goods and Jusco deals in slightly lesser quality goods. Soleil sells goods with a high range of quality.
   ③ Food
   (There are 50 restaurants at Soleil.)
   ④ Amusement
   (There is a “Barthes Eleven” cinema and a game center.)
“We think about the facilities; we enable customers to spend a long time here by offering a wide range of choices: clothes, food, living, and play.”
“We consider the environment; we introduced an emissions-reducing air conditioning system, and we have a green mindset. Moreover, we have introduced equipment and services for the handicapped, the aged, pregnant women, people with young children, etc. All can easily and smoothly use our building as required by the Heart Building Law.”
“We employed many people who were working for the Kirin Brewery Co., Ltd. Factory as full-time and part-time employees.”
“Our big problem is the need to have a close connection with people in the region and to prosper with the Fuchu-cho. Therefore, there is a ‘Tsubakican’ in our shop. There is also a branch office of the Fuchu town office here.”
“We do public relations with the Fuchu-cho: special product exhibitions have been done there.”
“Our future tasks are to deepen our relationship with the local community and to encourage more local people to shop with us more.”
“Additionally, devices that facilitate customer transactions are also necessary to raise sales.”
“It is necessary to cater to customers’ needs sensitively in order to accomplish that.”

Questionnaire survey for guests: (abbreviated)
→Underline the parts of the Soleil manager’s story that you think are important.

**Step 16** Kazunari summarized his findings from the interview and the questionnaire survey.

< Conclusions from the interview >
- The capital ... It is a huge joint venture between Mitsubishi Corp. and Ion.
- The labor expenses ... The people who were working at the factory of Kirin Brewery Co., Ltd. are positively employed, and manpower is secured.
- The development concept ... At Soleil, young families are the core customers. This concept corresponds to the realities of the population of Higashi-ku, which is adjacent to Soleil.

< Conclusions from the questionnaire survey for the guests >
- People of all ages in the region shop at Soleil for clothes, books, stationery, etc. This corresponds to the development concepts clarified by the interview with the manager.
- The parking lot of Soleil is widely seen as a reason to go shopping at Soleil. This proves the necessity of having many acres of space and reinforces proximity to the main road as one of the conditions that makes Soleil’s location optimal.

→What conclusions do you draw from the preliminary research and the field investigation? What is your answer to the question, “Why is the SC located at the old factory site?”

**Step 17** Kazunari reached the following conclusions from the results of his investigation on the question, “Why is the SC located at the old factory site?”

< Conclusions >
- The location-related needs of the SC are similar to the location-related needs of the factory in many ways. A large land area for building the parking lot and proximity to a major road are especially important location-related needs for the SC. Therefore, the SC is located on the site of the old factory.
- In addition, one of the SC’s important location-related needs is that
the surrounding area experience population growth. Moreover, population composition also contributes to the development of the SC, and it can be said that this is also an important element in the decision to build the SC. Therefore, it can be said that the SC is located on a factory site where optimal conditions exist.

Kazunari created a poster on his investigation, and announced that he had completed a report of his findings. Afterwards, a copy of the report and a letter of thanks were sent to the manager of Soleil.

**Step 18** Kazunari went to a relative’s house after having finished this investigation. On the way, the car passed by an SC in a region where rice fields had been before. It was a different SC from the one located on the site at the factory, and he wondered why it was there. →Now let’s think about this new SC. Think about the common points with and the differences from the SC we just studied.

5. Conclusion

The virtual survey of a familiar region proposed here was practiced by the third graders of Hiroshima Prefecture’s Hiroshima Kokutaiji High School for three hours in April 2007. This is a realistic plan that can be practiced even in the current severe situation of the school site. In addition, this class can gain not only knowledge of the scientific method, and the ability to conduct a scientific research process, but also a strong ability to make generalizations about the conditions of the SC location. Furthermore, after this activity had ended, the students maintained their social recognition. The content knowledge and the method knowledge acquired by the students are also applied to other events outside the classroom. That is, the students’ social recognition becomes heightened. The experience of completing this type of study makes students truly feel what it means to study.

Notes

2. Data on development and practice were supplied by Naomi Sakaguchi, junior high school teacher and manager of Soleil at Hiroshima Prefecture’s Fuchu Midorigaoka junior high school. I am grateful for her contributions to this project. The following document was made a radical about the location of the shopping center.
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