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CASE STUDY ON ATTITUDE AND BEHAVIOR OF SCHOOL LUNCH OFFICIALS REGARDING UTILIZATION OF LOCAL PRODUCE -FOCUSING ON THE DIFFERENCE OF OCCUPATION

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Abstract

This study was conducted in January 2010 to identify influential factors for utilization of local produce in school lunch services and factor-correlations in terms of employment types and item types and to review the evaluation index for shokuiku. The research participants were 56 nutrition teachers, 91 school principals, and 23 school lunch directors. The study revealed that school lunch staff had high awareness and behavioral motivation for using local ingredients.

School lunch directors were concerned about managerial aspects such as “high price” and “not enough variety and quantity” for making lunches with local ingredients only. The principals expressed high opinion on educational or administrative advantages of using local ingredients in “increased number of local cuisine in the menu” and “securing food safety” but showed low awareness on problems related to using local produce to cook for entire student body such as “longer cooking time” and “not enough providers.” Correlation between questionnaire items revealed that there was a strong positive relation between items emphasizing advantages of using local produce. The results showed that using local produce for providing school lunches could induce changes in behaviors, such as frequenting local produce markets, and it is considered to become a good evaluation index for developing shokuiku.

Keywords

School Lunch Officials, Local Produce, Nutrition Teacher, *Shokuiku*, Attitude, Behavior

1. Introduction

Dietary education is necessary for people of all ages, but dietary education for children has a significant effect on the development of mind and body and the formation of personality, cultivating a healthy mind and body throughout life and nurturing a rich humanity. As stipulated in and the Basic Law on Shokuiku, dietary education for children is very important for not only the current development and development of mind and body, but also for the establishment of future lifestyles. Dietary education is common for Japanese citizens; however, it has been undeveloped for foreign students. Hatanaka and Tanaka reported on the results of food education conducted for international students from China. Kitreerawutiwo, N., & Mekrungrongwong, S. reported that health education for elderly people in Thailand resulted in behavioral changes. In this way, health education and dietary education are necessary education to maintain good health at any age, and dietary education from school age and adolescence is the basic knowledge for a healthy life, and it is important.

In addition, the importance of promoting dietary education through the implementation of school meals that take advantage of local characteristics was clearly specified. The Ministry of Education, Culture, Sports, Science and Technology set the target value for promoting dietary education in the Dietary Education White Paper. The “Ratio of using local produce in school lunches” is described. In addition, the effect of using local produce for school lunches and using

them as teaching materials for guidance on food is described as “Children have a closer and more real feeling. Seven items such as I can deepen my understanding of the local nature, food culture, industry, etc., and the promotion of utilization of local produce for school lunches has been proposed.

This study focuses on the differences in occupational awareness and behavior of school lunch staff (hereinafter referred to as "school lunch staff"), such as schoolteachers and school lunch directors, and nutrition teachers were interesting the use of local produce. The purpose of this study was to analyze the relationships between items and to clarify the factors affecting the promotion of the use of local produce in school lunches from the perspective of promoting dietary education.

2. Method

1. Survey Target: School Lunch Facilities

100 municipal elementary and junior high schools in Kochi Prefecture, lunch centers, etc. 34 kitchens, 7 prefectural special support schools, 7 prefectural nighttime high schools(148 in total).

Respondents: 91 school principals, 23 school lunch directors, 56 nutrition teachers. 170 people in total

(Principal: Chief of education and educational facilities in a school, and heavily involved in having responsibility for education and school facilities through school meals. School lunch director: The manager of a regional school lunch supply center, and they are in charge of managing school lunch safety, costs, staffing, etc. Nutrition teachers: Nutrition teacher and school nutrition staff manage the nutrition and hygiene aspects of school lunches and utilize school lunches engaged in food education.)

2. Survey period: January 4-January 31, 2010

3. Content of survey: Merits and issues of using local produce, awareness and behavior of school lunch-related personnel, Relationship with children and students

4. Survey method: E-mail the survey form created in Excel to each school lunch facilities surveyed.

5. Analysis method: Among the survey items, the merits and issues of using local produce, Self-consciousness and behavior of local produce, involvement with children and

students, use of local produce. The Tukey-Kramer method was used to perform a multi-group comparison test, and the significance level was set to $P < 0.05$. The data were analyzed using of PASW Version 18.

6. Ethical considerations

The Kochi Women's University Research Ethics Review Committee (currently Kochi Prefectural University Research Ethics Review Committee) conducted this study after a review (accession number 10-19).

3. Results

The collection rate and effective response from principal of school and school lunch directors, and nutrition teachers were 100%. The main results are that school lunch officials when they shop check the production area (78.2%), and they drop in at the direct production corner (68.2%), and they buy on the shop where local producers directly bring in and sell (62.9%).

In this analysis, it was clarified that the merits and issues of using local produce, the relationship with children and students, and the awareness and behavior of using local produce are not uniform depending on the type of school lunch officials.

3.1. Awareness and Behavior Regarding the Use of Local Produce Depending on the Type of Job

The awareness and behavior regarding the use of local produce, each item was analyzed for differences due to differences in occupations. Responses from nutrition teachers and others are set to 1, and responses from school principals and school lunch directors are shown as ratios (Figure 1).

Regarding the problem of using local produce, 3 out of the 7 items, school principals rated 0.8 or less, and among them, " Taking time to cook" was 0.07, but " No returnable and exchangeable " was high at 1.38. School lunch directors, etc. exceeded 1.2 in 4 out of 7 items, of which 1.89 were " High cost " and 1.83 were " No returnable and exchangeable ", while " Taking time to cook " or " Items don' t come as ordered " or "No retailer " was 0.8 or less. In addition, neither respondent answered that "the cooking staff could not understand" nor "there were more leftovers".

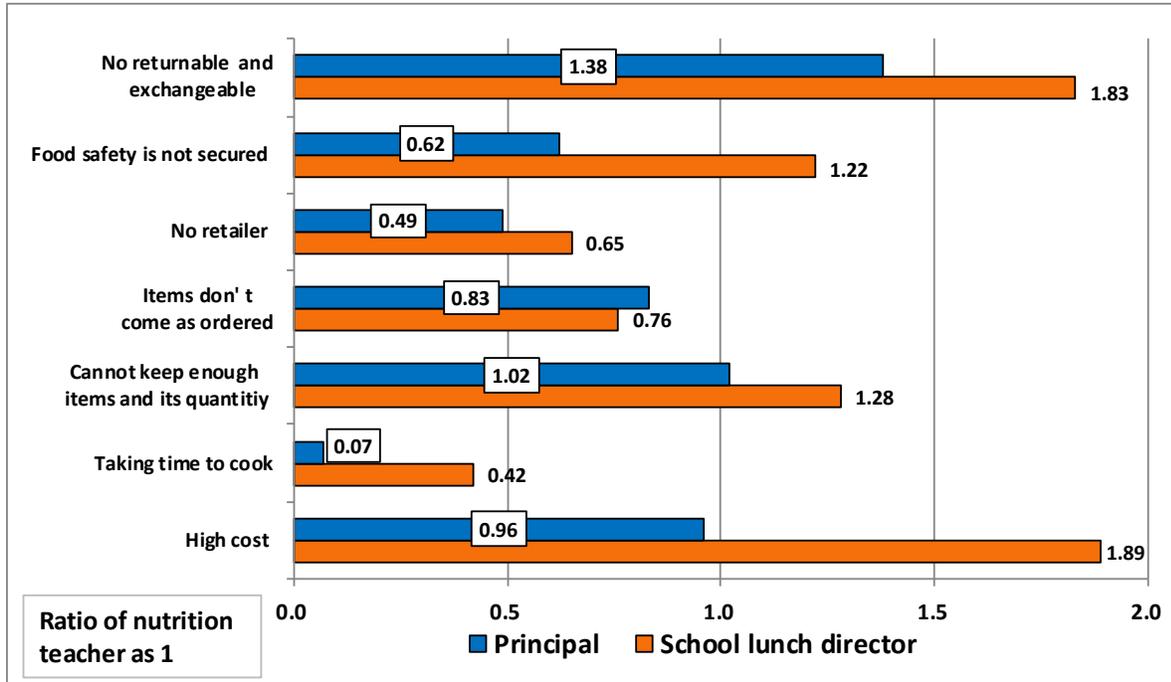


Figure 1: Awareness and Behavior regarding the Use of Local Produce Depending on the Type of Job (1)

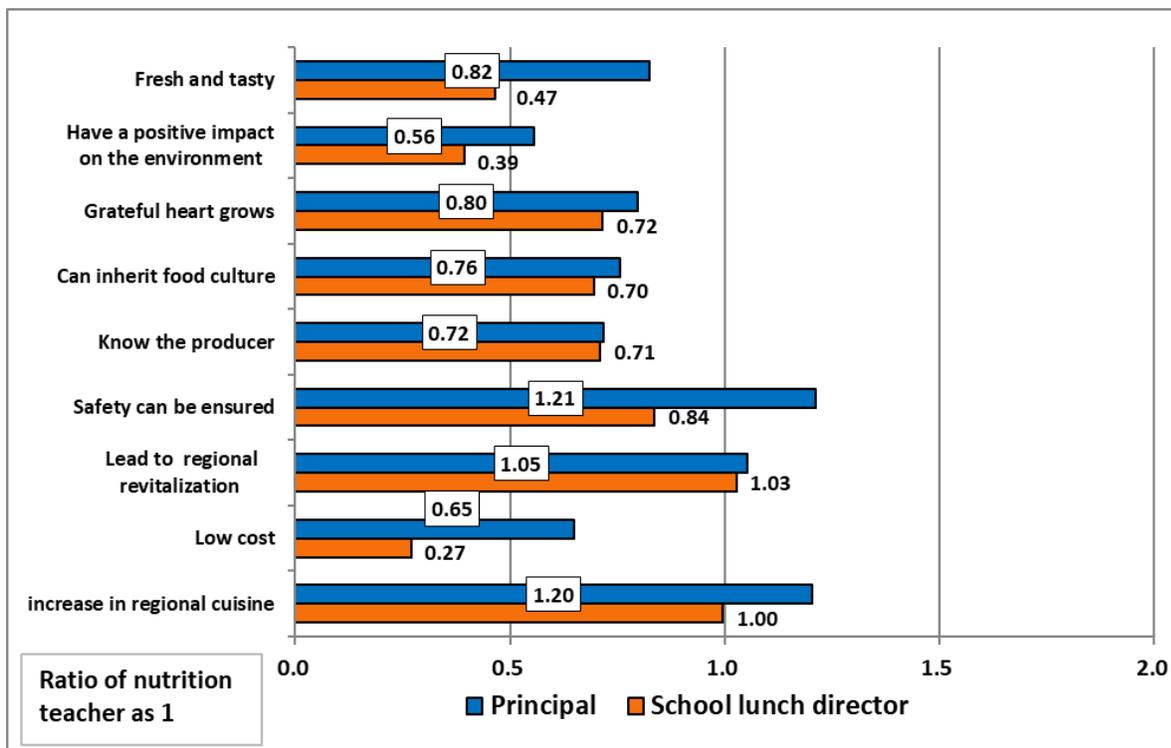


Figure 2: Awareness and Behavior regarding the Use of Local Produce Depending on the Type of Job (2)

Table 1: Relations between Local Produce and occupations

No.	Item	Occupations	* p<0.05 ** p<0.01								
1	Benefits of utilizing Local Produce	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">*</td> <td style="border: none;">]</td> <td style="border: none;">* *</td> </tr> </table>]	*]	* *				
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2		principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;"></td> <td style="border: none;">]</td> <td style="border: none;">*</td> </tr> </table>]]	*				
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3		principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">*</td> <td style="border: none;">]</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">]</td> <td style="border: none;">* *</td> <td style="border: none;">]</td> <td style="border: none;">*</td> </tr> </table>]	*]]	* *]	*
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4		principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">*</td> <td style="border: none;">]</td> <td style="border: none;">*</td> </tr> </table>]	*]	*				
]		*]	*							
5		principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">*</td> <td style="border: none;">]</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">]</td> <td style="border: none;">*</td> <td style="border: none;">]</td> <td style="border: none;"></td> </tr> </table>]	*]]	*]	
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6	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;"></td> <td style="border: none;">]</td> <td style="border: none;">*</td> </tr> </table>]]	*					
]]	*								
7	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;"></td> <td style="border: none;">]</td> <td style="border: none;">* *</td> </tr> </table>]]	* *					
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8	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">* *</td> <td style="border: none;">]</td> <td style="border: none;">* *</td> </tr> </table>]	* *]	* *					
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9	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;">* *</td> <td style="border: none;">]</td> <td style="border: none;">* *</td> </tr> </table>]	* *]	* *					
]	* *]	* *								
10	principal Facility Director Nutrition teacher	<table style="border: none;"> <tr> <td style="border: none;">]</td> <td style="border: none;"></td> <td style="border: none;">]</td> <td style="border: none;">*</td> </tr> </table>]]	*					
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*, p<0.05, **, p<0.01 P-value<0.05 indicates a significant difference

Principals expressed high opinion on educational or administrative advantages of using local ingredients in “increase in regional cuisine in the menu” and “safety can be ensured” but showed low awareness on problems related to using local produce to cook for entire student body such as “taking time to cook” and “no retailer (Figure 2).”

As described above, differences between occupation types between the nutrition teachers and school principals, school lunch directors, etc. were also seen in the response rate and the ratio when the nutrition teachers etc. were set to one. Table 1 shows a list of the results. Significant differences were found in ten items.

4. Discussion

In order to promote food education effectively that utilizes local school meals incorporating local produce; local produce are included in daily menus and are exposed to children's students. It is important to be used for various initiatives to promote the use of local produce in school lunches are being implemented in each prefecture, and the National Agriculture and Livestock Industry Promotion Organization is currently targeting 988 nutrition teachers and others (977 respondents) nationwide. The Survey and the report on the reasons for not using local agricultural products, their intentions regarding the use of local agriculture products in the future, and issues need to be solved. Fujita, Naito, Yasui, et al. reported the effects of utilization of local produce in school lunch.

As there is a report that there is a large dining room facility (lunch room) where all school children and all teachers eat meals at the same time, which has a significant effect on food education. Indirectly encourage students to work on food education. The analysis showed that school lunches generally have a high level of awareness and behavior regarding the use of local produce. This would lead to an increase in the use of local produce, as well as promotion of dietary education using school lunches that use local produce.

However, on the other hand, the role of school lunch staff involved in the job varies depending on the occupation, so the principal of the school has issues in education and operation and management, and school lunch directors focused school lunch management.

It also became clear that the consciousness and behavior of utilization were not uniform depending on the item. At schools, the "School Lunch Committee" is made up of principals, nutrition teachers, parent guardians, producers, etc. In the local community, the "Local produce

Utilization Network Conference" needs to create a system to incorporate local produce into school lunches to share benefits and issues.

Specifically, the delivery of ingredients from the local producers, who can see the face, is fresh and tasty and has the merit that it is effective for dietary education for children and students, such as raising appreciation. Cooking, same-day delivery, and sanitary control standards are rigorous. Incorporating local produce into school meals takes time to cook, and producers say that harvesting depends on the timing and weather. Nizawa et al. reported problems such as quantity, price and weather as problems when utilizing local produce for school lunch.

It is effective to share the issues, such as lack of quality and quantity, among producers, parents, and school lunch stakeholders, and to work on solving them. From these facts, raising and increasing the awareness and behavior of school lunch staff about the use of local produce will lead to the provision of school lunches that use a lot of local produce. It is expected that pupils' eyes will deepen their appreciation for producers who provide ingredients for school meals, and increase their interest in local food culture and promote food education for students.

For this reason, it is important to monitor regularly the awareness and behavior of school lunch related parties, and one important index for promoting dietary education that utilizes local produce for school lunches in the future. It was speculated that it could be.

In addition, at the school lunch site, in addition to detailed exchange of information between school lunch officials and local producers, cooperation with agricultural cooperatives and fishery cooperatives, and stable supply of seafood can be achieved. The need to create a network to utilize local produce, including the presence of processing facilities, is an issue

As described above, there are some issues that are difficult to solve even if the school lunch staff's awareness and actions regarding the use of local produce are raised. It is important to find factors that are not directly expressed in consciousness and behavior, such as nutrition teachers, school principals, and school lunch directors.

In order to increase the ratio of using local produce for school lunches and obtain indicators focusing on the results of dietary education, we will clarify those factors and work together with this index to implement school lunches and shokuiku in other words, dietary education. It is expected that it will be used in the field and lead to more effective efforts.

5. Conclusion

In order to promote food education, it is recommended to use local produce for school meals. This time, we analyzed the consciousness and behavior of school lunch stakeholders related to enhancing the use of local produce in school lunches from the viewpoint of promoting dietary education.

As shown in the results, the school lunch directors understood the issues in school lunch management such as "High cost", " Cannot keep enough items and its quantity", and " No returnable and exchangeable". On the other hand, a high percentage of school principals answered educational or operational management benefits such as "Increase in local cuisine" and " Safety can be ensured ", but when using local produce, Recognition of issues such as " Taking time to cook " and " No retailer " was low.

Although the ratio of school lunch directors was higher than that of school principals, the same situation was observed. These findings suggest that there is a difference in the perceptions of local school food stakeholders regarding the use of local produce, and that it is important to deepen the merits and issues as common recognition among occupations.

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