

## **Using school meal report in improving the performance of school meal of children at Kindergarten Bintang Harapan, Tanjung Morawa, North Sumatera**

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### **Abstract**

*At the age of 0 to 6 year is a period of growth acceleration and development. To achieve growth and development maturation, optimal nutrition is needed (Maisuari, 2022). To meet the optimal nutritional for school children needs better food supplies in school meand or breakfast In this community service activities, the team designed the school meal report book for scoring the performance of school meal.*

*The food report book is a communication media between teaches and parents on children school food. This book contains seven item to measures, namely 1) type of foods, 2) type of nutrient, 3) processing, 4) meal serving, 4) consumption, 5) consumption, 6) drinks and 7) meal box*

*Every day teachers observe meals dan giving scoring. Number of children used meal report book is sixty children from five classes. Each children have one meal report book. The activities of using meal report book is six weeks. Each item of meal performance was scored into three categories; score 6, score 8 and score 10. After six weeks using the meal report book, there were positive changes in several items of food performance. Among seven items of food performance, the average score of serving and type of drinks (7.0) are lower than other items. In week 2, five among seven items had low score. Only consumption and meal box had higher scores. This trend of scores also happened in week 3 and week 4. In week 5 and 6, only the score of drinks was low (7.5), while other variable had higher scores; types of foods 7.9, servings 7.9, types of nutrient 7.9 and score for consumption was the highest 9.0.*

*Introducing meals report can affect the performance of school meals in processing, serving and nutrient contents.*

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## **INTRODUCTION**

At the age of 0 to 6 year is a period of growth acceleration and development. To achieve growth and development maturation, optimal nutrition is needed (Maisuari, 2022). To meet the optimal nutritional for school children needs better food supplies in school meand or breakfast. Calorie contribution from breakfast must meet around 240-480 calories/day or 15-30% of the total daily energy with the composition of 45-65% carbohydrate, 10-25% protein, 25-30% fat and 5- 15% of vitamins and minerals (Rahma, 2016). However, the need for 25-30% of the total calories is rarely met. The other problem is around 50% of school children do not have breakfast (Meriska et al., 2014).

Taking food to school is a program for most kindergarten schools. A research on several kindergarten children found that most children bring fried rice, fried noodles,

omelettes, fried fish (Sinaga et al., 2021). Packaged food and stall snacks are also used as food supplies for children even though these types of food generally contain chemical preservatives (Handriana Gustin .J, 2020). The nutrient content of these types of food mostly contain high carbohydrates and saturated fats and low vitamins and minerals. This is due to the low understanding of parents about the influence of food supplies and children's nutritional status (Umasugi et al., 2020). The attention of teachers on the quality of children school food is low and most kindergarten schools provide space of vendors to sell snacks (Handriana Gustin .J, 2020).

In this community service activities, the team designed the school meal report book for scoring the performance of school meal. The food report book is a communication media between teaches and parents on children school food. This book contains seven item to measures, namely 1) type of foods, 2) type of nutrient, 3) processing, 4) meal serving, 4) consumption, 5) consumption, 6) drinks and 7) food containers. The meal report book also contains nutrition and health messages. The objective of this activity is to measure the effect of using meal report on children meal activities

## **IMPLEMENTATION METHOD**

### **A. Location and time**

Community services was conducted at PAUD BINTANG HARAPAN JI. Harapan Tanjung Morawa, Kabupaten Deli District, North Sumatera Province in June untill October 2022.

### **B. Goals of targets**

The target of this activity is the school meals of children at PAUD Bintang Harapan . have good performance in food variety, nutrient, processing, serving and drink. Teachers have ability to provide scoring for school meal.

### **C. Purpose of activity**

The purpose is to improve the performmance of school meals of children at PAUD Bintang Hararapan and provide trained teachers in evaluate school meals.

### **D. Benefits of activities**

The benefit of this activity is to familiarize mothers provide nutritious and variety meals for children and children like to eat more vegetables and fruits

### **E. DescriPtion of meal report book**

Thus book contains 20 pages, started with the explanation how to score the seven items of the meals that brought by the children to school. Several sheets were provided how to prepare proper and unique meals for children. The seven items are

1) types of foods, 2) types of nutrient, 3) meal processing, 4) meal serving, 5) consumption, 6) types of drinks 7) meal box

There are two pages for teachers notes and suggestion for mothers to improve the quality of children meals. In certain pages, there are notes for mothers to put attention on children foods and health, and several recipes to prepare unique school meals. See figure 1.

### **F. Scoring system**

Each item of meal performance was scored into three categories; 6, 8 and 10. Example if types of foods only 1 or 2 types such as rice and fish it is scored 6. If 3- 4 types it is scored 8 and if more than 4 types the scoe is 10. For consumption, if only half has been eaten scored 8 and if it is eaten up the score is 10. While for meal box or cotainers, if the several menus are mixed in a plastic bag the score is 6, if it is put

in colorful box the score is 8 and if each foods are put in separated part in a box the score is 10.

**G. The duration of using meal report**

Every day teachers observe meals dan giving scoring. Number of children used meal report book is 60 children from five classes. Each children have one meal report book. The activities of using meal report book is six weeks.

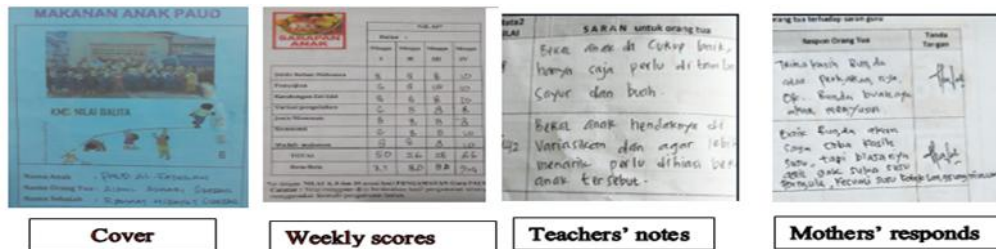


Figure 1. Description of the meal report book

**H. The steps of scoring school meal**

The first step: Teachers do observation on children meals before meal time at ten o'clock. Teacher write down the seven school meals items. The results of observation were interpreted into scores and put in the daily score table. The observations focus on the seven items of school meals

Second step: At mealtime, teachers allow the children eat the meal as usual. After meal time, teachers conducts an assessment for the seven items of scoring. The meal scores of each children are put into a daily observation form. These activities are implemented from Monday to Friday.

Step three: Teachers take the average scores and fill into the report book. The results of the weekly average value are entered into the report book. For those who get lower scores, teachers give notes and suggestions to be considered by mothers and for children get better score the teachers send compliment notes for mothers.

Fourth step: Teachers send the meal report to mothers through the children. Then asked mother to find the notes in the meal book then to send back the meal report to teachers in the next day

Fifth step: Teacher received the meal report books from children. Teachers read mothers response and keep the meal report book in the drawer.

Six step. Teachers compile the scores and identify children based on low and high scores. Then starting the proses of scoring from first step



Figure 2. The cycle of scoring system on children's school meal

## RESULT AND DISCUSSION

### Results

The purpose of Community Service is to assess the effect of using a meal report book on the performance of children school meal. Seven items of melas were measured namely; 1) type of food ingredients, 2) types of nutrients, 3) processing, 4) serving, 5) consumption, 6) drinks and 7) meal boxes. Sixty children with mothers from four classes in a Kindergarten school were involved in this community service activity.

#### 1. Changes of school meal before and after using meal report book

Before using the meal report book, 80% children brought white rice, fried rice, scrambled eggs or boiled eggs and nuggets as their meals. It means that the foods contain only two types of nutrient; carbohydrates and protein. Around 20% children bring snacks such as Biscuits, Lemonia, Toyaki and Kentucky Fried Chicken (KFC). However, these types of snack contain more than two nutrients; carbohydrates, fats and proteins and vitamin and mineral.

After six weeks using the meal report book, there were positive changes in several items of food performance. In the beginning, most children brought rice, bread, noodles fried eggs and fish, little vegetables and fruits. However, in the week five to six, the performance of school meal were improving.

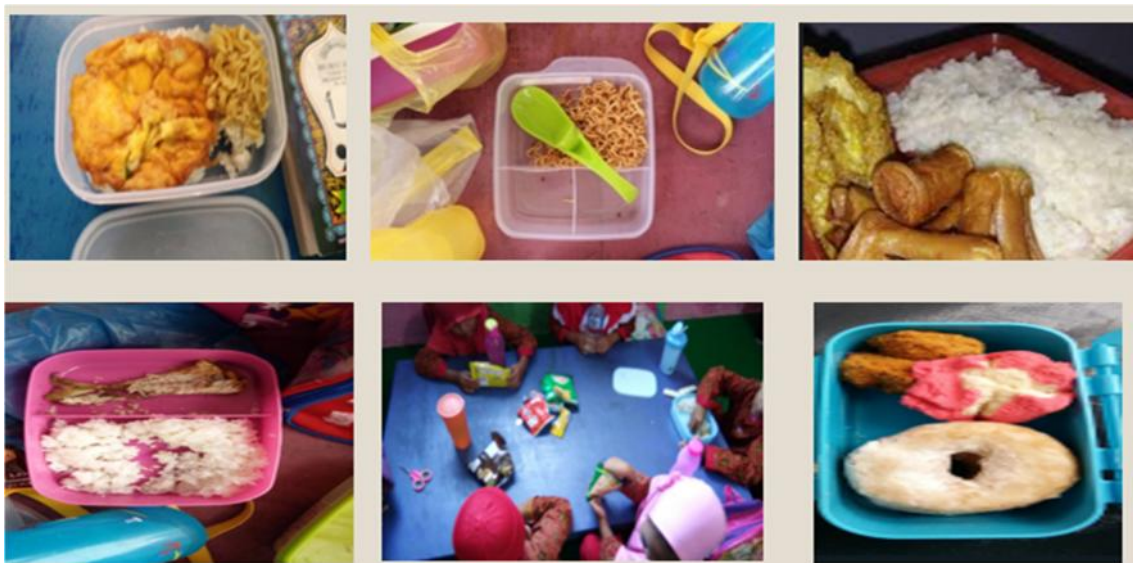


Figure 3. Types of school meals before using meal report book.



**Bekal makanan unik dihias dan warna -warni**

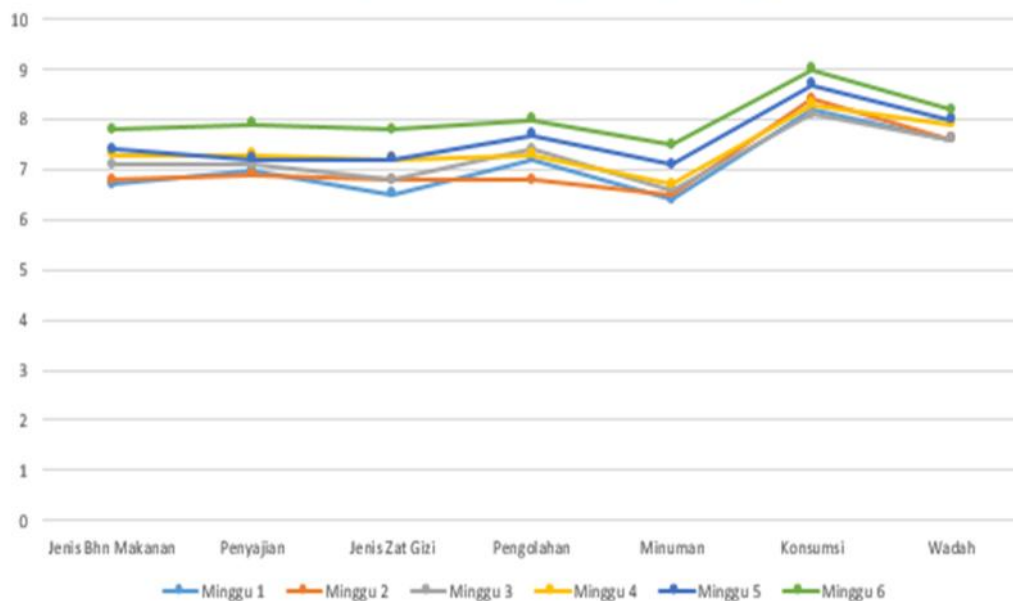


Figure 3. Types of school meals after using meal report book

## 2. Trend of scores of meals performance

Scoring activities were conducted for six weeks for 60 school children at kindergarten school. The results were presented in trend to show in which week and type of food components are changing during six weeks. In general, the average score improved from 6.5-7.5 to 8.0-9.0. The lowest scores mostly types of drinks. The complete scores as shown in Table 1.

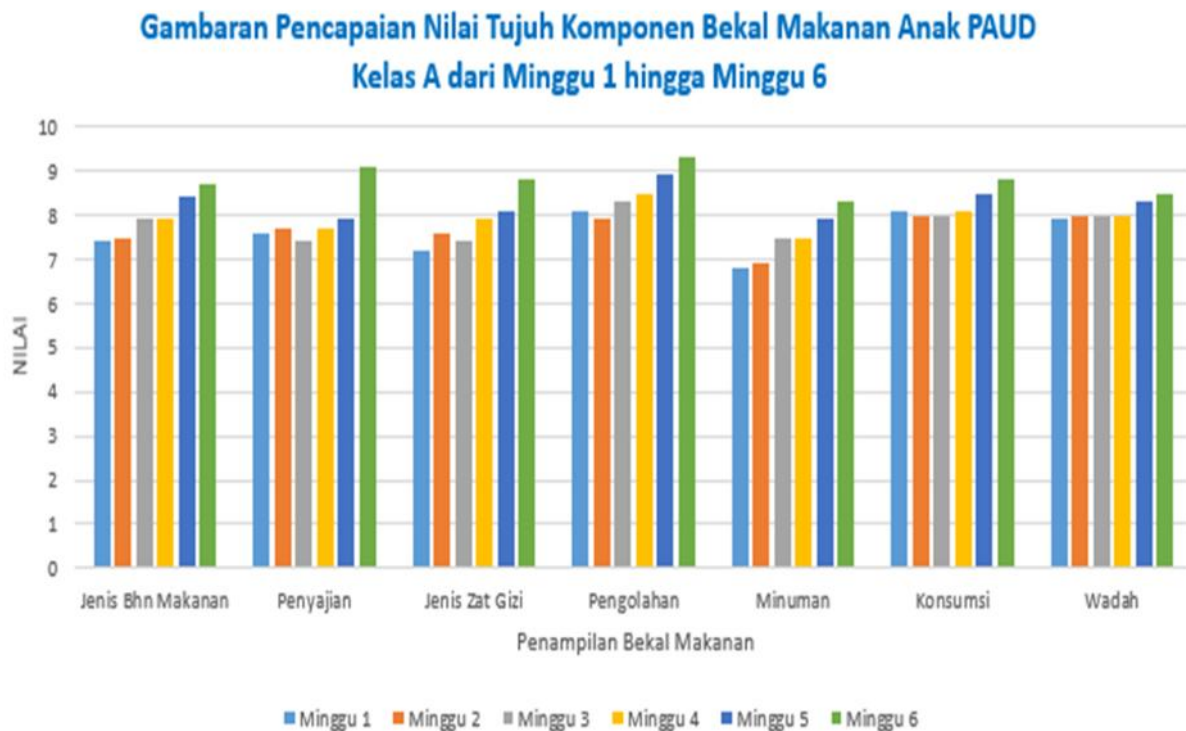
**Tren Pencapaian Nilai Tujuh Komponen Bekal Makanan Anak PAUD Bintang Harapan Tanjung Morawa dari Minggu 1 Hingga Minggu 6**





Tables 1 showed that in week 1, among seven items of food performance, the average score of serving and type of drinks (7.0) are lower than other items. In week 2, five among seven items had low score. Only consumption and meal box had higher scores. This trend of scores also happened in week 3 and week 4. In week 5 and 6, only the score of drinks was low (7.5), while other variable had higher scores; types of foods 7.9, servings 7.9, types of nutrient 7.9 and score for consumption was the highest 9.0.

Table 2. Scores of seven item of meals performance from week 1 to week 6 presented in Bar Chart



In Table 2 shows the scoring changes of seven items of meals performance. In average, the score of seven items started from score 6.8 in drinks and 8.0 in consumption. The score of types of foods (jenis bahan makanan) increased gradually from 7.3 in week 1 to 8.7 in week 6. While the scores for consumption (konsumsi) and meal box (wadah makanan) were stagnant in the range 7.9-8.0 during 4 weeks, however in week 5 and 6 the score improved slightly to 8.7 and 8.3. While the scores for serving (penyajian) and types of nutrient (jenis zat gizi) were up and down in week 1 to week 3 then in week 6 increased sharply, score 9.0 for serving and 8.8 for nutrient.

## Discussion

In this community service activity, the target is all school children consume better performance school meal and meet their nutrition requirement. The children are avoid from being overweight and obesity. Therefore, school meals should contain 10-15% protein and 20-25% fat of total calories and contain micro nutrient. However, this activity findings more children consumed low fruits and vegetables, high carbohydrates and fat and less vitamin and mineral. This type food can lead to earlier obesity.

Currently, the prevalence of obesity of elementary children is 20%. This number increased sharply since 1989, only 6% (Jasmani et al., 2014). The basic health research 2018 found that 95% of Indonesian people do not eat enough vegetables and fruits. In three consecutive years, the Indonesian population consuming vegetables as recommended is still below 10% (Riskasdas 2018).

It needs innovation to prevent children from malnutrition including obesity. Using meal report book have proved positive effect for school meal of children at PAUD school Bintang Harapan.

Application of scores in this activity might have affected mothers motivation in preparing meals for their children and children food behavior. This is in accordance with the theory of achievement motivation introduced by David McClelland (McClelland, 2014), where everyone wants to do their best to achieve inner feelings and get personal achievements and not just for social recognition.

Similar findings can be found in Sinaga's research. He has proven that using scores raport was effective to motivate mothers provide better meals for school children (Sinaga et al., 2021).

However, more children still consumed low protein and low mineral and vitamin. High carbohydrates food will affect the cognitive and learning comptencies of children. The results of Putri's research on Madrasah Ibtidiyah school children proved that children who consumed more protein increased the cognitive level(Putri, 2018).

The high number of children who bring ready-to-eat food purchased from supermarkets will not only have an impact on the nutritional status of children, it will also have an impact on behavior (Per Maisuari, 2022).

Communication between teachers and parents is the key to a child's success at school. Teachers must have a strategy for involving parents in programs at school. Using meal report book might have formed better communication between teachers and mothers. This findings in line with the results of research conducted by Triwardhani, et al where they proved that the communication patterns of teachers and parents were able to create parental interest in educational programs implemented in schools (Triwardhani et al., 2020).

## **CONCLUSION AND SUGGESTION**

### **Conclusion**

Providing good performance of school meals for kindergarten children still problem. Most mothers and families think that giving rice, eggs and milk is enough. Currently most kindergarten schools ask for students to bring meals from home to school, however most meals contain high carbohydrates, fat and protein but low in vitamin and mineral.

Introducing meals report can affect the performance of school meals in processing, serving and nutrient contents. Mothers compete and are motivated to get high scores. However it took at least two months to get the effects.

## Suggestion

Community service program can be a solution for changing the performance of school meal at Kindergarten school. School can be a place for changing and promoting better food behavior.

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