

Conceptual Understanding of Food Security of Higher Education Student in Banten Province

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Abstract—The aim of this study is to analyze the conceptual understanding of food security of student higher education in Banten province. This research uses a descriptive method with a quantitative approach. The instrument used in this research is a test. This test was used to find out the understanding of the concept of food security of higher education students. The subjects of this study consisted of 296 students of Universitas Sultan Ageng Tirtayasa. Based on the results of the data presentation, it shows that student conceptual understanding of food security as a whole is at a sufficient level with a percentage of 64%. Its means that students already have an understanding of the concept of good food security.

Keywords: *conceptual understanding, food security*

I. INTRODUCTION

Food is one of the basic human needs that must be met every day. Whereas food security is an issue that is currently busy being discussed for the realization of Indonesia as a world rice barn. With strong food security, there are no more Indonesians who suffer from poverty and cannot meet their daily food needs. Food security has a fairly broad dimension, including dimensions of time, goals, and socio-economic community [1]. This dimension is used to benchmark the measurement of food availability. From the time dimension, measurements can be taken at the individual, household, regional, national and global levels. At the regional, national and global levels, food security indicators can be used to measure the level of food availability by taking into account the level of crop / livestock damage, stock ratios, food security conditions, food development, and prices [2].

Food security is a condition for the fulfillment of food for the state up to individuals, which is reflected in the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable, and affordable and not contrary to the religion, beliefs and culture of the community, to be able to live healthy, active and productive in a sustainable manner [3]. The strategy adopted in the concept of food security is to increase food availability, food access, and food absorption [4]. The main achievements in this concept include improving nutritional status (reducing hunger, malnutrition and poor nutrition) [5]. The expected outcome is that healthy and productive people (high life expectancy) on the concept of resilience prioritize the access of every individual to obtain nutritious food for healthy and productive. Food security aspects consist of 4 (four) namely availability, access, food absorption and food stability [6]. Availability of access, and food absorption are aspects that

must be fulfilled in full [7]. One of these aspects is not fulfilled, so one country cannot be said to have sufficient food security [8]. Although sufficient food is available at the national and regional levels, if individual access to meet their food is uneven, then food security is still said to be fragile [9].

Food availability is a condition that shows that food is available in sufficient quantities, safe and nutritious for all people in a country whether it comes from self-production, imports, food reserves or food aid, where the food must also be able to meet the number of calories needed for active and healthy needs [10]. Food access is the ability of households and individuals with the resources they have to obtain sufficient food for their own food needs [11]. Food absorption is a condition that describes the use of food for the needs of a healthy life which includes the needs of energy and nutrition, water and environmental health [12]. Food stability is a time dimension of food security which is divided into chronic food insecurity and temporary food insecurity [13].

Delivering sustainable food security does not have to always focus on the supply side, namely by increasing productivity and area of food growing land, especially then only focusing on rice, but that must also be considered that understanding the concept of food security will greatly assist the achievement of sustainable food security [14]. Basically the concept of food security is related to several things such as: food availability, price stability, and food affordability / access to food [15]. The concept of food security must meet at least five basic elements, namely oriented to the needs of households and individuals, each food ingredient is available and easily accessible, prioritizing accessibility for both households and individuals physically, and socio-economically, aimed at meeting nutritional needs in a physical manner safe which can improve the degree of public health, and be able to live a healthy and productive life [16].

The narrow concept of food security reviews the food security system from the input aspect of food production and supply [17]. As is well known, both nationally and globally, the availability of abundant food beyond the food needs of the population does not guarantee that the entire population is free from hunger and malnutrition [18]. The concept of broad food security is based on the ultimate goal of food security, namely the level of human well-being [19].

The concept of food security can be applied to state the food situation at several levels, namely the global, national,

regional (regional), and household and individual levels [20]. Global, national, regional food security, local communities, households and individuals are a series of hierarchical systems [21]. In this case household food security is not enough to guarantee individual food security [22]. The relationship between individual and household food security is determined by the allocation and processing of food in the household, the health status of household members, health conditions and local environmental hygiene [23]. In addition, the factors of husband and wife's education level, local culture and infrastructure also determine the individual / household food security [24].

Food security at the local community level is a must but is not sufficient to guarantee food security for all households [25]. Furthermore, regional food security is a must for local community level food security, but it is not sufficient to guarantee the food security of local communities [26]. In the end, national food security is not enough to guarantee the realization of food security for all people, at all times so that it can meet food needs in order to live healthy and productive lives [27].

The above description shows that the concept and definition or definition of food security is very broad and varied [28]. However, from the breadth and diversity of the concept of food security, the point is to ensure adequate availability of food for humanity as well as to guarantee each individual to obtain food from time to time as needed to be able to live a healthy and active life [29]. Related to the concept of guaranteed and fulfilled food needs for each individual, it is also necessary to consider aspects of quantity, quality, food safety, local culture and environmental sustainability in the process of producing and accessing food [30]. In the formulation of policies and empirical studies of food security, the application of the concept of food security needs to be linked to a series of hierarchical systems according to the target dimensions starting from the level of individuals, households, communities / communities, regional, national and global [31]. Finally, the core concept of food security is taken as the guaranteed availability of food for all levels of the socioeconomic community to the level of individuals, in accordance with the amount obtained to be able to move and live healthy [32]. Based on food security benchmarks, a strategy for food availability that covers all the prerequisites can be chosen. The strategy to obtain sufficient food can be achieved with two approaches; food availability and ownership.

II. METHOD

The purpose of this study is to analyze the understanding of the concept of food security of higher education students in Banten Province. The subjects involved in this study were 296 student from Universitas Sultan Ageng Tirtayasa (Untirta). This study used a descriptive method with a quantitative approach.

The instrument used was a test of conceptual understanding about the concept of food security. The instrument test was used to find out the understanding of the concept of food security of students. Test items are developed based on indicators of conceptual understanding ability: (1) interpretation ability; (2) the ability to set an example; (3) the ability to classify; (4) summarizing abilities;

(4) the ability to conclude; (5) the ability to compare; (5) ability to explain. This test question consists of 21 questions. The assessment or score of the answer to the questions is arranged based on indicators of conceptual understanding of food security. The following is a guideline for scoring categories for understanding food security concepts that can be seen in Table 1 below [33].

TABLE 1. GUIDELINES FOR CONCEPTUAL UNDERSTANDING SCORE LEVEL

Score (%)	Level
81 - 100	High
56 - 80	Enough
0 - 55	Low

III. RESULT AND DISCUSSION

A. Result

The following are the results of the analysis of the conceptual understanding of food security of Untirta students which can be seen in Table 2 below.

TABLE 2. STUDENT CONCEPTUAL UNDERSTANDING LEVEL OF FOOD SECURITY

Indicator	Score (%)	Qualification	Average (%)	Level
Interpreting	95	High	64	Enough
Exemplifying	75	High		
Classifying	80	High		
Summarizing	50	Low		
Inferring	40	Low		
Comparing	50	Low		
Explaining	55	Low		

From Table 2, in general the level of student understanding of the concept of food security is at a sufficient level, which means students already have a good understanding of the concept of food security. The highest ability is on the indicator of stating interpretation with a percentage of 95% which is at a high level, which means that almost all students have interpretation skills. Suffice to be lower than the other abilities is the indicator concluded with the percentage of 40% that is at a sufficient level, which means that very few students have the ability to deduce from the concept of food security.

B. Discussion

Based on the results of the data presentation, it shows that Untirta students' understanding of the concept of food security as a whole is at a sufficient level with a percentage of 64%, meaning that students already have an understanding of the concept of good food security. For more details, the students' understanding of the concept of food security will be explained, as follows.

1) Interpreting

In the ability of interpretation obtained a percentage of 95% with a high level. This means, in this ability most students have been able to change information from one form to another. The ability to interpret information is closely related to a person's fluency and the originality of the person's ideas in processing information. The ability of interpretation is also supported by the flexibility (flexibility) in interpreting varied information and detailing it in certain details (elaboration). Someone who has good flexible thinking skills can see information from different points of

view, so that it will produce different outcomes. The ability of interpretation will depend on how one sees things.

2) *Exemplifying*

Exemplifying is the ability of students to give examples of general concepts or principles. Based on the analysis results the ability to give examples is 75%. This means that when students are given the task to give examples of the concept of food security, the student will give several examples of the concept of food security. The ability to give examples is very closely related to a person's fluency in relating everyday events related to the concept given. A person's flexibility in defining concepts also supports the process of extracting information related to the concept being studied. Someone will always try to give an authentic example of himself, so he will try to be different from the others. Someone who has a good understanding of the concept will try to give specific details in each example given.

3) *Classifying*

The ability to classify is one's ability to know that something (example) belongs to a certain level (concept / principle). Based on the analysis results the ability to classify by 80%. This means that someone quickly classifies examples that fall into a certain level. Someone must have the ability to detail good details so that it will be easier for that person to define these examples on a similar level.

4) *Summarizing*

The ability to summarize is a person's ability to express a sentence that represents information received or abstract a theme. Based on the analysis results the ability to summarize by 50%. This means that someone who has good fluency in processing information will easily make a summary of that information. Flexibility in understanding changes in the meaning of information is very necessary in the processing of summaries, so it will facilitate the formulation of conclusions from a complex information. Each person has the ability to summarize differently depending on the perspective of the person's assessment of information. The more details that are provided in a summary, the more information that can be captured from the summary, so that the elaboration ability is needed in the ability to summarize.

5) *Inferring*

The ability to infer is the ability of a person to abstract a concept or principle through the process of finding patterns in a number of examples to become a conclusion. Based on the analysis results the ability to conclude by 40%. Making conclusions involves a deep thought process, so that fluency is needed in linking one concept to another and flexibility in finding ideas in the formulation of conclusions. Conclusions someone in assessing something will be different, so the authenticity of thought and varying perspectives in drawing conclusions are needed. Creativity is needed by someone in making comprehensive and representative conclusions.

6) *Comparing*

The ability to compare is one's ability to detect similarities and differences between two or more objects, events, ideas, problems, or situations. Based on the analysis results the ability to compare by 50%. This means that the process of detecting similarities and differences between two or more objects requires carefulness and flexibility of the perspective of observation of the object. The ability to

compare is very closely related to observations on specific details possessed by an object, so the ability of elaboration is needed in the process of comparing.

7) *Explaining*

The ability to explain is one's ability to create and use a causal model in a system. Based on the analysis results, the ability to explain is 55%. This means that someone who is fluent in making connections between one concept and another will have the ability to explain better than the substandard ones. The ability to explain someone will be better if the person is able to provide detailed details of the relationship between these concepts.

From the results of the above explanation, it can be seen that Untirta students' already have a sufficient level of understanding of the concept of food security, so that there are still several indicators of understanding of the concept of food security that still need to be improved such as the ability to summarize, conclude, compare and explain. So, by further enhancing the abilities in the concept understanding indicator it is expected to be able to help students gain a good understanding and form a positive attitude towards the concept of food security.

Furthermore, students are said to understand the concepts taught if they are able to restate a concept, that is, students are able to explain concepts verbally about what they have learned, classifying objects according to certain properties according to their concepts, namely students are able to classify objects based on being fulfilled or whether or not the requirements that shape the concept, provide examples and not examples of a concept that is sufficiently studied.

IV. CONCLUSION

Based on the results of the analysis it can be concluded that:

- 1) Overall the level of student understanding of the concept of food security is at a sufficient level.
- 2) Indicators mastered by students in understanding the concept of food security are in the ability to interpret, the ability to set an example, and the ability to classify.
- 3) Indicators that are not mastered by students are the ability to summarize, summarize, compare and explain.

As for some of the suggestions that will be put forward regarding this research are as follows:

- 1) For Higher education institutions, it is expected to be able to develop students' abilities in understanding the concept of food security.
- 2) For lecturers who support the Food Security course, are expected to be able to maintain and improve the ability of students to understand the concept of food security both through learning design and assessment that can improve the ability to understand the concept of food security, so that students have a good understanding and it can foster positive attitude of students towards the importance of food security.
- 3) For students, they can improve their ability to understand concepts of food security, so that the concepts in each material taught can be well understood.
- 4) For other researchers, can conduct further research related to the ability of conceptual understanding of food security, and can conduct further research related to

factors that influence the level of understanding of students towards the concept of food security.

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