

THE STUDY OF RESPONSIBILITY AND UNDERSTANDING OF UNDERGRADUATE STUDENT BEHAVIOR ON REDUCING PLASTIC AND FOAM IN SUAN SUNANDHA RAJABHAT UNIVERSITY.

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ABSTRACT

The purpose of this research was to study the effects of responsibility and understanding of undergraduate students on the behavior of plastic and foam usage reduction of students in Suan Sunandha Rajabhat University in the academic year 2019, with a sample of 100 students. The tools used in the research were the students' response survey on the behavior for usage plastic and foam. Data were collected between 16 to 20 September 2019 and analyzed by using descriptive statistics such as percentage, average and standard deviation.

The research found that undergraduate students receive news about reducing plastic and foam used from social media as the number one and receiving the last news about reducing plastic and foam boxes from newspaper media. The study of students' opinions about the responsibility of reducing plastic and foam. 98.4% of students agreed to reduce waste by using cloth bags and rice boxes instead of plastic bags and foam. As the students' opinions about understanding, 100% of students have the same direction that reducing the use of foam reduces the risk of food contamination.

Keywords: public responsibility, understanding, behavior reducing, plastic, foam

INTRODUCTION

Plastic and foam are inventions that created to meet the needs of consumers and still have a low production cost in addition, plastic and foam are creates convenience in daily life. In another aspect, it will find using plastic and foam how much more equivalent to creating more garbage in the world only nowadays, many countries around the world have reduced the use of plastic bags and foam. It was changed in a good direction for Thailand. The survey results show that 2.7 million tons of plastic and foam waste, or an average of 7,000 tons per day, divided into 80% plastic bags or 5,300 tons per day, or about 2 million tons. The rest is about 700,000 tons of foam waste degradation up to 450 years [1]. Only 35% of Thailand's total waste is disposed via recycling, incineration or collection in a landfill, the remaining 65% ends up in open-dumping sites [2]. Research predicts an annual 20% increase of plastic use in Bangkok, causing not only an increase in ocean pollution, but also a decrease in human health [3]. For domestic level activities had produced 1.93 kilograms of waste per house

daily. Types of recycled waste that was found most are plastic bottles, glass bottles, cardboard boxes and paper. Overall, plastic bags are the top type of waste found in household [4]. There are many impacts associated with plastic waste such as the spread of diseases and negative human health effects. A common plastic additive, bisphenol A (BPA) can cause severe health effects such as infertility, breast and prostate cancer, and polycystic ovary syndrome when absorbed orally, transdermally or by inhalation [5], [6]. Polyvinyl chloride can cause cancer, birth defects, genetic changes, chronic bronchitis, ulcers and skin diseases. Polystyrene (PS, foam products) can irritate eyes, nose, throat and cause dizziness and unconsciousness [7]. Furthermore, plastic not only decreases the standard of living but also impacts the environment. Raising awareness, creating awareness and understanding of behavior to reduce the use of plastic and foam for the public, therefore, is important to the situation. The use of plastic and foam in Thailand is important. Faculty of Science and Technology, Suan Sunandha Rajabhat University has realized the importance of creating awareness and understanding of behavior in reducing plastic and foam. The objectives of this research is undergraduate student group, which are the majority population of the university when compared to the population, it can be considered that teenagers are considered an important age group for learning and creating better ways of living. In addition, the work can be developed to create learning resources for waste management in plastics and foam in the future.

OBJECTIVES

Objectives of the undergraduate study the effects of responsibility and understanding of undergraduate students on the behavior of plastic and foam usage reduction of students in Suan Sunandha Rajabhat University, were as follows:

- 1) To study the responsibility of undergraduate students on the behavior of reducing plastic and foam in Suan Sunandha Rajabhat University.
- 2) To study the understanding of undergraduate students on the behavior of reducing the use of plastic and foam in Suan Sunandha Rajabhat University.

METHODOLOGY

This study was surveyed research the effects of responsibility and understanding of undergraduate students on the behavior of plastic and foam boxes usage reduction of students in Suan Sunandha Rajabhat University. A questionnaire was utilized as the research tool for collecting the data with the survey sample of 100 students at Suan Sunandha Rajabhat University in the academic year 2019. The collected data was tested for completeness and analyzed with Statistical Package of Social Science (SPSS). Descriptive statistics used in this research were percentage (%), mean (\bar{x}) and standard deviation (S.D.). Opinion level standard can be divided score by a range. Each range is 5 levels. The criteria used to interpret information according to the Likert Scale method follow as Likert protocol [8]. Each scale is divided into 5 levels. The score range was described as follows A to E category.

- A) Score range between 4.21 to 5.00, meaning on the level of opinion is very high.

- B) Score range between 3.41 to 4.20, meaning on the level of opinion is high.
- C) Score range between 2.61 to 3.40, meaning on the level of opinion is moderate.
- D) Score range between 1.81 to 2.60, meaning on the level of opinion is low.
- E) Score range between 1.00 to 1.80, meaning on the level of opinion is not very low.

RESULTS

The results of this research can be described in accordance with objectives of the study. Following are detail of the results found in this study.

I. General Background of student

The number of 100 undergraduate students who were selected as the sample of this research can be described for their general background in to 5 items as shown in Table 1. and information receiving about plastic and foam boxes usage reduction Table 2.

According to Table 1, from 100 students, which respondents most of them were female about 70.0 percentage that were aged about 21 years old (31.0%) and the most of them are studying in 3rd year of bachelor's degree (32.0%).

According to Table 2, found that the most media type which students receive information about plastic and foam usage reduction was social media ($\bar{x} = 4.00$, S.D.= 0.00) in high opinion level followed by television ($\bar{x} = 2.77$, S.D.= 0.42) in moderate opinion level, radio ($\bar{x} = 2.23$, S.D.= 0.42) in moderate opinion level and news paper ($\bar{x} = 1.00$, S.D.= 0.00) in very low opinion level.

Table 1. Frequency and Percentage of General Background of Students

| Description Data | Frequency (Students) | Percentage (%) |
|------------------------------|----------------------|----------------|
| Sex | | |
| Male | 37 | 37 |
| Female | 63 | 63 |
| Total | 100 | 100 |
| Age | | |
| 19 | 24 | 24 |
| 20 | 23 | 23 |
| 21 | 31 | 31 |
| 22 | 22 | 22 |
| Total | 100 | 100 |
| Year of Study | | |
| 1 st year student | 22 | 22 |
| 2 nd year student | 23 | 23 |
| 3 rd year student | 32 | 32 |
| 4 th year student | 23 | 23 |
| Total | 100 | 100 |

Table 2. Mean, Standard Deviation and Opinion level of Information Receiving about Plastic and Foam usage reduction.

| Media Type | \bar{x} | S.D. | Opinion Level |
|---|-----------|------|---------------|
| Television | 2.77 | 0.42 | Moderate |
| Radio | 2.23 | 0.42 | Moderate |
| News Paper | 1.00 | 0.00 | Very Low |
| Social Media (e.g. facebook, twitter and instgram, etc.) | 4.00 | 0.00 | High |

II. The responsibility of undergraduate students on the behavior of reducing plastic and foam

Table 3. Mean, Standard Deviation and Opinion level of responsibility of undergraduate students on the behavior of reducing plastic and foam in Suan Sunandha Rajabhat University

| Responsibility of Undergraduate Students on The Behavior of Reducing Plastic and Foam | \bar{x} | S.D. | Opinion Level |
|--|-----------|------|---------------|
| 1. Students can reduce waste by using cloth bags and meal boxes instead of plastic bags and foam. | 4.92 | 0.27 | Very High |
| 2. Did you know that the Ministry of Public Health has a law that prohibits using non-standard foam to put hot food? | 4.07 | 0.86 | High |
| 3. Did you know that there is a campaign to use natural materials instead of plastic and foam? | 4.55 | 0.50 | Very High |
| 4. Did you know that the Ministry of Public Health has a policy to reduce and stop using plastic and foam? | 4.48 | 0.50 | Very High |
| 5. Consumers should be participate to reduce the use of plastic or foam. | 4.51 | 0.50 | Very High |
| 6 Manufacturers should be participate to reduce the use of plastic or foam. | 3.32 | 1.18 | Moderate |
| 7. There should be legal enforcement measures to reduce the use of plastic and foam. | 3.99 | 0.82 | High |
| Total | 4.26 | 0.66 | Very High |

According to Table 3, The analysis of summary that shows the responsibility of undergraduate students on the behavior of reducing plastic and foam in very high opinion level ($\bar{x} = 4.26$, S.D.= 0.66) In addition, if you consider each topic, you found the most score

topic was “Students can reduce waste by using cloth bags and meal boxes instead of plastic bags and foam ” in very high opinion level ($\bar{x} = 4.92$, S.D.= 0.27). The secondary score topic was “Did you know that there is a campaign to use natural materials instead of plastic and foam?” in very high opinion level ($\bar{x} = 4.55$, S.D.= 0.50). The lowest score topic was “Manufacturers should be participate to reduce the use of plastic or foam” in moderate opinion level ($\bar{x} = 3.32$,S.D.= 1.18).

III. The understanding of undergraduate students on the behavior of reducing plastic and foam

Table 4. Mean, Standard Deviation and Opinion level of the understanding of undergraduate students on the behavior of reducing plastic and foam in Suan Sunandha Rajabhat University

| Understanding of Undergraduate Students | | | |
|--|-------------|-------------|------------------|
| The Behavior of Reducing Plastic and Foam | \bar{x} | S.D. | Opinion Level |
| 1. Plastic bags and foam affect to environment | 4.93 | 0.26 | Very High |
| 2. Plastic bags and foam take longer to degrade than cloth bags | 4.56 | 0.50 | Very High |
| 3. Most people prefer to use plastic bags and foam rather than cloth bags. | 3.97 | 0.83 | High |
| 4. Reducing the use of plastic bags and foam are one way to help reduce global warming. | 4.48 | 0.50 | Very High |
| 5. Reducing the use of foam reduces the rate of illness with cancer. | 3.94 | 0.83 | High |
| 6. Reducing the use of foam reduces the risk of food contamination. | 5.00 | 0.00 | Very High |
| 7. Global warming caused by the use of plastic bags and foam and then burn. | 5.00 | 0.00 | Very High |
| 8. Plastic bags are easier to tear than cloth bags. | 5.00 | 0.00 | Very High |
| 9. Campaigns organized in department stores make people more environmentally conscious. | 4.00 | 0.83 | High |
| 10. Time to use the cloth bag, you feel comfortable and happy when shopping. | 3.50 | 1.16 | High |
| 11. You like to use reusable bags more than plastic bags. | 4.03 | 0.81 | High |
| 12. You feel good to receiving points or awards when you say “No” to accepting plastic bags when shopping. | 3.63 | 1.12 | High |
| Total | 4.34 | 0.57 | Very High |

According to Table 4, The analysis of summary that shows the understanding of undergraduate students on the behavior of reducing plastic and foam in very high opinion level ($\bar{x} = 4.34$, S.D.= 0.57). In addition, if you consider each topic, you found the most score topic were “Reducing the use of foam reduces the risk of food contamination”, “Global warming caused by the use of plastic bags and foam and then burn” and “Plastic bags are easier to tear than cloth bags”. Each of them were in very high opinion level and the lowest score topic was “Time to use the cloth bag, you feel comfortable and happy when shopping.”in high opinion level ($\bar{x} = 3.50$, S.D.= 1.16).

IV. The opinions of undergraduate students about reducing the use of plastic and foam

Table 5. Frequency and Percentage of the opinions of undergraduate students about reducing the use of plastic and foam in Suan Sunandha Rajabhat University

| Topic | Frequency (Students) | Percentage (%) |
|--|-------------------------|----------------|
| 1. Student’s responses to what they would do if a store charged them 2 bath for a plastic bags. | | |
| Buy or Bring a reusable bag to put stuff in. | 71 | 71 |
| Accept charge price | 26 | 26 |
| Go to another store that does not charge a price for bag. | 3 | 3 |
| Complain publicly via social media | 0 | 0 |
| Other | 0 | 0 |
| 2. Type of plastic that students use most | | |
| Plastic Bag | 10 | 10 |
| Plastic Bottle | 23 | 23 |
| Plastic Food Container | 0 | 0 |
| Plastic Cup | 0 | 0 |
| Plastic Straw | 67 | 67 |
| 3. Why you use plastic from question no.2? | | |
| It is convenient | 32 | 32 |
| It is sanitary | 0 | 0 |
| It is light weight | 0 | 0 |
| The store or restaurant gives it to me | 63 | 63 |
| There is alternative | 5 | 5 |
| 4. Do you use any of the following on a daily? | | |
| Cloth bag | 62 | 48.4 |
| Reuseable water bottle | 58 | 45.3 |
| Lunch box | 8 | 6.3 |
| I don’t use any of the above options | 0 | 0 |

According to Table 5, from the opinions of undergraduate students about reducing the use of plastic bags and foam can be summarized as follow: In the topic that students had to pay charge price from receiving plastic bags from stores, most of students (71%) choose to buy or bring bags a reusable bag to put stuff in., followed by (26%) Accept charge price for a plastic bag.

For topic type of plastic that students use most, 67% of the students use plastic straw, followed by plastic bottles (23%). Reasons that students still use plastic followed by 1) The store or restaurant gives it when they shop (63%), 2) It is convenience (32%). In the daily life of students, the survey found that most use cloth bags instead of plastic bags (48.4%), followed by students using reusable water bottles (45.3%).

V. Factors for undergraduate students to reduce the use of plastic and foam.

From results, the factors of reducing the use of plastic and foam can divided into 3 topics as follows:

- 1) Students are important role in reducing the use of plastic and foam. If the number of user decreases, environmental problems from plastic and foam are also reduce too.
- 2) Reduction of plastic and foam from shops and manufacturers that are an important role in helping people reduce the use of plastic and foam.
- 3) The government is another important factor in reducing the use of plastic and foam. They can create policies to reduce the use of plastic and foam.

VI. Aware of the campaign to reduce using plastic in the university.

Students are aware of the usage reduction plastic from stores in the university have campaign to reduce the price if buyers do not accept plastic bags such as beverage shops, restaurants, etc. Some students comment that Not aware of the campaign to reduce plastic use in the university because of not seeing the media from the university and not following the news.

CONCLUSIONS

From the study of the responsibility and understanding of undergraduate students in Suan Sunandha Rajabhat University, 100 people, with the behavior of reducing plastic and foam, found that the type of media that students receive information about reducing the use of plastic and foam is social media. The students' responsibility of the behavior reduction of plastic and foam was very high opinion level. In which students perceived in the same direction as using cloth bags and rice boxes instead of using plastic and foam can reduce waste. In addition, the study of student understanding about reducing the use of plastic and foam. Students have a very high opinion level of understanding of the subject. Students understood in the same direction that Plastic and foam boxes affect the environment. Reducing the use of plastic and foam can reduce the problem of food contamination.

The study of the opinions of the undergraduate students on the use of plastic and foam found that in the case that the store charged them 2 Bath for a plastic bag, as a result student agree to buy or bring cloth bags for food by themselves. The type of plastic that students use

the most is plastic straw, followed by plastic bags. The reason is store provided with the product.

From the study, the factors that helped reduce the use of plastic and foam were concluded in to three factors as the commitments of first, the users (most of the SSRU students) who concern to responsibility to of using product and packaging, the trader and the manufacturers were an important part in helping to reduce the use of foam and plastic as a container, and the third, the government policies as for the awareness of the campaign organized by the university to reduce the use of plastic and foam, some students are not aware of the activity due to the lack of thorough media distribution.

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