

# Creative Media Design Using M-learning “Junk Food”

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## ABSTRACT

Distance learning via electronic devices like smartphones encourages lifelong learning as viewers can view media and motion graphics conveniently, effectively and ubiquitously. Distance learners can participate and learn through these devices with no need to come to classrooms (Brown as cited in Tiantong, 2004). This research was aimed to study the design and the effectiveness of the creative media with the use of M-learning to teach viewers on junk food consumption. Animated infographics were edited and arranged to convey messages of concerns in junk food overconsumption, causing cardiovascular diseases, diabetes and obesity. Experts on motion graphics gave consultations, correctness and evaluation to the media tested with a target group of 31 participants aged 16 to 20. On visual and audio evaluation, the average score of the aspect of the proper use of graphics was the highest, 4.2, S.D. = 0.62 (satisfactory level), while that of the use of interesting graphics was 4.58, S.D. = 0.70 (satisfactory level). On the content, the average score of the aspect of the use of motion graphics, making the media more interesting, was the highest, 4.54 with S.D. = 0.50 (satisfactory level). To conclude, the designed media received the average score of presentation style, design and content of 4.41 with S.D. = 0.6 (satisfactory level). Experts suggested the narrated sound was well rhythmic but should be louder.

**Keywords:** M-learning, Fast Food, Distance Learning, Fried Chicken

## 1 INTRODUCTION

Nowadays, Thai people have a hectic lifestyle, undeniably leading to inappropriate eating habits such as eating unhealthy food with few nutrients. Consequently, this causes long-term health problems, particularly serious diseases e.g. cancers, strokes, high cholesterol, high blood pressure and obesity, to many Thai people as of the increasing death rate related to these illnesses. Additionally, the average age of cancer patients lowers from 50 years old in the past, to just 30 to 40 nowadays. The main cause of having cancers, at least 50%, is from eating processed food filled with chemical substances, along with more fast food consumption of Thai people, like westerners. This results from the advertisement and the brands' image that presents their food with good look and convenience as consumers needs no food preparation to eat it. In fact, there are two types of fast food: 1) Full-meal fast food, consisting of high-carb food e.g. potatoes and bread, and processed meat e.g. ham, sausage, bacon, grilled and fried chicken and pickled vegetables, and 2) Snack fast food, snacks and dessert-like food such as cakes and meatballs, which contain high saturated fat and sodium but low fibre.

Therefore, there is a need to create effective and creative health communication to promote how to eat healthily and appropriately according to the need of the body. Each

food intake in each meal should be calculated to prevent the risk of having diseases in long term.

### 1.1 The objective of the study

- 1) To study fast food consumption behaviour through the edited motion graphic media design on ‘Junk Food’
- 2) To study the effectiveness of the creative media with the use of M-learning

### 1.2 Population

The 160 students of Media Art and Medical and Science Media Departments of King Mongkut’s University of Technology Thonburi.

### 1.3 Sample

The sample of this study is 31 first year students of Media Art and Medical and Science Media Departments of King Mongkut’s University of Technology Thonburi who are interested in the research topic, selected by using purposive sampling, due to the objective of the study.

## 2 LITERATURE REVIEW

### 2.1 Consumer Behaviour

Consumer behavior role refers to the role of consumers in making decision to buy. Marketers have applied the study of consumer behavior in their marketing strategies especially on advertising strategies and the presenter roles which consist of 5 different 5 roles: 1) Initiator 2) Influencer 3) Decision maker 4) Buyer and 5. User [6].

Due to the ‘Five-Stage Model of The Customer Buying Process’, after understanding the consumer behavior and the factors affecting their buying process, the mentioned five stages are 1) Need Recognition 2) Information Search 3) Evaluation of alternative 4) Purchase Decision and 5) Post purchase behavior [7].

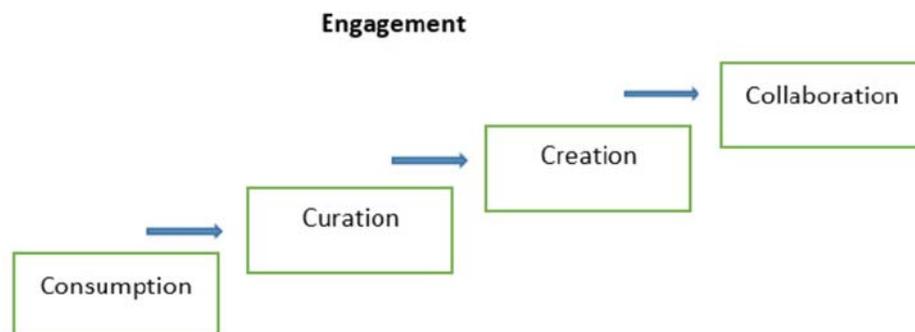


Figure 1: Engagement of consumers through social media [5]

The figure above of Evan [5] also discusses the nature of consumer engagement through online media in four steps:

1) Consumption: consumers will download, read, watch or listen to content and information as the beginning of any online activity.

2) Curation: consumers will evaluate and give ratings.

3) Creation: consumers will create their own content which requires feedback in addition to the step of evaluation. For example, consumers upload images to websites, click like or share promotion content.

4) Collaboration: This is the last step in creating a collaborative and active online society.

## **2.2 Related Research**

Karakada Katemethavit [4] studied the fast food consumption habits of Chiang Mai University students as well as factors, attitudes and effects of fast food consumption. The research found that students aged 19-22 years, on average, consumed fast food 3-5 times a month. The most popular choice was fried chicken while the most popular time to consume fast food was from 5 - 8 pm. There were 2 or more consumers for each consumption as most were female. The consumption usually happened at familiar shops or restaurants. The most important factor of product consumption was the food taste.

Waraporn Sangrussame [1] studied the behavior of fast food consumption of the undergraduate students of Kasetsart University. The research found that students, on average, consumed fast food 2-3 times a month, by eating fried chicken with soft drinks during 6 - 8 pm. The reason for choosing fast food was the time-saving and convenience factors. They usually ate as groups and received promotion news from the shops or restaurants. The eating period was approximately 21-30 minutes.

## **3 RESEARCH METHODOLOGY**

### **3.1 Mobile Learning (m-learning)**

There are 4 key components for M-learning.

1. MLMS (mobile learning management system) is a mobile learning management system with the part of the instructor and the part of the learner. Learners will log in to study the course content prepared by the instructor. Administrators will manage and supervise all functions to facilitate the learners e.g. file size or data access due to bandwidth limitations.

2. m-content is the content used for mobile on the basis of AIDDE model in the design process. Multimedia e.g. still and motion graphics as well as sound are used to understand the content. The video size needs to be small to allow the motion graphic to be easily shown on phone screens and files to be quickly downloaded.

3. MCMS (mobile content management system), which acts like a CMS in e learning, but its images and sound are downsized for mobile presentation.

4. m-testing is in the part of the lesson evaluation to assess the learned knowledge. Pre-test and post-test are used to compare the results of the study.

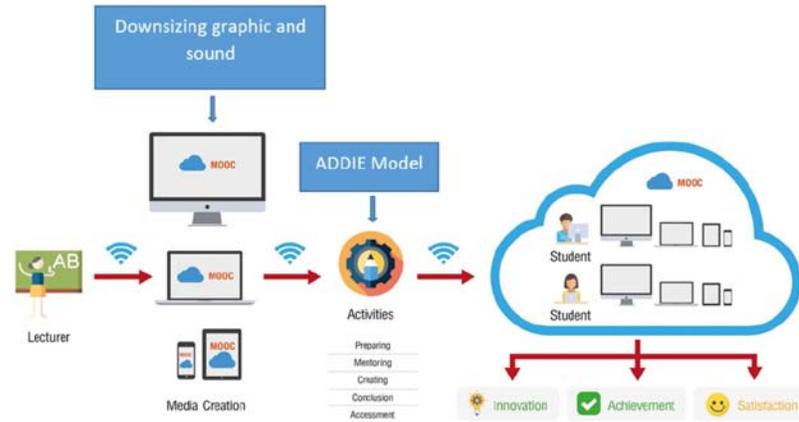


Figure 2: M-learning application processes

Table 1 The comparison of conventional course and m-learning course [8].

Learning aspects	Conventional Course	m- learning Course
Quality of teaching	Quality of teaching depends on each individual teacher as of a different teaching technique and experience.	Quality of teaching is similar. The learning benefits depends on each learner.
Self-study learning	Learners have less self-study as they tend to forget after classes.	Learners have more opportunity to do self-study as they can access to links provided immediately.
Person-to-person encounter in classes	Learners can encounter with others in real class environment.	Learners can encounter with others in online class if the class environment is well designed with good network.
ต้องมาเรียนพร้อมกัน Class Attendance	Class attendance is necessary as all learners and teacher must attend classes at the same time for learning together.	Class attendance is not required as learning is subject to each individual. Each learner can select the time of their own convenience to access the lessons.

For the evaluation of quality and satisfactory level of sample, researchers calculate for the Mean Score and Standard Deviation score and present them in tables.

The formula to calculate Standard Deviation is as follows

$$SD = \sqrt{\frac{n \sum_{i=1}^n X_i^2 - (\sum_{i=1}^n X_i)^2}{n(n-1)}}$$

When  $SD$  = Standard Deviation

$n$  =The total number of items

$$= X_i \text{ Rate of each Expert} \quad (1)$$

**Level of Standard Deviation**

- Average scores 4.50 -5.00 means very satisfied
- Average scores 3.50 -4.49 means satisfied
- Average scores 3.00 -3.49 means neutral



Figure 3: A graphic shows calories in one piece of fried chicken



Figure 4: A graphic shows consumers should avoid fast food consumption

## 4 RESULTS

### 4.1 The evaluation scores from 31 participants

Table 2 The evaluation scores on visual and audio of the media

Visual and audio evaluation	Average score	S.D.	Satisfactory level
The graphics are interesting.	4.58	0.62	Very satisfied
The use of graphics is proper.	4.67	0.70	Very satisfied
The narrated voice is clear and correct.	4.51	0.62	Very satisfied
The use of color tones is proper.	4.51	0.72	Very satisfied
<b>The average score</b>	<b>4.57</b>	<b>0.05</b>	<b>Very Satisfied</b>

Table 3 The evaluation scores on content of the media

<b>Content evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
The content is easy to understand.	4.48	0.56	satisfied
The content makes target group understand more of the junk food consumption	4.45	0.50	satisfied
The media presentation style using motion graphic for learning is interesting.	4.54	0.56	Very satisfied
The media presentation style allows access to information of how to eat healthy food with proper amount.	4.51	0.50	Very satisfied
<b>The average score</b>	<b>4.50</b>	<b>0.04</b>	<b>Very Satisfied</b>

#### 4.2 The evaluation scores from 4 experts

Table 4 The evaluation scores on the overall creative media design

<b>Overall media design evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
The language use of content is proper.	4.25	0.58	satisfied
The content is concise.	4.25	0.50	satisfied
The content is harmonious.	4.25	0.50	satisfied
The content is interesting.	4.75	0.50	Very satisfied
<b>The average score</b>	<b>4.37</b>	<b>0.20</b>	<b>Satisfied</b>

Table 5 The evaluation scores on overall content

<b>Overall media design evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
The overall creative media design is interesting and attractive	4.38	0.67	satisfied
The overall creative media design helps understand the content	4.45	0.65	satisfied
<b>The average score</b>	<b>4.41</b>	<b>0.006</b>	<b>Satisfied</b>

Table 6 The evaluation scores on motion graphic techniques

<b>Motion graphic evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
The graphics make the content convincing.	4.25	0.50	satisfied
The graphics are properly designed with suitable color use and good arrangement.	4.25	0.50	satisfied
The camera angles agrees with the content.	4.25	0.50	satisfied
<b>The average score</b>	<b>4.25</b>	<b>0.25</b>	<b>Satisfied</b>

Table 7 The evaluation scores on narrated voice

<b>Narrated voice evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
The emotion of the voice is proper.	4.5	0.58	Very satisfied
The rhythm of the voice is proper.	4.5	0.58	Very satisfied
<b>The average score</b>	<b>4.5</b>	<b>0.19</b>	<b>Very Satisfied</b>

Table 8 The evaluation scores on background music

<b>Background music evaluation</b>	<b>Average score</b>	<b>S.D.</b>	<b>Satisfactory level</b>
Background music creates perfect mood.	4.0	0.82	satisfied
Background music is proper.	4.0	0.00	satisfied
<b>The average score</b>	<b>4.0</b>	<b>0.41</b>	<b>Satisfied</b>

## 5 CONCLUSION

It can be concluded from the results of the evaluation of the sample group on the research: Creative Media Design Using M-learning “Junk Food” that overall, participants think the media is in satisfactory, 4.41 (Satisfied level). For the visual and audio, the score is 4.57 (Very Satisfied level) with the use interesting and proper use of graphic and audio. They also are very satisfied with the narrated voice and color tones, giving the good mood and feeling, in the media with the score of 4.51, equally. They also prefer the use of motion graphics that makes the media interesting and gives information of proper food consumption with the score of 4.54 (Very satisfied level). In summary, the average score of overall content is 4.41 (Satisfied level) as the media helps make viewers understand the information easily.

The quality of the media that is assessed by 4 experts receives highest score on content, 4.75 (Very Satisfied level), while evaluation score on motion graphics is 4.25 (Satisfied level). They also prefer the narrated voice as it has proper emotion and rhythm with the score of 4.50 (Very Satisfied level).

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