

## BORANG PENGESAHAN STATUS TESIS

JUDUL : PENDIDIKAN KESIHATAN DAN PENJAGAAN DIRI KANAK-KANAK

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COURSEWARE:  
PENDIDIKAN KESIHATAN DAN PENJAGAAN DIRI KANAK-KANAK

FARIDAH BINTI ABD WAHAB

This report is submitted in partial fulfillment of the requirements for the Bachelor of  
Computer Science (Interactive Media)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
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2008

## DECLARATION

I hereby declare that this project report entitled  
**PENDIDIKAN KESIHATAN DAN PENJAGAAN DIRI KANAK-KANAK**

is written by me and is own effort and that no part has been plagiarized  
without citations.

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## DEDICATION

A special dedication to my beloved parents Abd Wahab bin Zakaria and Ruhani binti Mohamed, because giving me support in completing my final year project which is entitled "*Pendidikan Kesihatan Kanak-kanak*".

I also would like to dedicate to the people who help and support direct or indirect in finishing my project successfully.

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## ABSTRACT

Courseware “*Pendidikan Kesihatan dan Penjagaan Diri Kanak-kanak*” was developed to give an exposure to children for taking care of their health and nutrition at the early stage. It will help the parent a teachers and local authorities as a medium to deliver the messages and information to teach the children about the health care. This application was developed with multimedia elements like text, audio, graphics and suitable characters to attract the user to use this product. This product has 5 modules such as “*Pengenalan*”, “*Pemakanan Yang Sihat*”, “*Pemakanan Yang Tidak Sihat*”, “*Kesan Buruk*” and “*Uji Minda*”. This product can attract users because the colors had been choosen are suitable for their level. The software had been used to develop this product are Adobe Flash 8, Sound Forge 8.0 and Adobe Photoshop CS2. This report is provided to facilitate user on understanding the flow and process to develop this product.

## ABSTRAK

Kandungan Pembelajaran *Pendidikan Kesihatan dan Penjagaan Diri Kanak-kanak* dibangunkan untuk memberi pendedahan kepada kanak-kanak untuk menjaga kesihatan dan pemakanan daripada peringkat awal. Ia juga dapat membantu ibubapa, guru-guru serta pihak berwajib sebagai medium untuk mendidik anak-anak dalam menjaga pengetahuan mengenai penjagaan kesihatan. Di dalam aplikasi ini, elemen-elemen multimedia seperti teks, audio, grafik dan karakter yang bersesuaian digunakan untuk menarik minat kanak-kanak mendapatkan maklumat tentang penjagaan diri. Aplikasi ini mempunyai 5 modul iaitu Pengenalan, Pemakanan Yang Sihat, Pemakanan Yang Tidak Sihat, Kesan Buruk dan Uji Minda. Aplikasi ini juga mampu menarik minat kanak-kanak kerana penggunaan warna yang bersesuaian dengan tahap umur mereka. Perisian-perisian yang digunakan untuk menghasilkan produk ini ialah Adobe Flash 8, Sound Forge 8.0 dan Adobe Photoshop CS2. Sebagai kemudahan pengguna, laporan ini disediakan supaya pengguna dapat memahami perjalanan dan proses untuk membangunkan produk ini.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Project Background

Taking care of children nutrition is very important to parents to avoid malnutrition to their children. Their nutrition's should follow children age level as stated. This is because when children grow up, their nutritious style will change. They need more of nutritious food to help their growth (*Dr. Poh Bee Koon, Majlis Persatuan Pemakanan Malaysia's member and advisor panel member Program Permulaan Pemakanan Ceria*). The children whose on growth become more active and need more energy and nutritious food. The habit of health eating need to be nurtured at the young age. Generally the age 2-6 year, children have been exposed with household food gradually. There are no type of food can supply all substance that is required to our body. Therefore children diet should base upon food pyramid. As a guide, the learning content application "*Pendidikan Kesihatan dan Penjagaan Diri Kanak-kanak*" will develop to provide an exposure to children for the importance to take care the health and nutrition by using multimedia elements. It is hope that this application will provide useful input to children with more attractive style.

This application comes out with the valuable messages and advices to give instruction to the parents and children about health and nutrition. Some characters are created with animated features to give more impact to this application. For example,

character of a child is developed to act as a narrator to explain about the health and nutrition. Others character is also created to cheer up the story line to this animation. This project is participated with text, audio, graphics and attractive characters to attract the children.

## **1.2 PROBLEMS STATEMENTS**

There are a few problems why this project need to developed are:

### **1.2.1 Lack of an exposure to children for the importance to take care of nutrition**

Nowadays children like to take food that is not nutritious rather than taking nutritious food such as rice, vegetables or fruits. This will cause their children growth hindered. The children aged among 1-6 year should be taking more balance foods to help their growth and more powerful teeth and bone. The children can not eat a lot in an instant because they have a small stomach. Therefore, they should be given to eat 4 – 6 times per day. By 3 main courses, nutritious snack also may be given. However snack election must contain low salt and sugar content. The children like to take food that does not nutritious as snack, sweet, chocolate and others children not know badly impacted from flavor, coloring and preservative are included in snack. These materials could cause the children suffer deadly disease like kidneys, hindered growth and leukemia.

### **1.2.2 Lack of publicity using multimedia presentation approach**

From this study is concerned that the authority (Ministry of Health) not using the multimedia approach to provide important information about health care. They used more used media print and electronic media to disseminate information about health but children are not interested to using the approach stated.

In among material media that they had been published include pamphlet, booklet, poster, documentary and exhibit.

## **1.3 OBJECTIVES**

The main objectives to develop this project are:

### **1.3.1 To carry out the research about nutrition to the children.**

This project will study about the importance of nutrition to the children. It will convey the message to the children to take care of their health and nutrition. With this project, message about healthy can deliver with more effectiveness to children.

### **1.3.2 To develop a learning content as a medium to convey the message.**

This project will develop to convey the message about a good nutrition to the child health. The multimedia learning content for nutrition is rarely developed in Malaysia. So that, overcome this problem this project is developed.



### **1.3.3 To applied the multimedia elements to develop a courseware “*Pendidikan Kesehatan dan penjagaan Diri Kanak-kanak*” project.**

By using the techniques and expertise in multimedia field with child nutrition research, the project “*Pendidikan Kesehatan dan penjagaan Diri Kanak-kanak*” will be used to provide useful info to all users. It will be used by all users as a device to educate children, family and society.

## **1.4 SCOPES**

This multimedia application is about “*Pendidikan Kesehatan dan Penjagaan Diri Kanak-kanak*” is developing for children, parents, Ministry of Health and teachers as a medium to provide education to children. This project is using the software Macromedia Flash 8 as stated software because it is complete package to produce good animation to provide info to take care the health, nutrition and environment.

## **1.5 PROJECT SIGNIFICANCE**

There were some factors why this project needs to be developed. This application is to provide information to parents and children to gain exposure in take care the health of children beginning from early stage. This application helps the society in reducing the number of disease caused by mal-nutrition. Beside that, this application can help the authority to spread the info through new way using multimedia presentation.

## 1.6 CONCLUSION

In this chapter, it explained about the project background, problem statements, objectives, scope, project significance and expected output of this project. By the overall, this project is very important and useful to create the healthy society beginning from children. Using the multimedia approach, the information can deliver easily and more effective to children and parents. Authorities (Ministry of Health) can use the approach as a step handles to decrease the rate of children disease that cause from the food. This project needs a lot of researches and guidance from existing system to ensure the high quality product will produce.

In the next chapter, the contents are mostly on the literature review of the project which will support the concept of the development of the concept of the development of the project with words and statements on previous or existing project. The methodology, project requirement and the schedule and milestones of the project also will be described in Chapter II.

## **CHAPTER II**

### **LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

This chapter will describe about the literature review and project methodology of this project. This literature review will search after the scope and the project had been determined to collect as much information about the project. The information such as method, tool, technique and methodology are to gain from research, discussion with supervisor, internet, journal and books.

Literature review is the review from a collection of published research related to a research question. All good research and writing is guided by a review of the relevant literature. An integral component of the scientific process, a literature review is the mechanism by which research is viewed as a cumulative process. The purpose of the literature review is an essential test of the research question already known about the subject. The literature review reveals whether or not a research question has already been answered by someone else. If it has, often the question needs to be changed or modified, so that an original contribution to the research is made.

To develop this project, the researches have been done for the proof why this project should be developed.

“Nutrition is giving our body the nutrients it needs and important for everyone. When combined with exercising and maintaining a healthy weight, eating well is an excellent way to help our body stays strong and healthy.”

From the research from A St. Jude Medical Company (2007) *Nutrition and children* Retrieved on Feb 2008 it explains about the nutrient and children. The nutritional needs of children and adolescents are different from those of adults because children are growing and developing. Children need a wide range of nutritious foods, with high intake of important minerals and vitamins such as protein and calcium. If your child's intake of good food is poor, they can fail to gain or lose weight. This may be followed by failure to grow taller. Infants and children are more likely to suffer from poor nutrition than compared to adults.

There are a number of reasons for this:

- **Low Nutritional Stores:**

Newborn infants have low stores of fat and protein. The smaller child, the less reserves of energy they have. This means that they can only cope with starvation for shortened periods of time.

- **High Nutritional Demands For Growth:**

The amount of nutrition children require is greatest during infancy. This is because of their rapid growth during this period. When the child is 4 months old, 30% of their nutritional intake is used for growth. By the age of 1 year, this falls to 5%.

- **Rapid Development in the Nervous System:**

The child's brain grows rapidly during the last four months of pregnancy and also during the first two years of life. The connections

between the nerve cells in the brain are being formed during this time. Good nutrition is important to ensure that this occurs properly.

- **Illness:**

The child's nutrition may be compromised following an episode of illness or surgery. The body's energy requirements are increased, thus intake of food and nutrients should be increased.

From *The National Health and Medical Research Council (NHMRC) (2007)* it said that the long term importance of nutrition in children is for their height. The growth and nutrition are closely related to each other. The average height of a population reflects its nutritional status. In the developed world, the population has gotten taller in height. In undeveloped countries, there are shorter children, due to lack of nutrition and energy intake for adequate growth. Another one is disease in adult life.

There is evidence suggesting that under nutrition whilst the mother is carrying her baby can result in growth restriction. This is associated with an increased incidence of diseases such as high blood pressure, heart disease, stroke, type 2 diabetes mellitus, and lung disease in later life. The essentials of nutrient requirements are energy. Marked variability exists in the energy requirements of children because of different growth rates and physical activity levels.

Total energy requirement recommendations are based upon how much energy your child uses, plus 3 to 4 percent to cover the energy needed for growth. The recommended composition of dietary energy intake consists of reduced consumption of cholesterol, total fats, (especially, saturated fat) and an appropriate weight and height for your child's age.

Beside that, the essentials of nutrient requirements are the protein. It is important in children for growth, tissue repair and to make essential hormones and enzymes in the body. When energy intake is insufficient, protein intake must be raised. This is because

ingested proteins can be directed towards pathways of energy synthesis. For children, the recommended dietary allowance for protein is about 1g/kg body weight per day. Foods such as milk and cheese are excellent sources of calcium and protein for children.

From the research from *Dr. Joe Kosterich, MBBS of VMC Medical Spokesperson*, the other essentials of nutrient requirements are the fats. The fats are a concentrated and rich source of energy. In children, it is recommended that fat intake total no more than 30% of calories. Saturated fat and trans-fat should be limited to less than 10% of calories, and polyunsaturated fats to less than 10% of calories. The rest of the fat intake should consist of monounsaturated fats.

The Carbohydrate recommendations for young children are similar to those recommended for adults (around 55% of total energy intake). To meet their carbohydrate needs, active children should enjoy a diet high in carbohydrate rich foods as well as nutritious high carbohydrate snacks between meals.

The water is essentials of nutrient requirements. It will maintain adequate hydration is essential for the prevention of conditions such as dehydration and heat stress (when heat is absorbed from the environment faster than the body can get rid of it.). The child's body has less developed mechanisms to regulate body temperature. They produce more body heat per kilogram of body weight than adults, but their ability to transfer heat through their blood, to the skin is diminished. When exposed to high temperatures, children may absorb more heat than adults, because they have a high ratio of skin exposed to the sun. This shows the importance of regular fluid intake in your child. It is recommended that active children drink 150 - 200 mills of fluid 45 minutes prior to exercise, plus an additional 75-100 mill every 20 minutes during exercise. Water is recommended as the best choice of fluid.

Beside that, the other factors why this project will develop are to expose the importance of take care of food to children. Nowadays, the children exposed to danger take unclean food that is provided by the canteen in school and now too many food

poisoning cases among children. This happen because less of sanitary care of food and drink. The press cutting as evidence from *Kosmo!* (1 Feb 2008) have been exposing food poisoning case in school.

## Lagi 55 murid keracunan makanan



Figure 2.1 Press cutting from *Kosmo!*(1 Feb 2008)

## 2.2 Domain

This project is a courseware about "*Pendidikan kesihatan dan penjagaan Diri Kanak-kanak*". The project will develop using Adobe Flash 8 to give the useful information to children, parents and others. This courseware is a non-linear, dynamic process, and reusable objects. Learners determine how, what and when they access information. The courseware has transformed, personalized, customized on demand in response to learner and environmental variables. It is available on demand and just in time. Learner controls their own interaction with the content and presentation. Learner has opportunities for reflection and application. It is also reusable objects because of the content of any media that can be chunked down to the most granular, meaningful level to allow combinations of objects.

This courseware provides simple animation to make this courseware more attractive and can attract more users to use it. Some characters are creating to convey the

messages in this courseware. Character is same meaning with agent. According to Wenger 1987, *Animated Pedagogical Agents* are animated characters that facilitate learning in computer-based learning environments. These agents have animated personas that respond to user actions. In addition, they have enough understanding of the learning context and subject matter that they are able to perform useful roles in learning scenarios.

Although pedagogical agents build upon previous research on intelligent tutoring systems, they bring a fresh perspective to the problem of facilitating on-line learning, and address issues that previous intelligent tutoring work has largely ignored. Because pedagogical agents are autonomous agents, they inherit many of the same concerns that autonomous agents in general must address. (Johnson and Hayes-Roth 1998) argue that practical autonomous agents must in general manage complexity.