

**Baby Step English Educational Tool**

by

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Supervised by

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Dissertation submitted in partial fulfillment  
of the requirements for the  
Bachelor of Business Information System (Hons)  
(Information System)

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CERTIFICATION OF APPROVAL

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Project Dissertation submitted to the  
Information System Program  
Universiti Teknologi Petronas  
in partial fulfillment of the requirements for the  
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Approved by,



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## **CERTIFICATION OF ORIGINALITY**

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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(NOOR JUAINI ZAKARIA)

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background of Study**

At the early age, children explore with increased independence, and use manipulative to better understand abstract concepts and solve problems. Each child is an individual, and the range of abilities and needs in a group of children is likely to be broad. Children gain new skills and concepts in many ways, including through games, music, artwork, computers, and other tools. They learn and develop the ability to work together in groups, to logically think through problems, and to adapt to new technology. As children become increasingly proficient readers, they may use technology to access information and support and extend their learning. Baby Step English Educational Tool is a multimedia application which is able to support children in learning English. The development of the tool requires combination technology of animation and programming.

Baby Step English Educational Tool is meant to support English learning and curriculum especially for 6 to 7 year old children. It is developmentally appropriate, that is, consistent with how children's learning process development. The syllabus for Baby Step English Educational Tool is based on English vocabulary and grammar for 6 - 7 year old student. Through this application, the children will experience an exciting learning environment.

Besides learning purposes, the children who are using this tool will gain other benefits in other vital areas as well, including intelligence and nonverbal skills. Their ability in wondering and hypothesizing, problem solving, collaboration, and motivation, and a more positive attitude toward learning will be enhanced with the support of Baby Step English Educational Tool.

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## 1.2 Significance of the Project

The word technology refers to primarily to computer technology, but this can be extended to include related technologies, such as telecommunications and multimedia, which are becoming integrated with computer technology. As technology becomes easier to use and early childhood software proliferates, young children's use of technology becomes more widespread. Of the people who own home computers and have young children, 70% have purchased educational software for their children to use (SPA Consumer Market Report 1996).

Baby Step English Education System provides learning tools for 6 to 7 year old children to support them in learning English. Children will experience interesting and enjoyable learning process with colorful graphics and animations including interesting sound and the opportunity to explore and discover. Through this approach, Baby Step Educational Tool is able to encourage exploration and imagination and problem solving. The children need to make choices, and then find out the impact of their decisions. Besides, it also helps to reflect and build on what children already know. The system involves many senses with sound, music, and voice in order to support the learning and the interaction between computer and children. These characteristics fit the way that young children learn, and their need to interact with their environment.

Besides the program features, appropriate use of technology with children is also a vital element which is considered in developing the tool. The technology developed for children would be useless if it cannot be used. Most children do not understand the procedure to use application even though it is a simple action. For instance, login into application system. This is because the usability of user interface does not meet children's requirement and understanding. It is developed according to designer's model instead of users' mental model who is children with limited knowledge and intelligence capabilities.

Through this project, the ergonomic features of the system and its usability are being analyzed to produce usable educational software. Children will be able to use Baby Step English Educational Tool independently. The children can control the pacing and the action. They can repeat a process or activity as often as they like and experiment with variations. They can collaborate in making decisions and share their discoveries and creations (Haugland & Shade 1990). This opportunity will give them a sense of authority and builds their self-confidence.

Baby Step English Educational Tool' provides an appropriate usability in interface design and also attractive learning environment for children. By having these unique features, children's learning performance will be increased.

### **1.3 Objectives**

The objectives of Baby Step English Educational Tool are:

- To support English learning among children at early age using an educational multimedia application.
- To produce an educational tool, this covers the usability aspect and appropriate use of technology for children.
- To expose the children with technology and develop their skills in using the technology. This will benefit the children from using a computer and software appropriate for their developmental needs. The technology should be used in addition to hands-on learning.
- To support the teachers' or education practitioners' role in teaching.

## 1.4 Problem Statement

Usually, children learn vocabulary using cards, pictures and whiteboard in class. Besides that, they practice writing using exercise books and other writing material. However, this learning process does not provide an effective and efficient learning process. There are problems faced by the children in the learning process.

- Children are not interested to learn. They get bored easily and loss attention during learning process. Progress of the children's ability to understand is low due to loss of attention in learning process as they have low interest and motivation to learn.
- Children are not used to computer or lack of knowledge in using the computer. They need to be assisted in using multimedia application.

## 1.5 Project Scope

Baby Step English Educational Tool is purposely developed to enhance interactive learning for children and allow them to learn and explore independently. It provides the solution which integrates education and technology in order to support and improved the effectiveness of learning among children. From the finding and discussion, its function should be narrowed down to some specific scope and boundary. Some of the suggestions to this particular matter are:

- Provide an interactive environment of learning process as a solution to motivate the children's interest in learning.
- Provide a multimedia application which has appropriate usability for children.
- Provide a solution which can guide the children in handling the tool.
- Provide a multimedia application which is enhanced with tools that can develop children skills and experience with both oral and written language.

## CHAPTER 2

### LITERATURE REVIEW

There are a variety of uses of information and communication technologies to support human learning (Lewis, 1993). Many innovative measures have been introduced into traditional teaching such as radio, television, video and multimedia. These technologies help to improve the quality of teaching and learning,(Vogel & Klassein, 2001). Such technologies are not threat but rather they present a good opportunity for education (Falk & Carlson, 1992). Implementing this technology will give educators the chance to motivate the children, stimulate their interest and encourage different, various ways of learning (Lamb, 1992; Sponder & Hilgenfield, 1993; Stanley, 1995; Davis, 1997; Jonassen et. al., 1999).

A study had been done to participants in 'School Experience' course shows that by using multimedia tutorial lead to a positive difference over participants in traditional learning (A. Asan, 2003). Meanwhile, a small scale study compares two groups of year 4 pupils either reading or playing an interactive storybook. The study indicates that pupils who read the interactive storybook demonstrated greater recall of the story event structure than those who had engaged in interactive picture-play (J. Trushell, A. Maitland and C. Burell, 2003).

However, equipment produced for adults often has inappropriate physical and cognitive approaches for children, particularly for preschoolers and yet children are expected to adapt to products that have not been designed with them in mind (L. Plowman & C. Stephen, 2003).

Barker states that:

People design learning products in order to meet some perceived learning or training need. We therefore define learning design as the overall effects of the cognitive activity that takes place within the...design team during the conception and formulation of a learning product...produced to meet some pre-defined pedagogic requirement. (1995:87)

Therefore, it is hardly surprising that some software is only treasured by its developers. When its advocates leave teaching, the product is no longer used. The challenge is to develop usability in educational multimedia application that can illuminate fun, enjoyment, learn ability and age appropriateness (Hanna et. al, 1997). The fundamental design problem for educational application is the lack of an explicit pedagogical model to underpin use. All design has model or models of the teaching and learning process implicit in it, manifested by how the learner is conceptualized, whether and how the content is presented, whether and how learning is assessed, the role of feedback and whether it encourages collaboration use (Plowmen, 1999). Unfortunately, this model is rarely made explicit. Although it is now commonly accepted that children learn through play (Smith, 1998), there is some uncertainty about how this manifests itself in the design of ICT for the age range.

Parents favor educational application even for children in this age range but some of the so-called education shows quite clearly inters of appearances. Interactivity with the computer such as knows where to click can present barriers. New concepts of interface need to be developed which have user friendly elements for children in using educational multimedia application.

## CHAPTER 3

### METHODOLOGY

#### 3.1 Procedure

The application system is accessed using CD player. Once the user inserts the CD, it is automatically played in order to ease them.

- *Introduction Screen*

User will be welcomed by the introduction screen once the CD is played. There will be an icon to display the tour guide animation which shows user on how to use the system. It shows icon's function, step by step procedure to start the program, login into the application system, select the program in 'menu program' screen, operate each program (vocabulary, grammar and story program), exit the application system.

- *Login Screen*

When the user has understand and ready to get started, (s)he will click on the 'start' button. The button leads to the login page where user needs to enter their name. There is an icon showing user the step to login into application system.

- *Menu Selection Screen*

After user enter their name, (s)he will go to the next page that is the menu selection page. There will be a list of units to be chosen by the user. User is free to choose the unit of his/her interest. There is an icon showing user the step to select the program.

- *Menu Program Screen*

There are 3 menus, which are vocabulary program, grammar program and story program menu. By clicking to the particular menu program will bring users to its program screen. Here, learning process takes place. There is an icon showing user the step to do the activities in the program.

3.2 System Model

There had been much development of multimedia applications since a few years back as the technology evolved drastically. Many researches had been done on the development to identify the advantages and drawbacks of the technology evolvement. The author had decided to implement the development of Baby Step Educational Tool based on Waterfall Model according to System Developments Life Cycle (SDLC). This is because waterfall provides an orderly sequence of development steps and helps ensure the adequacy of documentation and design reviews to ensure the quality, reliability, and maintainability of the developed software.

Definition from Wikipedia, the free encyclopedia, waterfall model is a software development model (a process for the creation of software) in which development is seen as flowing steadily downwards (like a waterfall) through the phases of requirements analysis, design, implementation, testing (validation), integration, and maintenance. The term was introduced in 1970 by W.W. Royce.

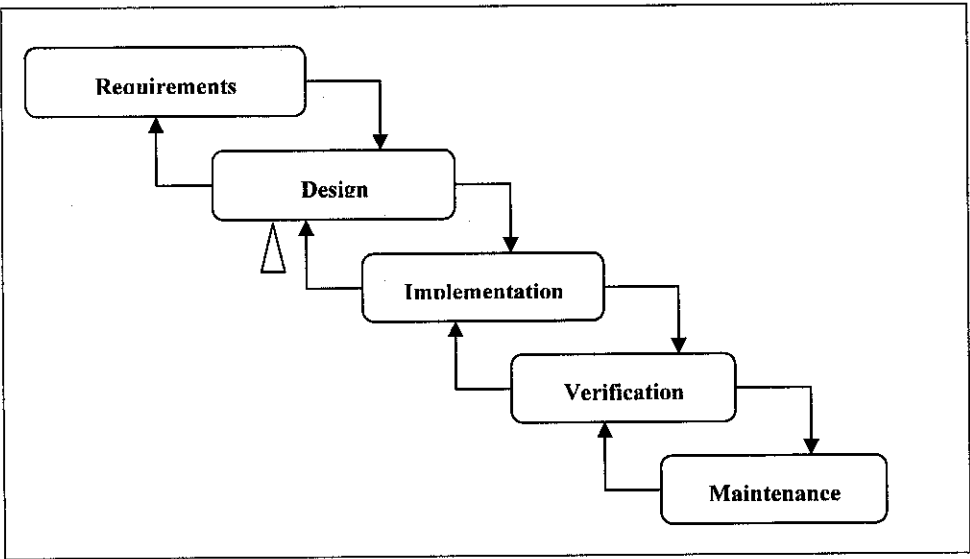


Figure 1: Waterfall Model

Figure 1 shows the illustration of Royce's final model of waterfall model, his intended improvement upon his initial "waterfall model", illustrated that feedback could (should, and often would) lead from code testing to design (as testing of code uncovered flaws in the design) and from design back to requirements specification (as wrong user requirements brings to design problems). It illustrates a few critical principles of a good methodology; work is done in stages, content reviews are conducted between stages and reviews represent quality gates and decision points for continuing.

Waterfall model consists of five phases as follows:

- *Requirements Analysis*

Software requirements analysis is the activity of eliciting, analyzing, and recording requirements for software systems. The first step is requirements elicitation is the task of communicating with customers and users to determine what their requirements are. The process is done by doing surveys on children's interaction and responds to educational tools in learning process. The survey is done to kindergarten and primary school children. Then, the result of requirements elicitation is analyzed in the next step called analysis step. The purpose of analysis activity is to transform candidate technical requirements into formal requirements by ensuring that they express the needs of the customer. The author identifies the user requirement and locates places where requirements are unclear, incomplete, ambiguous, or contradictory. Analysis is an iterative activity. The process steps will likely to be repeated several times, with consultation between end users and developer during each iteration and communication through the steps. Finally, when the user requirement had been analyzed, they are recorded in natural language documents or based on the Unified Modeling Language record requirements as use cases (provides one or more *scenarios* that convey how the system should interact with the end user or another system).



- *Design*

When and only when the requirements are fully completed, one proceeds to design. The application program and interface is designed. This design should be based on the user requirement gathered in requirement analysis phase. A blueprint is drawn for implementation process.

- *Implementation*

When and only when the design is fully completed, an implementation of that design is made. Implementation is the practical application of a methodology or algorithm to fulfill a desired purpose. During this phase, the application is developed using Macromedia Director where a formal design of the system is developed. The program interface is designed. The program is coded. The implementation phase requires more time as there are problems encountered during program development.

- *Validation (testing) and integration*

Testing phase are the most tedious but interesting part of implementing this FYP. Testing is the process used to help identify the correctness, completeness, security and quality of developed application. During this phase, there are unit testing and system testing. After the coding phase has been completed, each of the system unit will be tested accordingly. The purpose of unit testing to ease the author to identify any error occurred. After the unit testing is succeed, disparate software components produced by different teams are integrated. When the implementation and integration phases are complete, the software product is tested and debugged. Any faults introduced in earlier phases are removed here. When the system testing succeeds, the software product is installed, and later maintained to introduce new functionality and remove bugs. A common practice of software testing is that it is performed by an independent group of testers after finishing the software product. The testers for Baby Step English Educational Tool are the end users of this application that are the children.

▪ Maintenance

Maintenance is the process of enhancing and optimizing deployed software (software release), as well as remedying defects. Maintenance phase involves changes to the software in order to correct defects and deficiencies found during field usage as well as the addition of new functionality to improve the software's usability and applicability.

3.3 Tools

Both software and hardware tools are used in developing the application system. Software tools used included operating system, supporting software and scripting language and scripting language which are the application development tools.

3.3.1 Software Specifications

Software specification tools used in application development are as follows:

Software	Minimum Requirement
Operating System	Window XP
Supporting Software	Macromedia Fireworks MX 2004 Macromedia Flash MX Macromedia Director MX
Scripting Language	JavaScript

TABLE 1: Software Specifications

3.3.2 Hardware and Software Tools Fundamentals

The author has to weigh the pros and cons of the software before choosing the most suitable development tools to implement the project. Below, *Figure (a)* and *Figure (b)* are the requirements that need to be considered in order to develop and implement the system. It consists both terms; computer hardware and software.

Hardware	Model	Reason of usage
Processor	Intel Pentium 4 or above	Compatible and stable
Main Memory	128Megabytes(MB) or above	To support the Operating System

TABLE 2: Hardware Requirement

Software	Reason of Usage
Microsoft Windows XP Professional	Most stable Windows series with performance and security enhancements through service pack
Macromedia Director MX	Enable to integrate graphics, Macromedia Flash file, animation, sound and video to create interactive and dynamic projects.
Macromedia Fireworks MX	Useful tool for creating objects and environment for the system.
Macromedia Flash MX	Provide the tools for creating animated objects and compatible with Macromedia Director MX.

TABLE 3: Software Requirement

## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4.1 Users' Requirements

The author uses two approaches to gather information on users' requirements. Author conducts surveys and research findings. Two types of surveys are done that are observation survey and interview survey.

Performing usability studies with children required tailoring conventional testing methods. Adult users are often asked to evaluate features by rating them according to a scale. Children found this difficult, so the author decided to apply interview survey. In interview survey, the author experimented with simple, directed questions or task statements that attempted to extract useful feedback without influencing children's responses. For example, when doing early survey to 7 year old children, the author found that questions that required even simple hypothetical thinking on the part of the user were less useful than simple task assignments. Thus, the author told the children to "Click to answer the appeared question "instead of asking them" how you want to answer the question?" The most useful tests were brief and straightforward, and involved intriguing tasks to keep users interested.

However, children had difficulty with explicit "thinking aloud" techniques, and the author sometimes struggled to understand the verbal feedback they gave during post-test interviews. This is because of their inability to articulate their thoughts, or author's inability to understand them. They were also more likely to verbalize positive reactions than negative ones.

Therefore, the author decided to apply user observation survey to identify system requirements based on users' requirement which often the most valuable information came from interpreting children's facial expressions and spontaneous reactions. Observation survey is done to in evaluating some aspects which are not suitable for interview survey.

## **4.2 Survey Results**

The purpose of observation survey is to analyze children's responds to existing educational software. Interview survey is to identify the problems faced by children in using educational software. Respondents are 5 to 9 years old children. This age range is chosen because children's way of thinking during this age range is similar.

### **4.2.1 Survey On Children Responds To Educational Software**

The purpose of this survey is to identify interesting features that attract the children attention when using educational software. 40 respondents involved in the surveys which are from kindergarten schools and primary schools within Tronoh area aged 5 to 9 years old.

A survey form is prepared by author. Educational software will be played for the children using computer or vcd player. Then they will follow the learning process from the educational software. From the children's responds during their learning process, the author will rate their responds and fill in the survey form. The responds are rated from their excitement act, their understanding when doing the exercise given after learning from educational software and their respond to simple question about their lesson through educational software.

There are 4 criteria being assessed in the survey:

- Children respond on image feature
- Children respond on color feature
- Children respond on sound feature
- Children respond on interactive elements

The educational softwares which had been used in the survey are:

- First Step ABC,
- My First English Grammar
- GOGO’s Adventures with English
- Linguaphone Educational Software

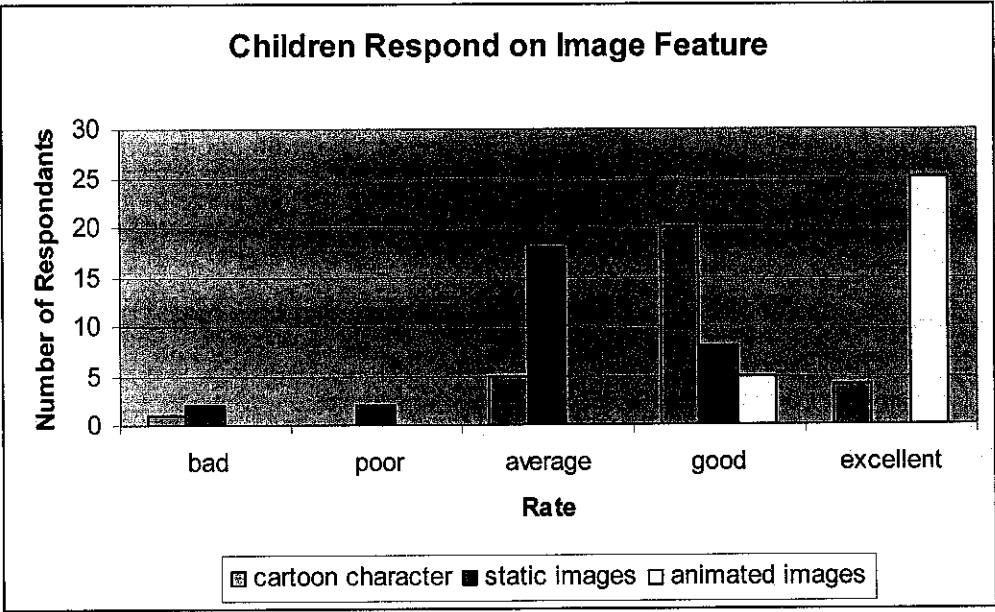
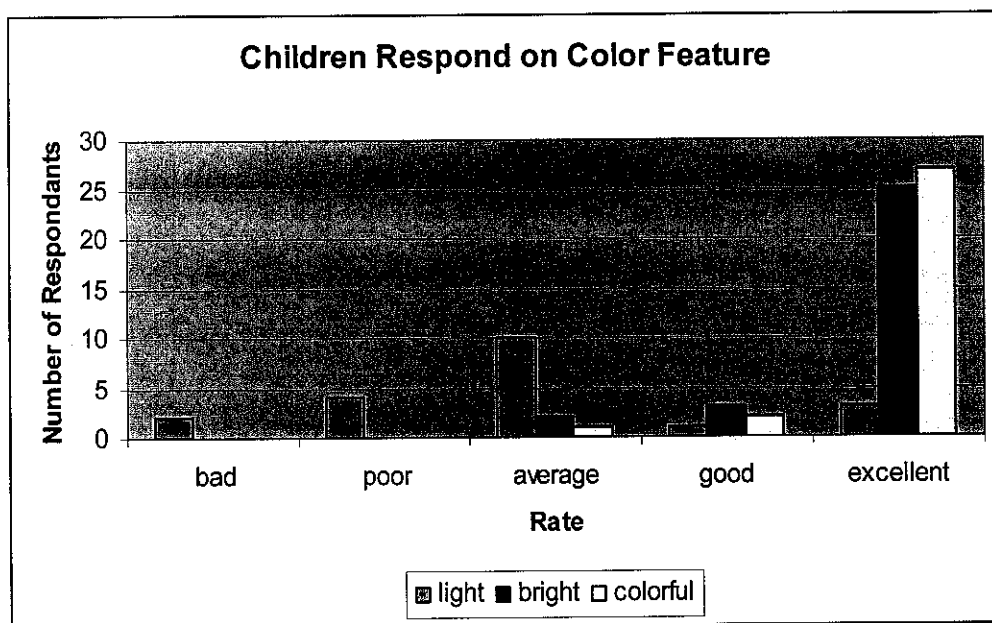


FIGURE 2: Children Respond on Image Feature

Figure 2 shows children respond to image feature. 20 children give good respond when cartoon characters are used in the educational softwares. 5 children give average respond and one child gives bad respond. For educational softwares which used static images, 8 children give good respond, 18 children give average respond, and 2 children give poor

and bad respond respectively. For educational softwares which used animated images, 25 children give excellent respond and only 5 children give good respond. The survey result indicates that children are more interested with animated images instead of static images. Cartoon characters also would attract children attention.



**FIGURE 3: Children Respond on Color Feature**

Figure 3 shows children respond on color used in educational software. Only 3 children give excellent respond to light color. Only one children give good respond, 10 children give average respond, 4 children give poor respond and 2 children give bad respond. For bright color, 25 children give excellent respond, 3 give good respond and 2 give average respond. 27 children give excellent respond to colorful color, 2 children give good respond and one child give average respond. The survey result indicates that children are more interested to colorful and bright colors than light colors.

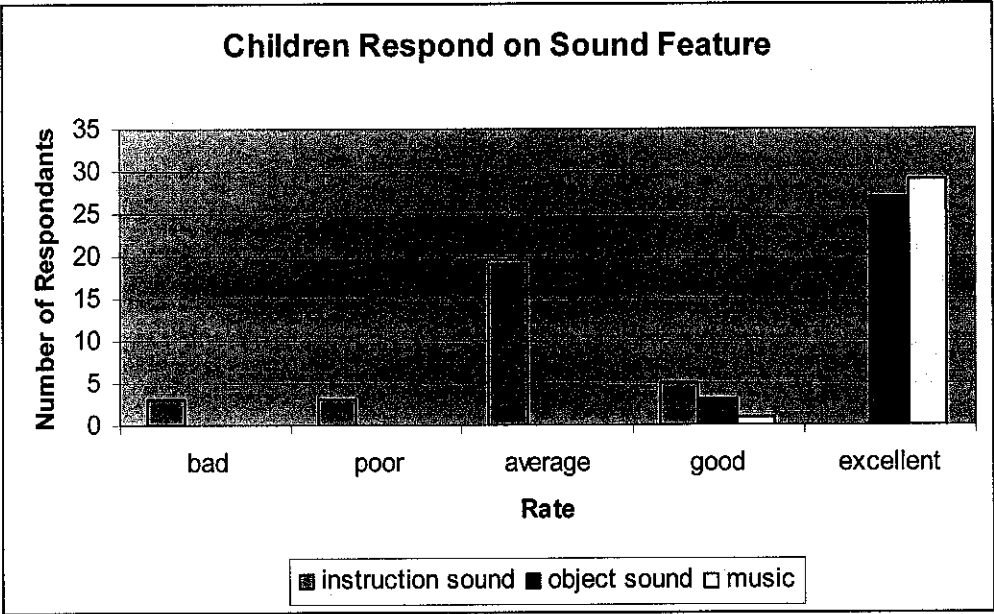
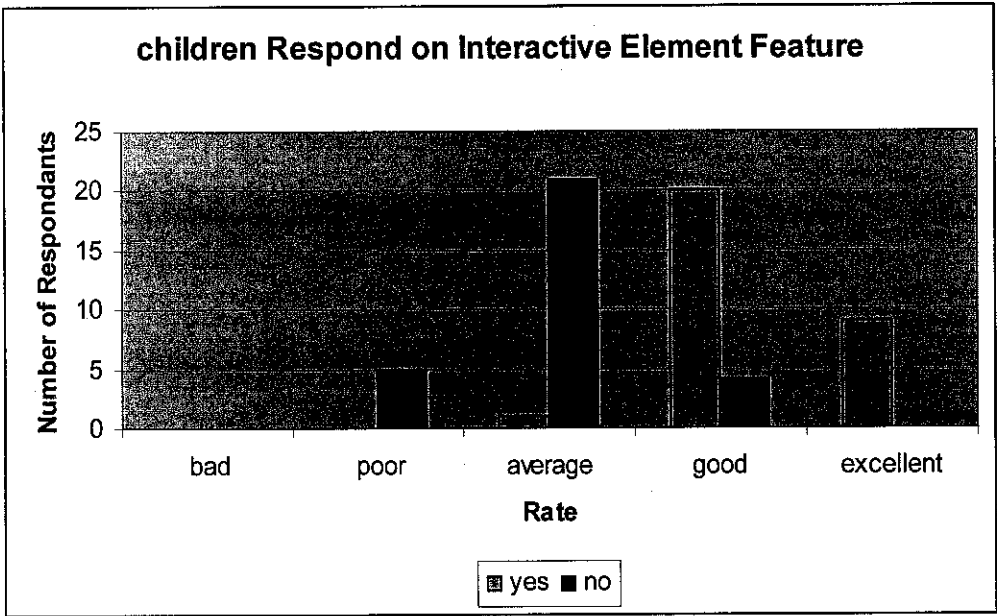


FIGURE 4: Children Respond on Sound Feature

Figure 4 shows children respond to sound feature used in educational software. 5 children give good response to sound used in giving instructions. Most children that are 19 children give average response, and 3 children give poor and bad response each. 27 children give excellent response to object illustrations with sound and 3 children give good response. 29 children give excellent response to music used and only one child give good response. The survey result indicates that children are more interested with music and objects which produce sounds. Instruction sound provided in educational software does not attract children and seems less beneficial to children. This is because language used in the application is English. Most children do not understand English well.





**FIGURE 5: Children Respond on Interactive Element Feature**

Figure 5 shows children respond to interactive elements feature used in educational software. 9 children give excellent respond to educational software which has interactive elements. 20 give good respond and only one give average respond. For educational software which does not have interactive elements, 4 children give good respond, 21 give average respond and 5 children give poor respond. The survey result indicates that most children are more interested with interactive educational software rather than non-interactive educational software.

**4.2.2 Survey on Children’s Performance in Handling Educational Software**

The purpose of the survey is to identify the important skills which are needed to operate an educational application. The survey involved children who had been chosen by the author from each age category. The children age range from 5 to 9 years old. The survey is done individually.

Their skill in using computer and English understanding is described in the graph:

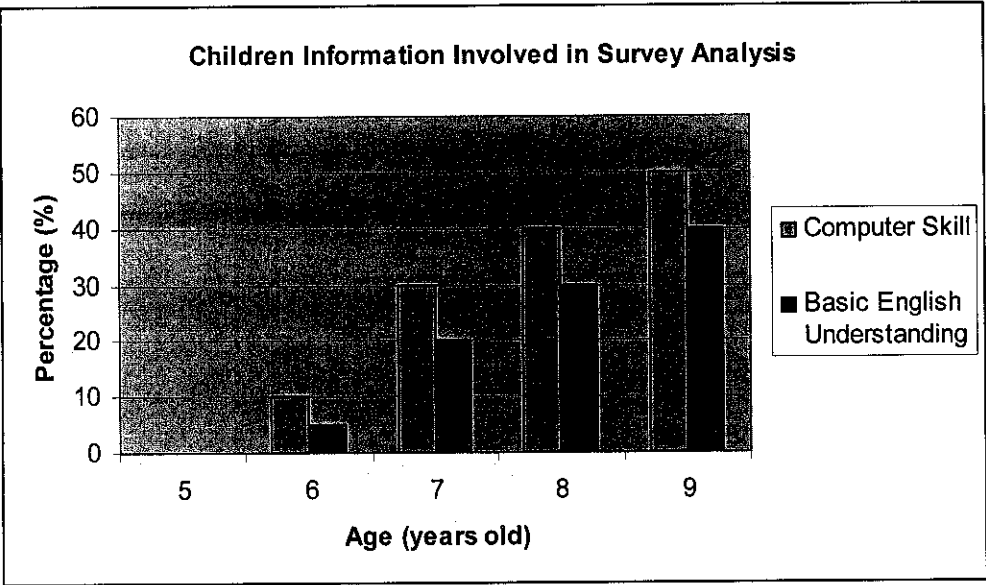


FIGURE 6: Children Information Involved in Survey Analysis

Those children are given educational software and asked to use the application on their own in separate sessions. While the children using the application, the author assess their performance and capability in using the application. The evaluation criteria in the assessment are on their capability to login into the system, on where to click while operating the system and on how to do the exercises. The educational software program requires a username to be typed in to login into the system. The capability to login into the system evaluates whether the children know to type the username and its capability to type. The evaluation criteria on where to click evaluates whether the children know to click on the right button in the program. The exercise given is to fill in the blank space by clicking on the given choices of answers. The evaluation criteria on how to do the exercises evaluates whether the children know how to put the answer.

The results of the survey are as follows:

Evaluation Criteria	Ability				
	5 years old	6 years old	7 years old	8 years old	9 years old
Know how to login	X	X	👍	👍	👍
Know on where to click	X	X	X	X	👍
Know how to do the exercises	X	X	X	👍	👍

TABLE 4: Children’s Performance in Handling Educational Software

The results show that the skills in using computer and English understanding are important so that the children can use the application more effective and efficient. 5 years old children who have 0% knowledge in computer skill and 0% understanding in basic English do not know how to login into the system, does not know where to click and does not able to do exercises. 6 year old child who have 10% knowledge in computer skill and 5% knowledge in Basic English also does not know how to login into the system, does not know on where to click and does not able to do exercises. 7 year old child who have 30% knowledge in computer skill and 20% knowledge in Basic English, she is able to login into the system. However, she does not know on where to click and not manage to do the exercises. 8 year old child who have 40% knowledge in computer skill and 30% knowledge in Basic English, she is able to login into the system. However, she does not know on where to click but she managed to do the exercises. 9 year old child who have 50% knowledge in computer skill and 40% knowledge in Basic English, she is able to login into the system. However, she knows on where to click and she managed to do the exercises.

### 4.3 Discussions

Based on the survey, the author identifies the children's problems when using educational software. Most four to six year old children have these constraints:

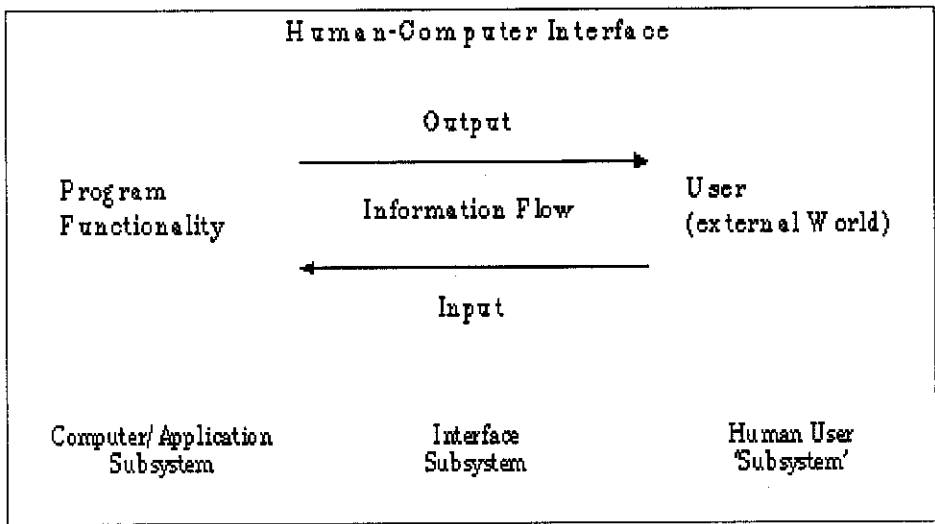
- Children have *limited planning capabilities* and may have trouble carrying out tasks that require several steps.
- Children have *limited symbolic reasoning*.
- Children have a *shorter attention span* than adults.

Due to those constraints, they have problems to understand the instruction provided in the educational software. This is shown in survey results in figure. The children does not know how to do the exercise, where to click and how to login into the system. Besides that, children have a *shorter attention span* than adults. They get bored easily in unattractive learning tools or environment. It is shown in observation survey results on children responds to educational software. Children give average or lower respond to unattractive features used in educational software such as static images, light color and non-interactive educational software.

#### 4.3.1 System Design

User interface is the communication channel between the user and the functional elements of the computer (Furnes & Barfield, 1995; Marchionini, 1991; Waterworth, 1992). Human-computer interaction can be seen as a system with three components: a computer/application, an interface, and a human user subsystem (see Figure 1). The user interface conveys the functionality of a computer application to the user, and translates the user's input into a machine-specific format (see Figure 1)

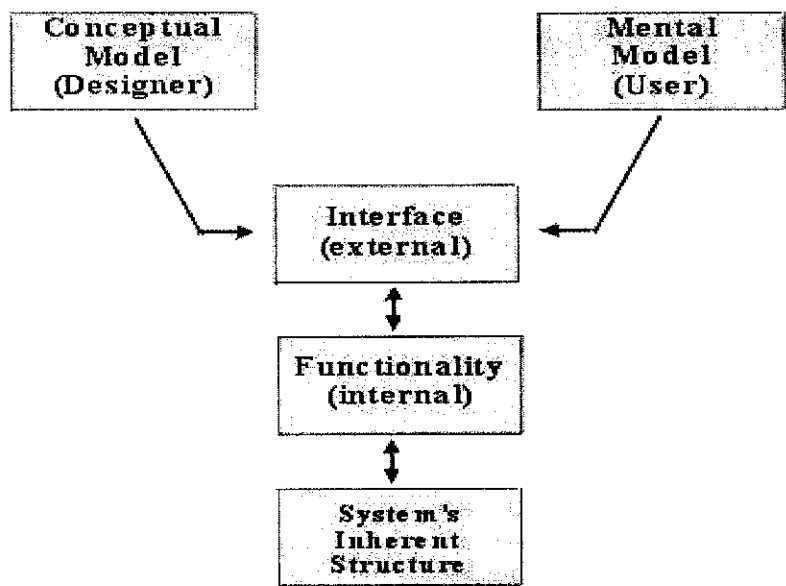
The function of the interface subsystem is to assign user input to internal representations of the computer/application and internal representations of the computer/application to output that is comprehensible to the user. The type of input and output modes employed by the interface subsystem determines the type of the interface.



**FIGURE 7: Definition of User Interface Illustration**

The design process of Baby Step English Educational Tool interface combines the development of a conceptual model of the application and its functionality by the designer, and users' mental model. The interface is designed using author's mental model according to children's mental model (see Figure 2). Here, *user-centered* design approach is used where human-computer interaction is designed with a focus on how children process and store information.

Baby step English educational tool is developed with unique features which allow the children to focus on the task at hand. It motivates children interest in learning. Unique features ease children by reducing the amount of overhead knowledge required to communicate effectively with the computer. Children are able to interact with computers without requiring adult assistance.



**FIGURE 8: Definition of User Interface Illustration**

**4.3.2 Learning Tools**

Baby step English educational tool consists of three programs for learning process. The programs are ‘vocabulary’ program, ‘grammar’ program, and ‘story’ program. ‘Vocabulary’ and ‘grammar’ program has lesson and activity session. Vocabulary lesson session displays objects and spelling. This program builds children’s vocabulary. ‘Grammar’ lesson session teaches children on basic grammar using music. Grammar lesson is taught from music lyrics. ‘Story’ program displays simple structure story. This program taught children to form sentences.

**4.3.3 System Features**

Baby step English educational tool is developed for children. It The features embedded in Baby Step English Educational Tool are based on the survey results and research findings done by the author.

Features	Description
Animated images	Animated image is a feature which would attract children attention and build their interest and motivation to learn. Most of the images used in the program used animated images.
Colorful colors	Colorful colors are used for background, icons and navigation features. Colorful colors would bring cheerful environment.
Sound element	Music also being played to build the children interest. Objects produce sound increase children understanding.
Interactive activities	Interactive exercise activities to improve the children understanding and build children interest in learning. Children also are able to develop their skills in using computers.
Tour guide	Tutorial on procedural step in using the system is showed using tour approach. Children do not need read instructions. Instructions or steps to operate the application is showed using animation. It ease children in understanding the instructions.

TABLE 5: Baby Step English Educational Features

4.3.4 System Interface

System interface is consists of welcome screen, menu screen and program screen interface. The interface layout is shown in figure 9, 10 and 11.

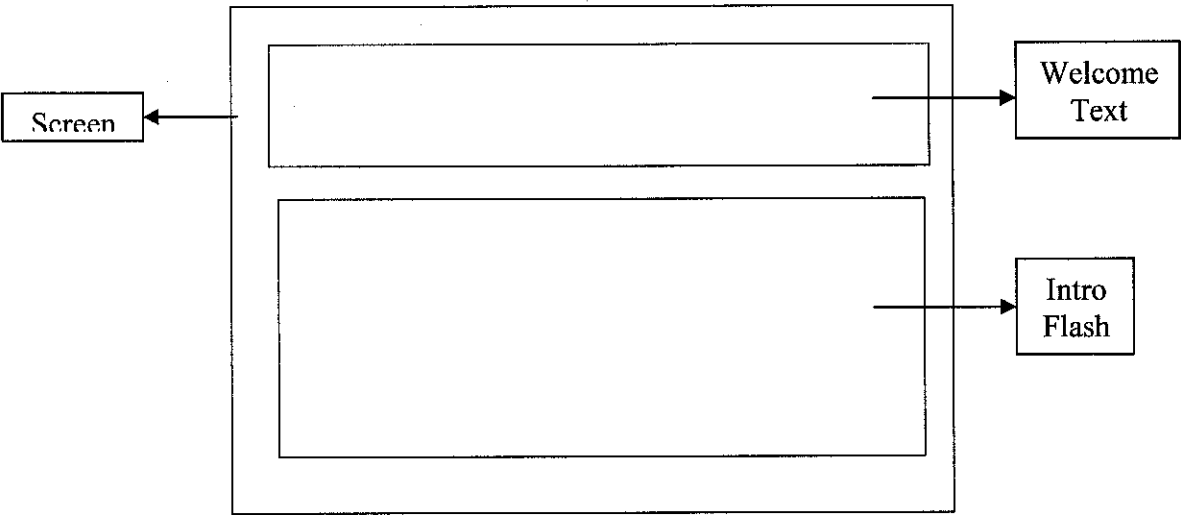


FIGURE 9: Welcome Screen Layout

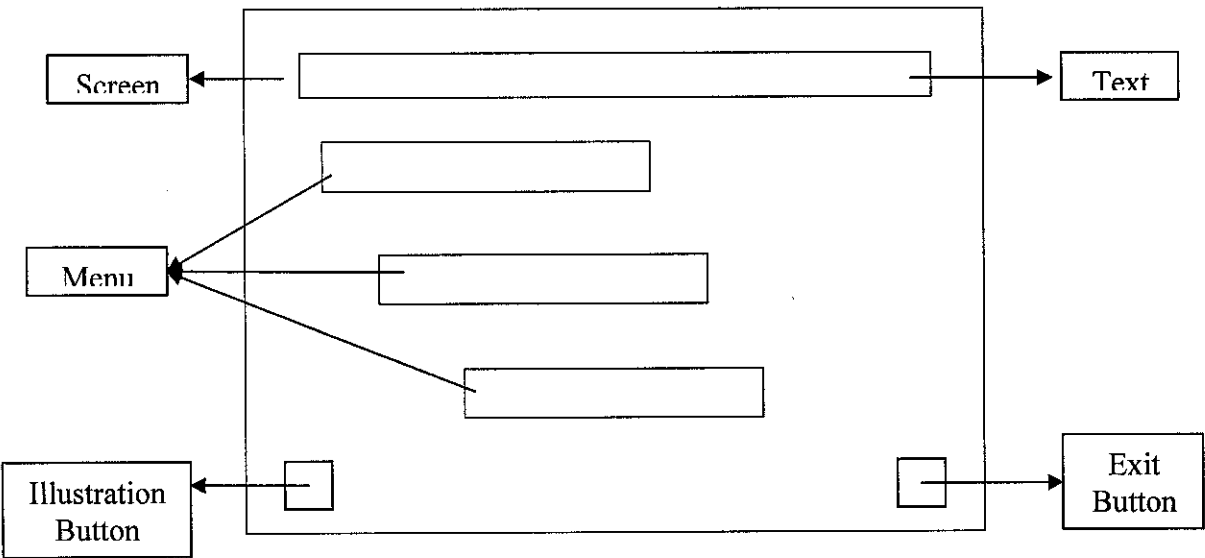


FIGURE 10: Menu Screen Layout



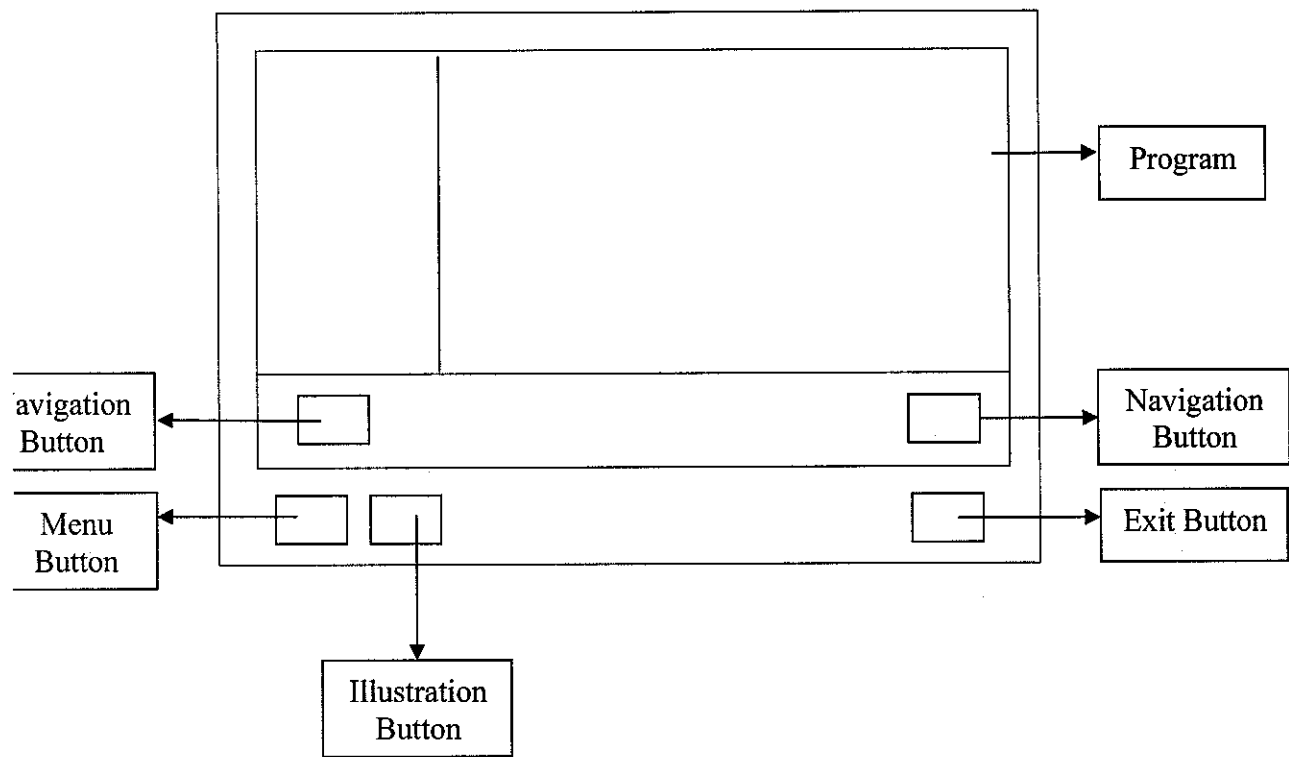


FIGURE 11: Program Screen Layout

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Conclusions**

Nowadays, there had been rapid development of technology. Many multimedia applications are developed including educational multimedia application. However, as far as the author concerns, there are still many researches done on the effectiveness of multimedia learning application and the appropriate use of technology to children. Children are having difficulties to use educational multimedia application by themselves. They depend on adult assistance. Besides that, children feels bored and loss attention due to unattractive learning process environment. Baby Step English Educational Tool provides an interactive environment of learning process as a solution to motivate the children's interest in learning, good usability aspects for children, tools that can develop children skills and experience with both oral and written language. Baby Step English Educational Tool also provides a solution to guide the children in handling the tool independently.

#### **5.2 Recommendations**

Future enhancements can be done to Baby Step English Educational Tool development. In developing Baby Step English Educational Tool, the author covers the user interface aspects such as images, colors, sounds, and interactive elements. However, other usability aspects can be added to improve effectiveness and efficiency of learning multimedia applications to be used by children. New technology also can be adapted to the Baby Step English Educational Tool.

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<[http://en.wikipedia.org/wiki/Waterfall\\_model](http://en.wikipedia.org/wiki/Waterfall_model)>

APPENDICES

Software title: \_\_\_\_\_

Age: \_\_\_\_\_ years old

Children respond on end-user interface design

	Bad	Poor	Average	Good	Excellent
1. Image					
Cartoon character	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Static images	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Animated images	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Color					
Light colors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bright colors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Colorful colors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sound					
Instruction sound	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Object sound	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Interactive element					
Yes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# PROJECT TIMELINE

3	prepare the timeline	1 day?	Thu 2/2/06	Thu 2/2/06	2	2
4	plan survey	1 day?	Sun 2/5/06	Sun 2/5/06	3	3
5	Survey	22 days?	Tue 2/14/06	Thu 3/9/06		
6	prepare survey form	5 days?	Tue 2/14/06	Sat 2/18/06	4	4
7	identify kindergarten schools	4 days?	Sun 2/19/06	Wed 2/22/06	4	6
8	conduct survey	2 days?	Thu 2/23/06	Fri 2/24/06	5	7
9	analyze survey results	3 days?	Mon 2/27/06	Wed 3/1/06	6	8
10	prepare progress report 1	7 days?	Thu 3/2/06	Thu 3/9/06	7	9
11	Implementation	38 days?	Sun 3/12/06	Thu 4/20/06		
12	develop the welcome and menu screen	7 days?	Sun 3/12/06	Sat 3/18/06	8	8
13	develop vocabulary program	7 days?	Sun 3/19/06	Sat 3/25/06	9	9
14	develop grammar program	12 days?	Mon 3/27/06	Sat 4/8/06	10	10
15	pre EDX presentation	1 day?	Tue 4/4/06	Tue 4/4/06	11	11
16	develop story program	10 days?	Mon 4/10/06	Thu 4/20/06	12	12
17	Controlling	71 days?	Sat 3/25/06	Mon 6/19/06		
18	unit testing	1 day?	Fri 4/21/06	Fri 4/21/06	13	13
19	system testing	2 days?	Sat 4/22/06	Sun 4/23/06	13	18
20	prepare dissertation report	13 days?	Tue 4/25/06	Wed 5/10/06	14, 15, 16	19
21	submit dissertation report	1 day?	Fri 5/26/06	Fri 5/26/06	19	20
22	submit logbook and progress reports	1 day?	Thu 6/15/06	Thu 6/15/06	20	20
23	oral presentation	1 day?	Mon 6/19/06	Mon 6/19/06	21	21
24						
25						
26						
27						
28						
29						
30						
31		6 days?	Sat 3/25/06	Thu 3/30/06		

Project: project timeline 3

Date: Thu 6/22/06

Task

Split

Progress

Milestone

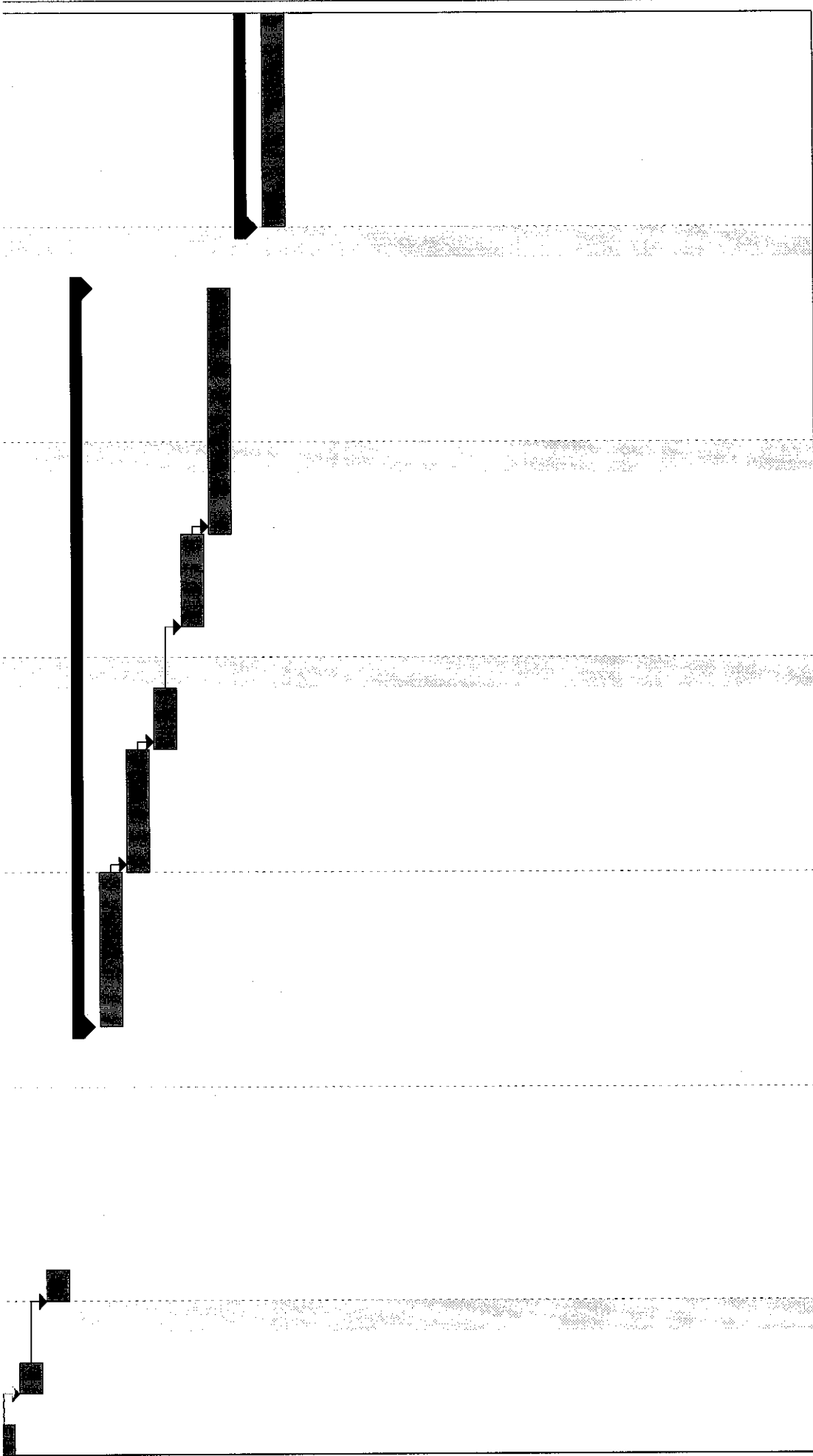
Summary










Project Summary

External Tasks

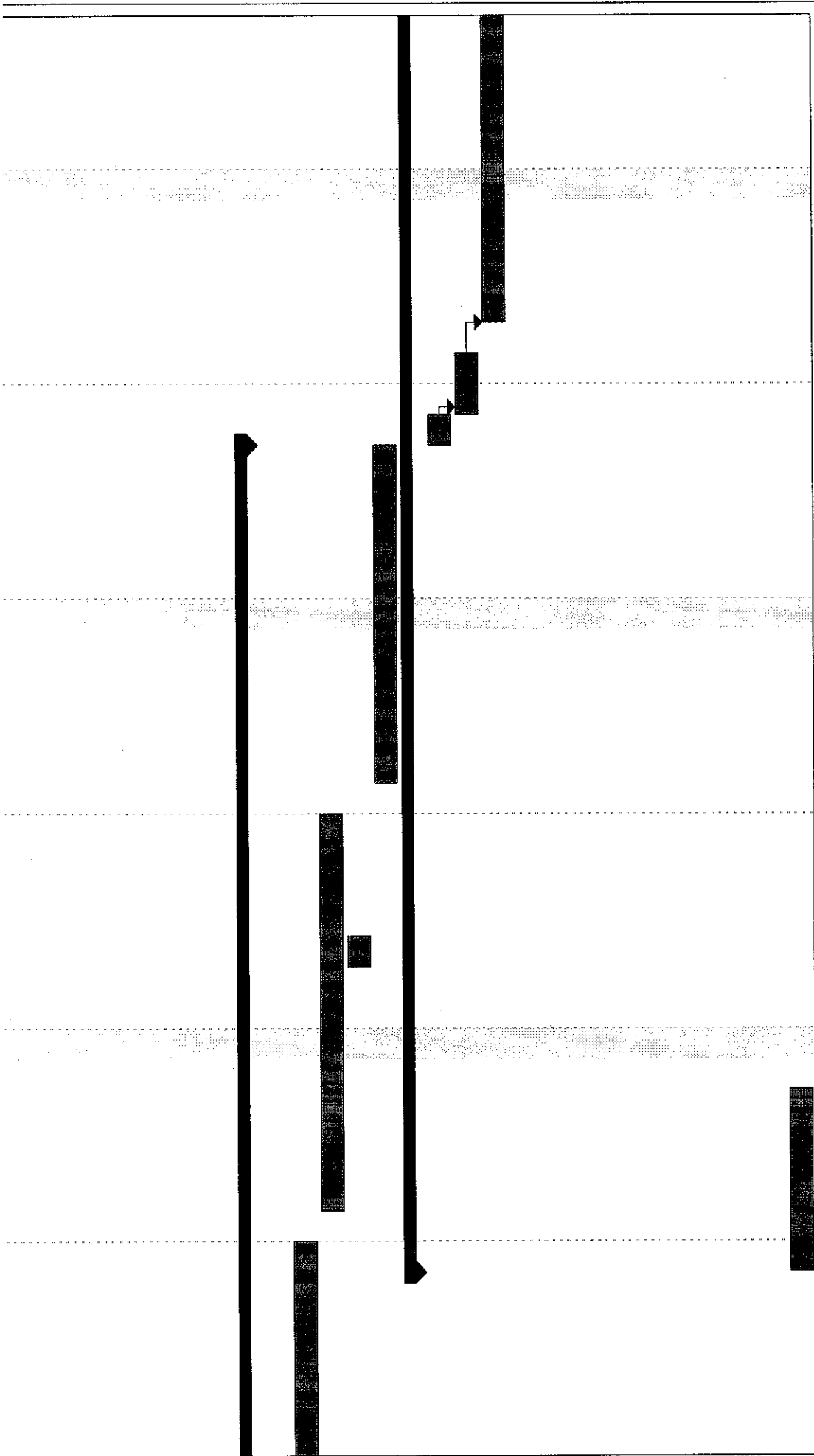
External Milestone

Deadline

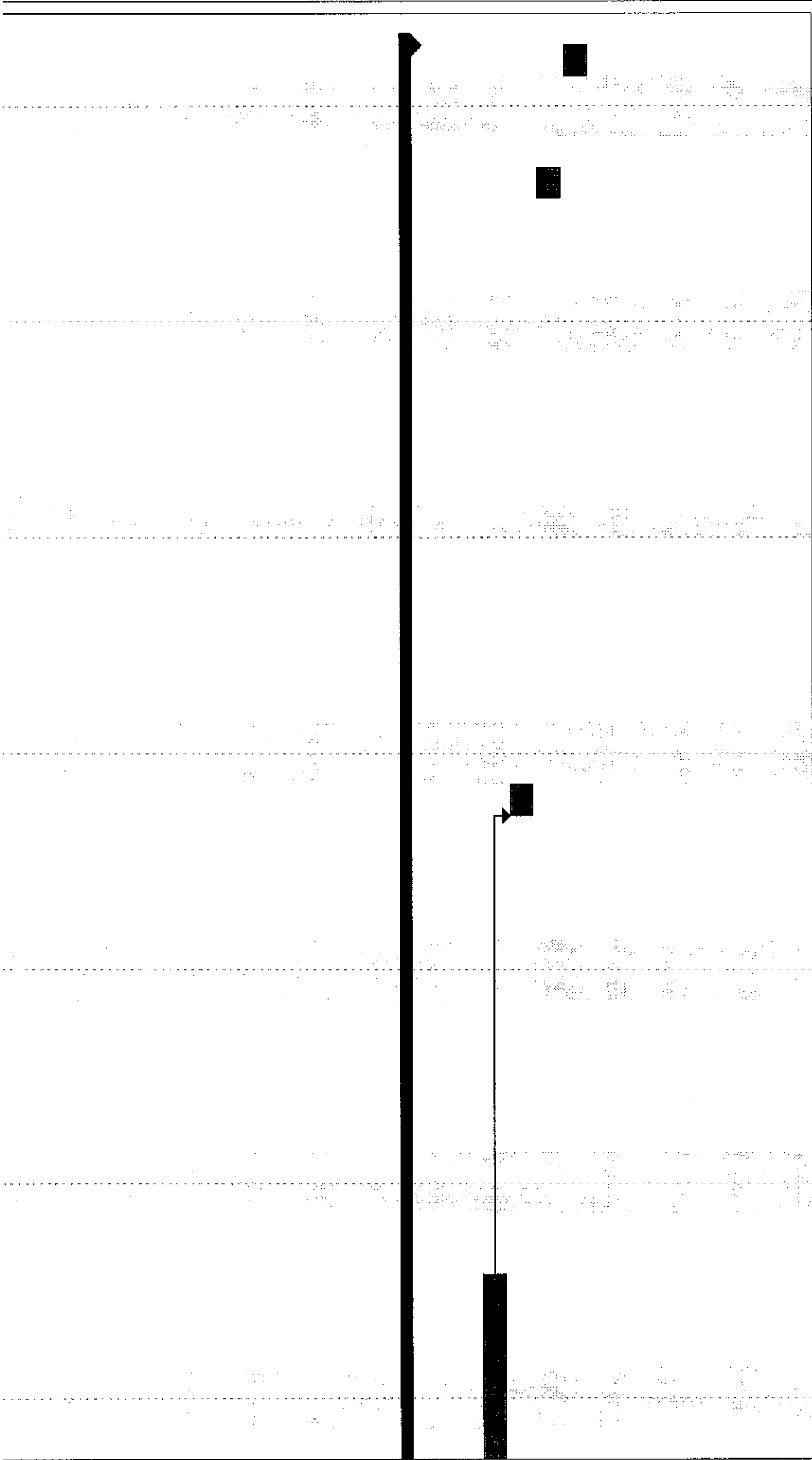










Project: project timeline 3 Date: Thu 6/22/06	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	





Project: project timeline 3 Date: Thu 6/22/06		Task	Milestone	External Tasks	
		Split	Summary	External Milestone	
		Progress	Project Summary	Deadline	



Project: project timeline 3 Date: Thu 6/22/06	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	