
Human Computer interaction

Lesson Plan ICT - David Nandigam

Title of the Lesson: Human Computer Interaction

Intended Learning Outcomes:

1. develop awareness of the factors that determine how people use technology
2. develop awareness of tools and techniques to enable building suitable systems
3. develop awareness of the need to achieve efficient, effective, and safe interaction
4. start developing the sense of putting people first in building any system

Resources:

1. Models of Microwave oven controls (Laminated Photos)
2. Large A3 pieces of paper – for each group of desks
3. Power-point slides / Activity Sheet
4. White board markers
5. Websites to visit
6. Personal mobile phones

Duration: One Hour

Level: Year 9

Prior Knowledge:

1. Knowledge of using mobile phone, Microwave oven, Washing machine, digital camera, ATM Machine, MP3 Player etc

Reference to Curriculum:

1. **'Technological Practice'** – Students generate ideas from fully realised products to inform their own practice
2. **'Technological Knowledge'** – Students design prototypes and evaluate them
3. **'Nature of technology'** – Students recognise a need or opportunity and define the problem

The Lesson Plan –

1. Introduction:

Timing	Teacher Activity	Student Activity	Outcomes
3 mts	Arranges in groups of 4		
5 – 7 mts	Initiates a discussion on ways of interacting with computer controlled machines (Ref. Appendix 1)		1 & 4
		Brainstorm and talk about the microprocessor controlled utilities that they are familiar with in the environment they live.	
	Writes them on the board as the ideas come out		

2. Task 1:

Timing	Teacher Activity	Student Activity	Outcomes
12 – 15 mts	Handouts models of Microwave oven controls (Ref Appendix 2). Asks them to discuss each model and investigate its design in terms of limitations as well as advantages		2 & 3
		Discuss each model and prepare a matrix of comparative analysis in terms of advantages and limitations	
	Handouts Activity sheets. Engages in discussion of ideas around human computer interaction (ref Attached PPT): Is it - <ul style="list-style-type: none"> • easy to learn? • easy to remember how to use? • effective to use? • efficient to use? • safe to use? • enjoyable to use? 		
		Fill out the activity sheets	

3. Task 2 and Wrap-up:

Timing	Teacher Activity	Student Activity	Outcomes
12 – 15 mts	Handouts <ul style="list-style-type: none"> • Large A3 pieces of paper – for each group of desks • Design principles checklist Asks them to discuss and design a control panel in order to overcome the limitations identified with each model investigated		2 & 3
		<ul style="list-style-type: none"> • Each group designs a model using the A3 sheet handed out to them • Check against the Design Principle Checklist (Ref. Appendix 3) • One student in the group presents their model to the class. • Point out in their design one aspect of improvement 	
3 mts	Wrap up the lesson Give the Home work Dismiss the class		

4. Lesson extension:

Use the personal mobile phone as the model, present a usability report using the Activity Sheet as a template.

Appendix 1

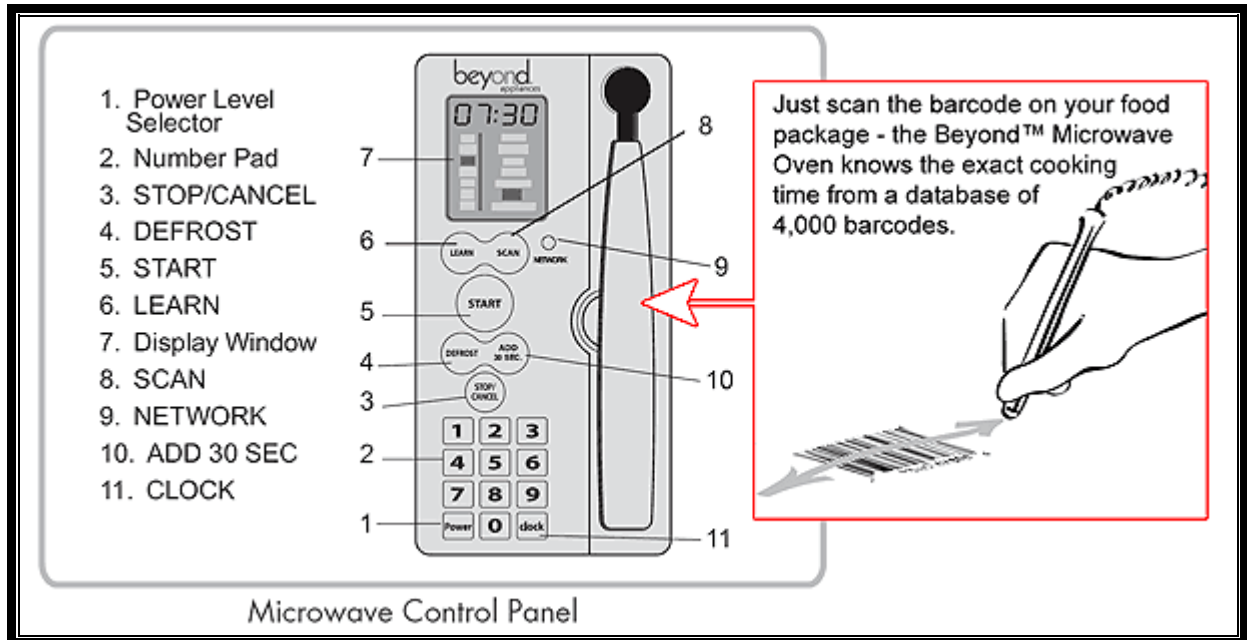
Question bank to promote introductory discussion:

1. Can you name some of the computer controlled machines that you used this morning at home?
2. How did you (or others at home) use them?
 - a. Did you talk to them?
 - b. Did you write a program to work them?
 - c. Did you use buttons etc..
3. How do you know to use them?
4. Was it easy to use them?
5. Was there any difficulty in using them?
6. Are they meant for any specific people?

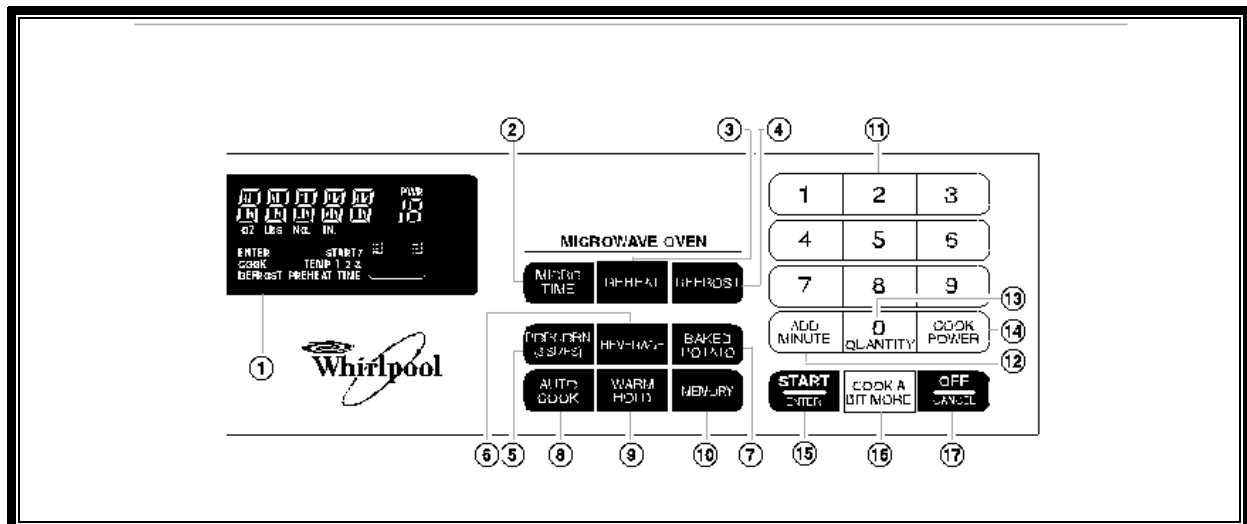
Appendix 2

Laminated Card set (to use with the groups)

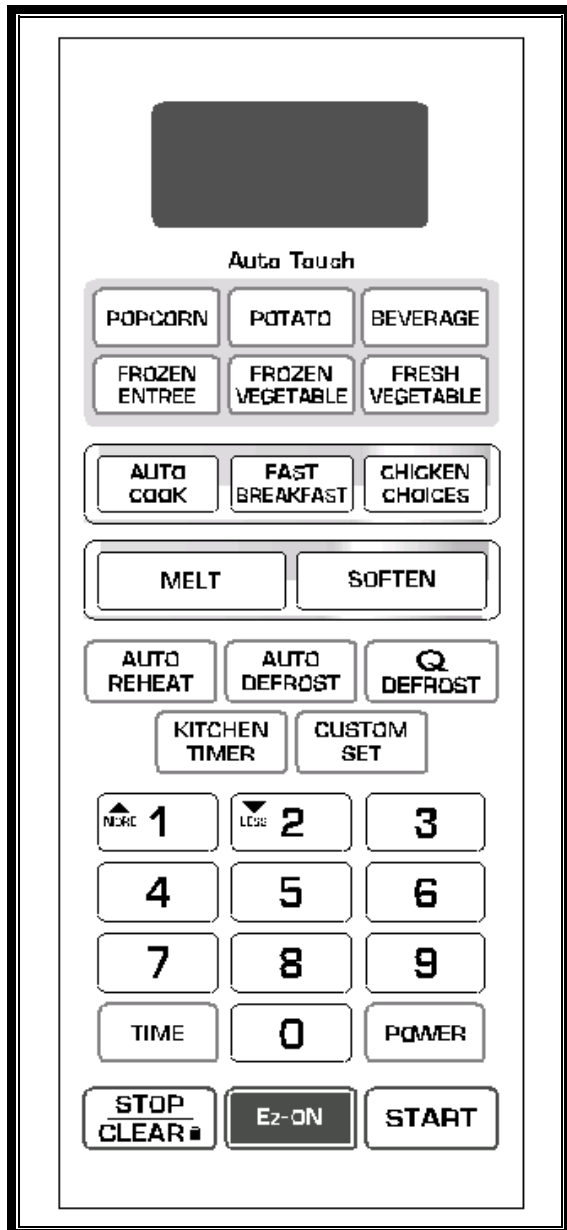
Card 1



Card 2



Card 3



Card 4



Card 5



Card 6



Appendix 3

Design Principles Check List

1. Do you know the user group?
 - 1.1. Have you considered the previous knowledge the users may have?
 - 1.2. Have you considered the specific needs the users may have?
2. Easier for users to learn, recognize and to foresee what is going to happen
 - 2.1. Make functions, objects and information visible
 - 2.2. Menus give the user the possible alternatives
 - 2.3. Provide good error messages
3. Maintain consistency and clarity
 - 3.1. Standard operations and representations
 - 3.2. Allow users to correct their own errors