

Usability Test Results
Key Seeker – Keyboarding for Kindergarten
<http://keyseeker.org>

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Table of Contents

EXECUTIVE SUMMARY	3
PURPOSE OF THE KEY SEEKER USABILITY TEST	3
GOALS FOR THE KEY SEEKER USABILITY TEST	3
PROBLEM STATEMENTS AND TEST OBJECTIVES	4
USER PROFILES	5
DATA ANALYSIS AND RECOMMENDATIONS	9
METHODOLOGY	10
TEST ENVIRONMENT AND EQUIPMENT	11
ROLES	11
USABILITY TEST RESULTS ANALYSIS	11
Results Analysis Qualitative Data	12
Results Analysis Quantitative Data	20
SUMMARY OF RECOMMENDATIONS	25
APPENDICES – FORMS AND SURVEYS	26
Consent Form	26
Scenarios and Task Lists	27
Navigation Assessment:	27
Scenarios/User Tasks	28
Parent Demographic Questionnaire	30
Child Questionnaire- pre-task	32
Post Session Survey CHILD	33
Post Session Survey TEACHER	34

Executive Summary

Key Seeker – Keyboarding for Kindergarten is an interactive learning tool developed to introduce children (age 5) to the concept of keyboarding and assist them in letter recognition. The tool is based on paired associative learning theory. Letters displayed on the screen in purple should be input with the child’s left hand. Letters displayed on the screen in green should be input with the child’s right hand. Also incorporated into the tool is a carefully designed sequencing algorithm to aid in the learning process and letter mastery.

Ann White, a student at the Art Institute of Atlanta recently completed an initial usability test for Key Seeker – Keyboarding for Kindergarten.

Purpose of the Key Seeker Usability Test

Usability testing provides information vital for user-centered software design. By investigating user’s interactions with software, usability testing provides the designer and the developer with information fundamental for designing a positive user experience.

Traditional usability testing asks users to complete specific tasks. Testing usability with children varies greatly from the traditional tests. Children’s software usability tests need to be enjoyable for the child. A child will interact with software to have fun they are likely to have difficulty completing an assigned task for the software. Adults, even those who are familiar with children and with related research, cannot accurately predict children’s interaction with software. This makes usability testing essential for creating well-designed children’s software. Throughout the development process, informal testing was used with a variety of children to monitor reactions to the characters displayed, sounds heard and the “level of enjoyment” experienced by the child. The findings from those informal tests were then implemented into the game.

“Usability testing is necessary because a product’s designers and creators cannot anticipate the wants, needs, and reactions of actual users. The nature of software design causes the people involved to become far too familiar with the product to accurately predict the interactions of average users. In many cases, the product’s designers and creators are more technically advanced than the average user. In the case of children’s software, the differences between the people involved in the product’s design and the product’s intended users are enormous.”¹

Goals for the Key Seeker Usability Test

Overall Goal: To ensure ease of use and meaningful learning, it is important that the Key Seeker application is:

Simple enough for young children to use.

Sufficiently engaging to capture children’s limited attention spans.

Provides an element of practice for mastery of associative paired values

¹ Alexander, Hanna, Ridsen. (September – October 1997). **Guidelines for Usability Testing with Children.** Interactions, ACM.

Problem Statements and Test Objectives

Two Levels of Testing: This application requires some initial help from adults. Teachers' interactions with the children were observed as well. Both teachers and children were also asked to complete a post questionnaire. Ten students, two teachers and one teacher's aide participated in the testing. Parents completed a demographic survey and consent form for their child's participation.

Teacher/Parent

1. Is the application easy for you to explain and provide assistance with?
(Is it easy to load? /exit?)
2. Do you feel this is helpful to the learning process, why or why not?
3. Is the level of interaction needed by the adult overwhelming?

Student

1. Is the interface easy to learn for kindergarten children?
2. Are the instructions clear?
3. Are the interactions entertaining enough to hold interest?

User Profiles

Personas:

Personas are a way to personalize the users of a site. The personas created in this document were created using research referenced in the Additional Supporting Research section of this document.

If we keep our approach personal, we are more likely to meet the needs of the user.

Primary User: The Kindergarten Student

Susan Johnson Personal Profile

Quote:

“My favorite things are ice cream and my dog.”



Susan has recently entered kindergarten at Brown Elementary School in Cobb County, Georgia. She spends ½ day at school and enjoys being with her new friends. She especially likes puzzles and games. She is new to sharing as she is an only child.

She enjoys school and always talks about her dog named Bunny.

Background:

- 5 years old
- Attend Brown Elementary School Cobb County
- Concerned what other kids think

Attributes:

- Outgoing
- Physically active
- Concerned with the friends and having fun

Needs:

- Simple navigation and instruction
- Motivation
- Stimulation to activity
- Attention
- Learn Letters, recognize and by sight sound

Kindergarten Student Scenario	Needs	Feature	Behavior
<p>Sue is given a choice of activities in kindergarten at one of the many learning centers. She chooses the computer and chooses to “play” with Key Seekers.</p> <p>There may be times when she needs to share the experience with another student as the computer stations are limited.</p> <p>She and a few friends take turns and sometimes work as a group to obtain proper hand use and correct letter recognition.</p>	<p>to start program</p> <p>to hear instructions</p> <p>to be reminded which hand to use</p> <p>match letter with picture and or sound</p> <p>Encouragement</p> <p>Feedback</p>	<p>Large buttons to start program</p> <p>Sound on or Off Option (headset)</p> <p>Audio/Visual cues of hands use.</p> <p>Color matching to find correct key and use correct hand</p> <p>Audio and Visual encouragement – correct answers will display “fun” meaningful animation correlated to the illustration displayed.</p> <p>Adult Supervision</p> <p>Audio and Visual feedback for correct and incorrect answers</p> <p>Adult Supervision</p>	<p>She places the disc in the drive or logs on to the site using a desktop shortcut. She is greeted with a colorful screen and listens to the instructions. She is prompted to start with audio and visual highlight of a large GO button.</p> <p>She proceeds through the “game” matching pictures with letters and matching her left hand letters with the left hand letters of the keyboard. She has trouble with left and right so colored tape is placed on the corresponding hands to help remind her where to find the letter on the key board and what hand to use to press the letters.</p>

Secondary User: The Kindergarten Teacher

Barbara Lee Personal Profile

Quote:

“Stay focused on the task, persevere, and you will succeed.”



Barbara is committed to her life as an early childhood educator. She spends much of her free time researching new and effective ways to make a difference in the learning environment for her kindergarten class.

She is relatively familiar with computer usage and feels comfortable incorporating it into the classroom. She is very picky about the quality time kids spend on the computer as the class time is limited. She is looking for software that meets the needs of her students and kindergarten literacy expectations.

Barbara is researching schools for her Masters Degree in education.

Background:

- 28 years old
- Teaching Kindergarten for 3 years
- Single
- Enjoys reading, board games, gardening
- Dreams of learning to salsa dance
- Uses the internet and email to communicate with family and friends and research.

Attributes:

- Caring
- Positive attitude
- Task oriented and studious
- Extremely well organized
- Dedicated to children's success

Needs:

- Additional Support for language arts teaching
- New ways to incorporate computer into early learning environment

Kindergarten Teacher Scenario	Needs	Feature	Behavior
<p>Barbara allows her students 20 – 30 minutes twice a week to choose computer time as an optional activity.</p> <p>She is limited in the amount of supervision she can provide to the students and encourages them to work together at the computers.</p> <p>She sees that three children have chosen to use the computers. There are two available for the students in the classroom.</p>	<p>Software that the children can operate with minimal supervision</p> <p>Incorporate group use when there are not enough computers</p> <p>offer additional activities to support the keyboard project</p>	<p>Audio/Visual instructions</p> <p>Turn taking or children who know left right to help remind and encourage children just learning the concept.</p> <p>Children can speak the word displayed; say the color and the left-right hand that should be used.</p> <p>Supporting Materials that have the same look and feel as the interactive project (These are still being discussed)</p>	<p>She will assist the children in getting situated. She will supervise the loading of the program to be certain the child does understand what to do and how to do it.</p> <p>She will describe to the other children ways they can cooperate in the use of the game. Or redirect some children to other supportive activities (possible low tech key boards where they can play along)</p> <p>She may use class time as a group to play a low tech version of the software using flashcards and a large keyboard layout. These materials will have the same look and feel as the interactive program. (still being designed and discussed)</p>

Data Analysis and Recommendations

Below is a list of the major areas of concern and recommendations. These concerns and recommendations are elaborated on more deeply in the Usability Test Results Analysis portion of this document.

Analysis of the test data provides these major findings:

1. Instructions were listened to more than once – mostly to adjust volume for the game.
2. No one used the help button during the game – but kids did roll over it to find out what it was.
3. Very few children needed as much help as was available – only two children never found the correct letter, but were able to find it the second time the letter appeared out of the bin.(not always on the first try)

Based on these findings the following recommendations were made:

1. Print more letters – more development and testing is required here
2. Volume control option

Additional recommendations based on findings:

These are recommendations made to further expand the existing project which is presently beyond the scope of this coursework. It will take further development, testing and design to complete.

1. Implement teacher controls over which letters are practiced
2. Teachers would like a way to track a child's progress (personalize the game)
3. Add more difficulty levels – more animations so game does not get boring.
4. Develop an ongoing study to measure whether or not the software improves keyboarding skills for children.
5. Can the game be adapted for children with special needs?

Methodology

Usability testing was conducted in the classroom at Brown Elementary School August 31, 2006. Each session took no more than 20 minutes. The sessions was administered and observed by one facilitator and a teacher (or a teacher's aide)

Children need to be encouraged to participate. The observer, and or teacher should stress the value of the child's input and show appreciation and gratitude. It is extremely important to make the child feel at ease. For this reason, testing will be done in the classroom (familiar environment) with the aid of the teacher.

When testing with young children observer notes are crucial. Rather than relying on verbal comments, expressions such as smiling or sighing often are used to judge the quality of interaction. When teachers are present during testing, teachers will be asked to complete reaction questionnaires at the end of the session... Teachers are often better judges of student's mannerisms than observers.

Testing Outline

- ___ Make certain consent form has been completed by parent
- ___ Make certain demographic questionnaire has been completed by parent
- ___ Introduce yourself to each child
- ___ Explain a little about Key Seeker
- ___ Explain How the observation works – observations must be recorded on paper (No video taping allowed in the public schools)
- ___ Assess the navigation
- ___ Complete Task Scenarios (instructions, start the game, end the game, print letter)
- ___ Complete Post Questionnaire with Child
- ___ Have teacher complete Post questionnaire as well

Test Environment and Equipment

The kindergarten classroom (or computer lab) served as both the observation and evaluator room. Clients will not be present for the testing, however teachers (those responsible for implementing the use of the application will be present)

Roles

Test Administrator/Facilitator: Overall coordination of the individual test, explain the test activities and administer questionnaires. Responsible for taking observation notes. Primary person the test subjects will interact with. Ann White served as Primary Administrator- Teachers were used for additional observation as well.

Usability Test Results Analysis

Summary

The evaluation measures will be a combination of quantitative measurements and subjective observations. The quantitative and qualitative data measures are listed below

Quantitative Data	Qualitative Data
Number of problems encountered	Facial Expressions
Number of unsuccessful tries	Verbal comments when they think out loud
Length of time users spend playing the game	Spontaneous verbal expressions (comments)
Number of times help is used	Observed and recorded behavior
Number of times user needs to be probed or prompted to use the game	

Site Positives

1. The children are engaged in the game – they find the animations and sound fun and appealing.
2. They learn the buttons easily and remember them (post questionnaire)
3. Teachers would like the game to be expanded further

Specific Problems of Concern:

Specific areas that need consideration	Description of Problem	Task or test that identifies problems
Help Button	not used	Observation – children would roll over the buttons to hear what they meant but no child used the help button during the game. May not be an issue for this level , but may be needed in future levels
Stop Button	not used without instruction to do so	No child used the stop button without being instructed to do so.
Instructions	difficult to hear	observation - Several children re started the instructions and had difficulty in having the volume set properly. Needed adult assistance
Print	only prints one letter – button says – “leave the game and print your letters”	Observation – when asked to stop the game then print – the children only got one letter printed out – they were expecting more. Needed adult assistance

Results Analysis Qualitative Data

Qualitative data is obtained using observation of facial expressions, verbal comments when participants think out loud and spontaneous verbal expressions (comments). Qualitative data is also obtained from participants using surveys that measure how a respondent feels or perceives about a particular statement. Our testing includes both methods of observation of the task scenarios and data collected from the post questionnaires.

Pre-task Interview and Task Scenarios

The teacher was asked to situate the child to "play the game." Although not an official or formal part of the testing, children were given a variety of "monkey paws" from which to choose. Monkey paws are physical indicators for the children to know which side of the keyboard the letters are located – purple for left, green for right. The children were given the choice of tape, wristbands, and fingerless gloves. Some monkey paws were "home made" from socks that had been dyed and the toes and heels removed – similar to punk fashion accessories. This "dress up" element of the game was a good icebreaker and helped to set the mood for a specific task – to be a key seeker.

Navigation Assessment:


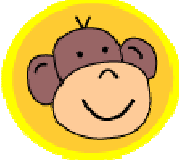


Children and teachers were asked to first do a simple navigation assessment. This assessment was done to test for intuitiveness of the labels/icons used on the site.

NOTE: this navigation assessment was also given as a post task assessment.

After playing the game 90% of the participants understood the function of the go and help buttons and remembered what they do (and the audible reply!). The one child that could not tell what the buttons meant is severely hearing impaired.

The adults had a similar problem when simply looking at monkey icon. However, when they visited the site they easily comprehended the idea and could explain what the button was used for.

Ask about each icon (visual interpretation) - - What do you think this does?

	Children	Adults
	90% of the children tested were not sure what this meant just looking at it on a page	100% start playing the game
	100% of the children tested were not sure what this meant just looking at it on a page	0% knew what this button was without hearing the button or reading the button name from the site
	60% of the children tested thought this meant "print".	100% print something
	100% of children tested understood that this meant stop playing the game	100% stop playing the game
Other comments before beginning:	"I like that monkey face" "Are these stickers?"	

Scenarios/User Tasks

Note to facilitator: In observing the tasks be aware of body language, facial expressions and comments. Record all verbal comments and where they occur in the testing process as well as facial expressions and body language.

Key Seeker **OBSERVATION FORM (cumulative recorded results)**

Browser IE6 Platform PC Screen Size 1024 x 768

Introductory animation focus:

Focused
 Unfocused

Observations:

6 children appear confused – “I can’t hear it” - looks to teacher for help.

Teacher adjusts volume for those students and then hits the monkey button for the instructions to play again...then leaves them alone to play.

Teachers eventually figure out to set volume before situating the child.

One child is severely hearing impaired but was able to get to the go button without problem and was able to continue the game playing process based on the visuals of the instructions alone! – this was revealing to me as the developer...

Two children try to use the mouse during the instructions to point at the letters on the screen – these same two children will need prompting when the game starts

Introductory animation reaction:

Positive
 Neutral
 Negative

Observations: all children listened and watched without speaking during the instructions. Appeared engaged and attentive.

Go button interaction:

No facilitator prompting – 10 students

Observations: all students knew to start the game with the go button directly – several repeated “go play the game!”

Round One – Key Seeker

Beginning game play

- 7 No facilitator prompting
- 3 Objective prompting

Observations

When did the child type the correct letter (was the appropriate hand used?) (first letter out of the bin)

- 2 First try
- 7 Second try
- 1 Never (this child did eventually get the letter correct on another try)

Six children rolled over the help button at some point during the game (within the first 4 letters presented), but none of them clicked on it. They appeared to be curious about it.

Four children played long enough and got enough letters correct to receive at least one banana reward. Banana rewards are given if a child masters the letter – answered correctly on the first try – twice.

Upon receiving a banana one child said– “what’s that? I got a prize!”

Other observations

“I already saw the zebra”
That monkey fell down
Lots of intermittent giggles, laughs and smiles.

Teachers would only interrupt the student if the incorrect hand was used, even if the child got the letter correct. (This happened more earlier in the game – after a few reminders most children used the correct hands)

Overall game focus

Focused

Overall game reaction

Positive

After 20 minutes child is asked to stop playing

Child finds stop button

All 10 children knew how to stop the game and had ease with the mouse in using the button.

Child is asked to print

This area was the most troubling for the students. They could all find the print button without prompting, but when the print dialog came up only one student knew how to continue. Teachers would interact with the game at this point then the child would retrieve their page off the printer. Teachers expressed that this was a lesson each child would need to master eventually and that it would differ for each classroom or lab. Teacher explained to the child what needed to be clicked to be able to print, but the teachers would actually click. All the children, except for the hearing impaired child thought more letters would

print. It is expected with time and exposure that the children will master the "print" function as it applies to their situation.

Each child was instructed by the teacher to put his/her name on the sheet.

Game Mastery – the child understood the following:

Game concept (type the correct letter and get animation reward)

Left Hand Right hand Green/Purple relationship – needed reminding early on in the game

Did the child correlate the images with the letters? (prompting or no prompting)





























Some children knew some letter and picture correlation and would speak them out loud. They were not prompted about the relationship. This may be an avenue for further study or an opportunity for reinforcement in the classroom with supporting materials.

Did the child have trouble using the mouse?

No

Total Activity Time 20 minutes

Post Session Survey Results – 10 children surveyed

	Yes, very much	Yes	Not really	Not at all
I understood the instructions.	 8	 2		
Mora the monkey was helpful	 9	 1		
The game was fun	 10			
The game was easy to play	 2	 8		
I used my left – purple hand and right – green hand correctly	 7	 3		
I want to play this game again	 10			
I would like to play this game at home note: two children do not have computers at home	 8		 2	

What did you like the most? What ideas do you have about the game?

I like the sounds they are funny
 I like the penguins
 I like when the monkey falls down
 The turtle makes a funny noise
 Can I have another picture for my sister?
 I like the cow
 I like the monkey the most
 I just like it

Post Session Survey TEACHER

	Strongly agree	Agree	disagree	Strongly disagree
The child appeared engaged	3			
My level of interaction was minimal (only three adults involved – two teachers and one teacher’s aide) note: some ambiguity in the question here – teachers felt that the playing of the game needed their interaction in terms of observing to be certain the correct hand was being used, but felt that assisting with the game their interaction was minimal) Also noted that their assistance was required during the print portion of the game – but they felt they would need to assist in the print portion of any exercise in the classroom at this level.		2	1	
The child used left hand/right hand without my external prompting Note: all 3 adults expressed that the prompting to use the correct hand appeared to be less and less the longer the child played the game.		1	2	
This is a useful learning tool	3			
The game meets one or more Cobb County learning objectives in alphabet recognition (Can you specify?) identify letters out of alphabet sequence recognize letters used to spell their names	3			
The game meets one or more Cobb County learning objectives with technology integration (Can you specify?) introduction of print use of mouse introduction to the keyboard use of exit	3			

What ideas do you have about the game? How can it be improved? Other comments

Remarkable concept

Better than the shoot em up games!

First "game" I've seen that does not focus on the mouse for kids in this age range.

Fun, recognizable animations and sounds.

The kids really like it. Good Job.

I like the random display of letters and when they repeat.

Not all classrooms have the ability to print, can the feature be disabled?

Can a teacher set the letters that are practiced?

Can more animations be added so it won't get boring?

Are there any supporting materials to go with the game?

Will there be more levels?

Would like to see the child's name and date print on their letter sheet

Can they get a print out to practice writing the letters?

Only one letter prints, can they get a page of letters?

Can we track a child's progress?

How can we measure if this approach works to improve keyboarding skills?

Can the game be adapted for children with special needs?

Results Analysis Quantitative Data

Quantitative data is obtained using numerically measured methods. By using careful observation and recording, specific numerical results were captured pertaining to specific tasks. Also included are the results of the demographic surveys.

Number of participants using help button during instructions = 6

This alerted the developer to the fact that a volume control issue exists and a solution should be implemented in the next version.

Subject 1	yes	Subject 6	yes
Subject 2	no	Subject 7	yes
Subject 3	yes	Subject 8	yes
Subject 4	yes	Subject 9	no*
Subject 5	no	Subject 10	no

Number of participants using help button during the game = 0

However, 6 of them did roll over the button to hear what it says
(Is this a possible distraction – further testing will be needed-)

Subject 1	no	Subject 6	no
Subject 2	no	Subject 7	no
Subject 3	no	Subject 8	no
Subject 4	no	Subject 9	no*
Subject 5	no	Subject 10	no

Number of participants completing the game within the given time (20 mins) = 0

Many children at this age and at this point in the school year are just beginning to learn the alphabet and the idea of typing letters is very new. It is expected that as their letter recognition skills improve and the more they play the game they will actually finish the game within a 20 min time frame (the usual amount of time they can use the computer during free time at school). It is recommended that more testing be done later in the school year to see if the ability to finish the game has increased.

Subject 1	0	Subject 6	0
Subject 2	0	Subject 7	0
Subject 3	0	Subject 8	0
Subject 4	0	Subject 9	0
Subject 5	0	Subject 10	0

Number of Users able to use the game without prompts and probes = 7

The majority of children understood how to play the game. The prompts and probes necessary were to assist in reminding the children of which hand they needed to use to input the letters.

Subject 9 was a severely hearing impaired child. It is interesting to note that although the child could not hear the instructions well or hear the animations, he still found the game to be fun and playable. This is an area worth further investigation.

CHILDREN			
Subject 1	yes	Subject 6	yes
Subject 2	yes	Subject 7	no
Subject 3	no	Subject 8	yes
Subject 4	yes	Subject 9	no*
Subject 5	yes	Subject 10	yes

ADULTS	3
Subject 1	yes
Subject 2	yes
Subject 3	yes

Number of Users able to use the game with prompts and probes = 10

After playing the game a bit, or after having received additional instruction from the teacher, all the students were able to play the game unassisted. The teacher role at that point was to observe and offer guidance in hand choice.

CHILDREN	10		
Subject 1	yes	Subject 6	yes
Subject 2	yes	Subject 7	yes
Subject 3	yes	Subject 8	yes
Subject 4	yes	Subject 9	yes
Subject 5	yes	Subject 10	yes

ADULTS	3
Subject 1	yes
Subject 2	yes
Subject 3	yes

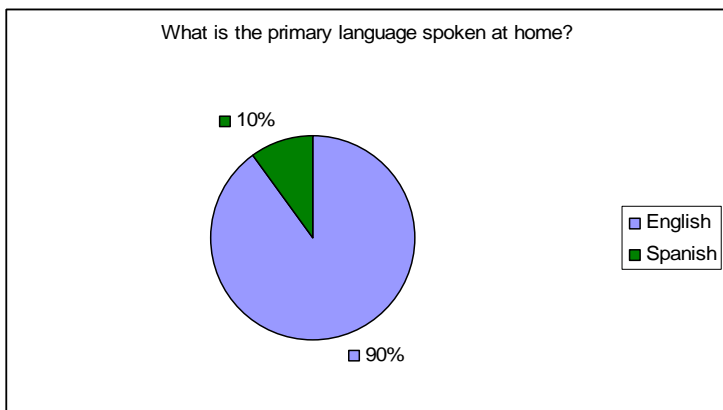
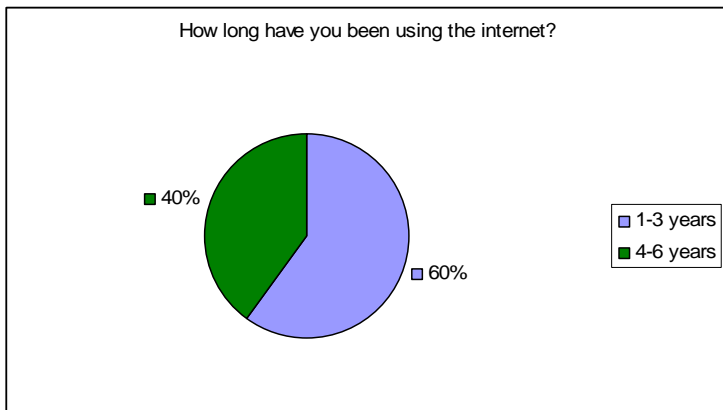
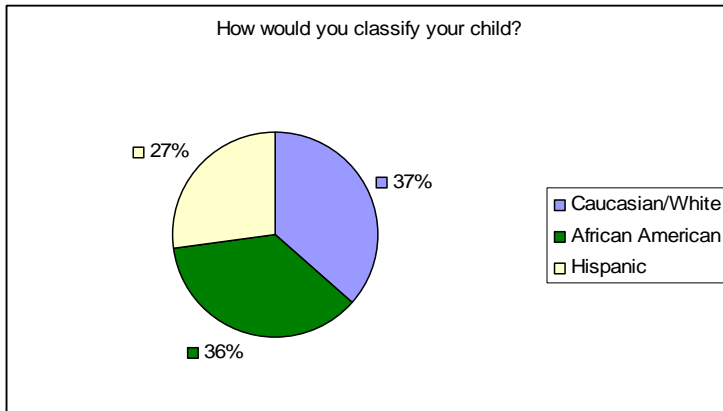
Number of users able to print from the game without prompts and probes = 1

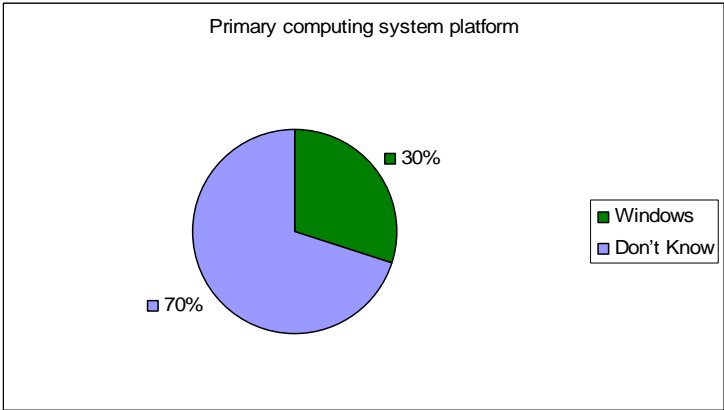
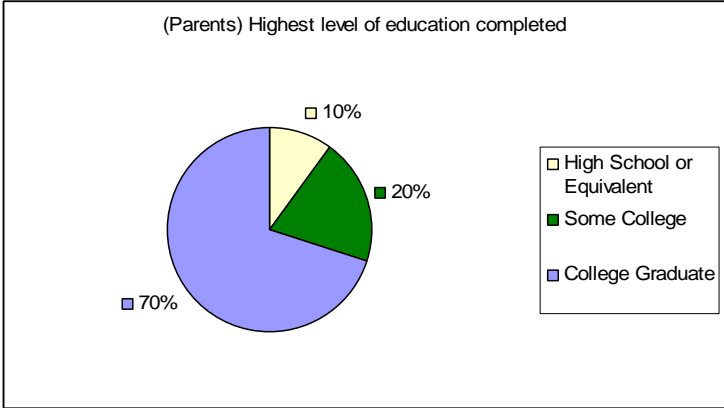
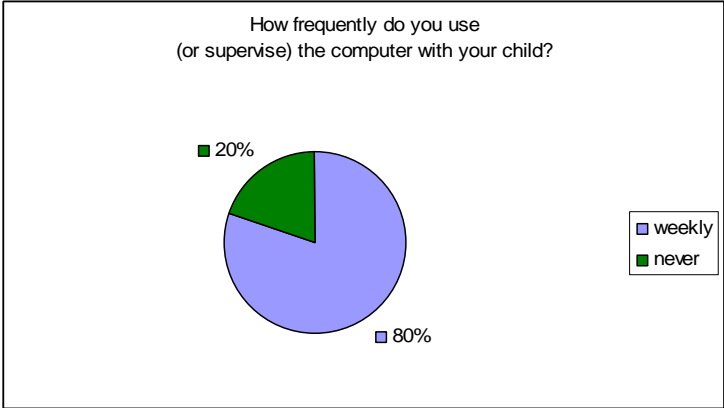
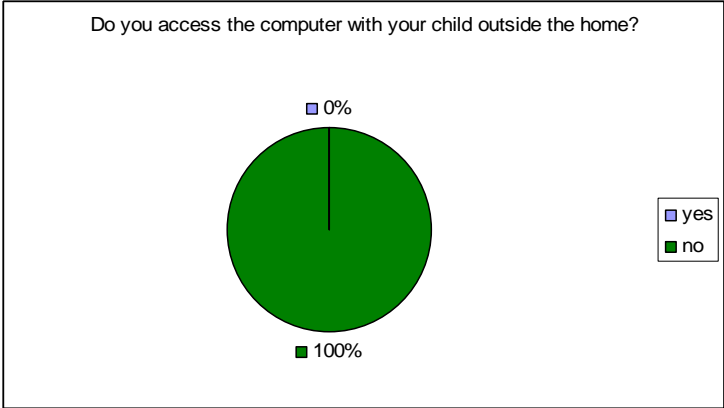
Printing is a fairly new concept to the kindergarten class. One child knew how to continue in the print cue but all other children needed adult assistance.

CHILDREN	10		
Subject 1	no	Subject 6	no
Subject 2	no	Subject 7	no
Subject 3	no	Subject 8	no
Subject 4	no	Subject 9	no
Subject 5	no	Subject 10	yes

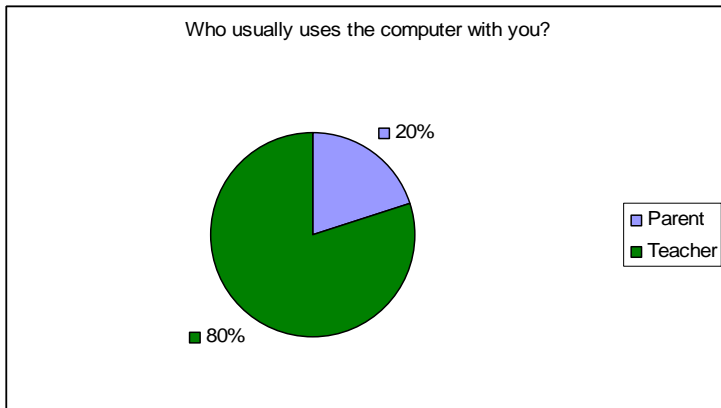
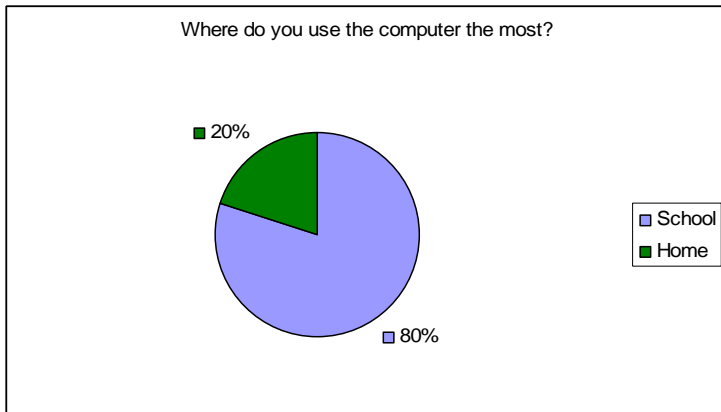
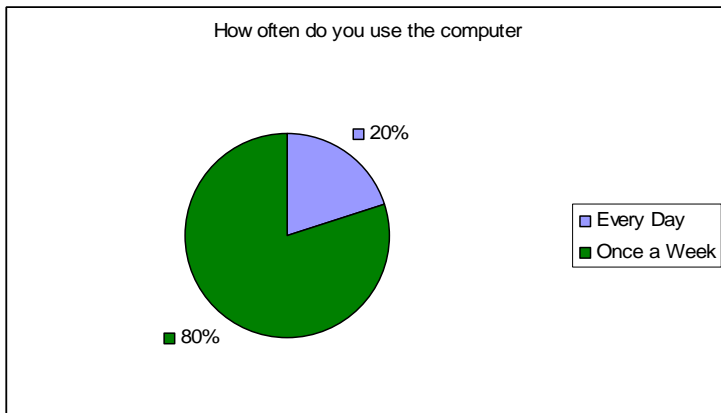
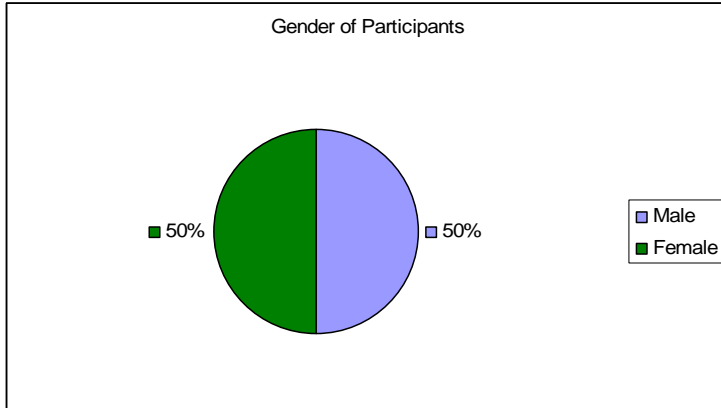
Demographics

Parental Demographic Results





Children's Demographic Results



Summary of Recommendations

Overall the game tested well in the majority of areas. The game proved to be simple enough for young children to use, sufficiently engaging to capture the children's attention span and it also provides an element of practice for mastery of associative paired values and letter recognition.

The major areas of concern are related to the adult involvement with the child during the game process. It is understandable that an adult will need to be involved with the child while using the computer, but the level of interaction has not proven to be overwhelming.

Areas needing improvement or solutions

1. The volume of the audio instructions needs to be addressed. The adult supervisor will need to adjust the volume level of the game prior to playing the instructions for the child. At the current time, the adult would need to know how to adjust the volume level on the internal speakers of the computer or the external speakers. A volume adjustment button on screen may prove to be helpful here.
2. The print function needs to be expanded and programmed to print out all the mastered letters for that session of play. An additional feature to the print function should include Denelian font letters that print out so the children can practice writing their letters as well. Denelian font is the approved font used by the Cobb County School System (and many other systems as well) to help children learn to print the alphabet.

Additional Features

These are recommendations made to further expand the existing project which is presently beyond the scope of this coursework. It will take further development, testing and design to complete.

1. Implement teacher controls over which letters are practiced
2. Teachers would like a way to track a child's progress (personalize the game)
3. Add more difficulty levels – more animations so game does not get boring.
4. Develop an ongoing study to measure whether or not the software improves keyboarding skills for children.
5. Can the game be adapted for children with special needs?
6. Develop supporting classroom activities and materials that coordinate with the Key Seeker graphics

Appendices – Forms and Surveys

Consent Form

Thank you for participating in the usability testing for the Key Seeker, keyboarding game.

I, _____ voluntarily agree to let my child
_____ participate in this testing, and observation. I understand
that the observation and testing is being done for educational purposes only. Any feedback
provided will be used to enhance the educational software. The child may stop at any time.
Any information provided by me for this testing is to be used solely for research purposes in
relationship to this project.

Parent Signature

date


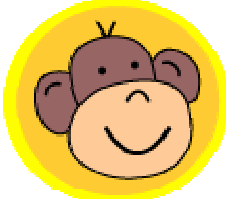
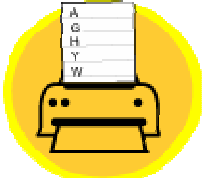

Scenarios and Task Lists

_____Participant ID

This assessment is done to test for intuitiveness of the labels/icons used on the site. They will then be given the opportunity to "play" the game to test specified features.

Navigation Assessment:

Ask about each icon (visual interpretation). What do you think this does?

	
	
	
	
Other comments before beginning:	

Scenarios/User Tasks

Note to facilitator: In observing the tasks be aware of body language, facial expressions and comments. Record all verbal comments and where they occur in the testing process as well as facial expressions and body language.

Key Seeker OBSERVATION FORM

_____ **Participant ID**

Browser _____ Platform _____ Screen Size _____

Introductory animation focus:

- Focused
- Unfocused

Introductory animation reaction:

- Positive
- Neutral
- Negative

Go button interaction:

- No facilitator prompting
- Objective prompting
- Interaction walkthrough
- Facilitator completed

Round One – Key Seeker

Beginning game play

- No facilitator prompting
- Objective prompting
- Interaction walkthrough
- Facilitator completed

When did the child type the correct letter (was the appropriate hand used?)

- First try
- Second try

- Third try
- Fourth or greater try
- Never

Overall game focus

- Focused
- Unfocused

Overall game reaction

- Positive
- Neutral
- Negative

Game Mastery – the child understood the following:

- Game concept (type the correct letter and get animation reward)
- Left Hand Right hand Green/Purple relationship
- Did the child correlate the images with the letters? (prompting or no prompting)

After 20 minutes child is asked to stop playing

- No facilitator prompting
- Objective prompting
- Interaction walkthrough
- Facilitator completed

Child is asked to print

- No facilitator prompting
- Objective prompting
- Interaction walkthrough
- Facilitator completed

Did the child have trouble using the mouse?

- Yes
- No

Total Activity Time ___ minutes

Parent Demographic Questionnaire

_____ Participant ID

(Please note, your information will not be sold or given to outside entities. It is for internal educational use only.)

Name		
Gender	Male	Female
Age		
<p>How would you classify your child?</p> <p>Note: This is a sensitive question that can help content developers to understand the needs of current software users--it is not intended to offend.</p>	<input type="checkbox"/> Rather Not Say <input type="checkbox"/> Caucasian/White <input type="checkbox"/> African American <input type="checkbox"/> Indigenous or Aboriginal <input type="checkbox"/> Asian/Pacific Islander <input type="checkbox"/> Hispanic <input type="checkbox"/> Multiracial <input type="checkbox"/> Other: Specify _____	
<p>How long have you been using the Internet (including using e-mail, gopher, ftp, etc.)?</p>	<input type="checkbox"/> less than 6 months <input type="checkbox"/> 6 to 12 months <input type="checkbox"/> 1 to 3 years <input type="checkbox"/> 4 to 6 years <input type="checkbox"/> 7 years or more	
<p>What do you usually do on the internet? (e.g., email, use reference materials such as encyclopedias and dictionaries, read news, curriculum activities, games, entertainment etc.)</p>		
<p>What is the primary language spoken at home? (i.e., the one you speak most of the time)?</p>	<input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Chinese <input type="checkbox"/> French <input type="checkbox"/> German <input type="checkbox"/> Dutch <input type="checkbox"/> Japanese <input type="checkbox"/> Other: specify _____ _____	

How frequently do you use (or supervise) the computer with your child?	
at Home	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Less than once a month <input type="checkbox"/> never <input type="checkbox"/> can't say
Do you access the computer with child outside the home? (at school, library, at a friends or relatives home?)	<input type="checkbox"/> yes <input type="checkbox"/> no
Please indicate the highest level of education completed.	<input type="checkbox"/> Grammar school <input type="checkbox"/> High School or equivalent <input type="checkbox"/> Vocational/Technical School <input type="checkbox"/> Some College <input type="checkbox"/> College Graduate(4yr) <input type="checkbox"/> Master's Degree (MS) <input type="checkbox"/> Doctoral Degree (PhD) <input type="checkbox"/> Professional Degree (MD, JD, etc) <input type="checkbox"/> Other: Please Specify
What is your primary computing system platform?	<input type="checkbox"/> Windows <input type="checkbox"/> Macintosh <input type="checkbox"/> Linux <input type="checkbox"/> Unix <input type="checkbox"/> Other: Please Specify <input type="checkbox"/> Don't know

Child Questionnaire- pre-task

_____Participant ID





























Observer or teacher will ask these questions of the child and complete the form.

Name		
Gender	Male	Female
Age		
How often do you use the computer?	<input type="checkbox"/> Every Day <input type="checkbox"/> Once a Week <input type="checkbox"/> Once a Month <input type="checkbox"/> Only when I need something	
Where do you use the computer the most	<input type="checkbox"/> School <input type="checkbox"/> Library <input type="checkbox"/> Home	
Who usually uses the computer with you?	<input type="checkbox"/> Parent <input type="checkbox"/> Sitter <input type="checkbox"/> Teacher <input type="checkbox"/> Other _____	

Post Session Survey CHILD

_____ Participant ID

Please fill out the following questions about the site:

	Yes, very much	Yes	Not really	Not at all
I understood the instructions.				
Mora the monkey was helpful				
The game was fun				
The game was easy to play				
I used my left hand/right hand correctly				
I want to play this game again				
I would like to play this game at home				

What did you like the most? What ideas do you have about the game?

Thank you answering the questions.

Post Session Survey TEACHER

_____ Participant ID

Please fill out the following questions about the site:

	Strongly agree	Agree	disagree	Strongly disagree
The child appeared engaged				
My level of interaction was minimal				
The child used left hand/right hand without my external prompting				
This is a useful learning tool				
The game meets one or more Cobb County learning objectives in alphabet recognition (Can you specify?)				
The game meets one or more Cobb County learning objectives with technology integration (Can you specify?)				

What ideas do you have about the game? : How can it be improved? Other comments

Thank you answering the questions.