

# **The eMapper Paper Prototype Test**

## **Evaluation Report**

**TERC**  
**July 2012**

## Overview

Web and iPad-based eMaterials are becoming more ubiquitous in classrooms. This trend is expected to continue. Unfortunately many of the most frequently used enhancements for teaching with print materials cannot be readily integrated into currently available eMaterial formats. For example, teachers are used to being able to highlight terms or replace them with synonyms, incorporate illustrations, and add to or delete information to make textbook and workbook material accessible to their students. The eMapper is a new and unique assistive Web-based tool that addresses this need by making such customization of ePages possible. Integrating the principles of Universal Design for Learning, UDL (Rose & Meyer 2002), it promises to make eMaterials accessible to all learners, including those on the autism spectrum, individuals with sensory, cognitive, or physical disabilities, and English Language learners.

The eMapper is a collaborative research and development effort that is being undertaken by Bridge Multimedia — New-York City-based developers of assistive technology and producers of accessible media — and TERC, an educational research and development organization located in Cambridge, MA. It builds on two of the partner's prior collaborations. One of these is the Universal eLearner - a Bridge-led initiative that was conducted in association with the American Foundation for the Blind with funding from ED/NIDRR. The other is a TERC-led and co-funded initiative with Bridge that resulted in a version of one of the Web-delivered EnViSci Network science units (developed by TERC with funding from NSF) with modifications for learners on the autism spectrum.

A functioning proof-of-concept Web-based version of the eMapper will be ready for testing in late 2012. Building on meeting the needs of the audience that was the focus of their prior work, it is intended for learners on the autism spectrum in grades K-8 with cognitive skills ranging from Medium through High (approximately 68% of the population as reported in the Blackorby, Levine & Sanford, SEELS Report, 2008). It will have limited mark-up functionality that will be toolbar based and include a quick and easy way to create virtual page overlays with customized hi-lighting, modification of text, masking, sequential text reveals, and print versions of pages. Prior to building the working prototype, TERC researchers conducted an initial test of a paper prototype of this version of the eMapper with a small number of subjects. The goals and findings from this test are described in this evaluation report.

## Test of the eMapper Paper Prototype

### Purpose and Goals

The overall purpose of the eMapper paper prototype test was to collect information from individuals who work with the intended audience about usability of the design planned for the working prototype and about features to include in it. With this at the forefront, the partners sought to accomplish the following goals:

- 1) Introduce the concept of the eMapper to a limited number of individuals using mock-ups of pages from TERC's *What's the Weather?* – Web-based science unit from the EnViSci Network series that was the focus of their earlier work.

- 2) Collect test data using an online survey designed to provide insight into initial reactions to the eMapper, thoughts about its usability, and ranking of the importance of a starter set of proposed features.
- 3) Elicit suggestions about additional features to include in the working prototype and ideas about electronic content that lends itself to use with the eMapper.
- 4) Analyze test data and write a report of findings to inform development of the functioning Web-based prototype.

## Research Design

Participants were selected from a pool of individuals from specialized schools and/or institutions that serve students on the autism spectrum and who responded positively to an email invitation to take part in the test. The protocol used was comprised of two steps.

### Step 1: Review the eMapper Paper Prototype.

Participants were sent an introductory email that included a PDF version of the eMapper paper prototype. They were asked to download it and read it either in soft copy or print it out and read it in hard copy.

### Step 2: Take the eMapper Online Survey.

A link to an online survey was included in the introductory email. It was designed and delivered using NoviSurvey, a Web-based tool that allows the creation of sophisticated online surveys and data collection forms with a variety of question types. NoviSurvey uses a dedicated server that is located at TERC and results in data that can be easily exported in .csv format for analysis using Excel. Participants were asked to use the link to access and respond to the survey after reviewing the paper prototype. A copy of the online survey is included in the Appendix.

## Sample Size and Participant Characteristics

The test sample consisted of four professionals - one therapist and three teachers. Their demographic information is summarized in Table 1. In support of TERC's policies for working with human subjects, identifiers such as names have been removed to ensure the confidentiality of participants.

**Table 1. Demographic Information of Participants**

Code Name	Occupation/Title	Work Setting	Students Served	Academic Ability of Students
A	Consultant	Home, museums, and community organizations	Child with PPD-NOS*; children and teens with autism and related disorders.	

B	Special Education Teacher	Specialized School	Students (age 7-12) with autism who attend a self-contained program in a non-public school	Some students slightly below grade level; some significantly below grade level.
C	Autism Program Administrator	Specialized School	Students (age 6-12) with autism, placed in a non-graded, non-public school with an autism program, receiving 1:1 and very small group instruction.	Below grade level in all subjects and have minimal functional communication
D	Speech Therapist	Specialized School	Students (ages 6-22 years) with moderate-severe autism.	Students have moderate to severe deficits in both comprehension and use of language

\* Pervasive Developmental Disorder, Not Otherwise Specified (PDD-NOS)

### Summary of Findings

Analysis of the data shows that overall participants thought the eMapper has the potential to be a useful and valuable tool. Feedback with regard to ease of use and clarity of instructions were mostly positive. Respondents made many useful suggestions about how to clarify areas that were confusing or not explained in sufficient depth. They indicated that many of the toolbar options presented in the prototype would be useful in their teaching and provided suggestions for additional tools to be added. They also suggested many e-materials and curricula that might lend themselves to use with the eMapper. A detailed summary of these findings follows.

### First Impressions

After reading the PDF of the eMapper paper prototype, participants initial reaction to it were as follows:

- *This is simple and straightforward, but I'm not quite sure where the content came from, and/or whether I could select or create my own content.*
- *I would love to use this program! It would be extremely helpful to be able to remove words in order to simplify a text, to highlight key words, etc. This would allow me to more effectively serve students with a variety of skills/needs at the same time.*
- *This is very straightforward and feels like it works the way most common computer software works (e.g., Word, PowerPoint, etc.). I like the editing options.*
- *I love the concept! I'm unsure of whether the adapted pages are designed for use as paper print-outs or as an electronic version? Perhaps both? I would love to have both options (since I do work with some students who demonstrate difficulty with paper and pencil type tasks and with the use of paper in instruction). I like that you can add links really easily, since I support the use of multisensory instruction (e.g., inclusion of sounds via links). While first reading it, it reminds me a bit of diigo.com.*

Participants' understanding of the purpose of the eMapper were as follows:

- *To provide quick and easy access to tools to modify text for easier comprehension.*
- *The purpose of the eMapper seems to be to allow teachers to easily change texts so that they are more appropriate to students' unique needs.*
- *To provide ways to adapt texts for learners with autism by adding, deleting, or modifying presentation of content.*
- *Provide teachers with a format/template for adapting materials electronically. I like that you provide a menu of options, so as to encourage teachers to consider all options for adapting.*

Participants also listed the items that they were unsure about or that were unclear or confusing.

- *Is there a library of images, graphs, charts, etc.? Are they customizable? Where would I find the library, browse it, etc.?*
- *No.*
- *The only section I needed to re-read was the last part of the last page about saving. The line about clicking 'create eMap' before saving required a re-read, but I assume it is like opening a new word doc and discarding the one you were previously editing.*
- *I'm a little bit unclear as to whether e-mapper is designed to create electronic materials or paper-based materials. Based on inclusion of internet links and sequential reveal, it seems to be electronic based? Are there restrictions on the types of documents you can modify using emapper (e.g., microsoft word, powerpoint, pdf)?*

### **Quality of Instructions**

Participants reviewed the instructions and information one-by-one for each of the five steps of the procedure for using the eMapper to modify an ePage. After reviewing a step, they indicated whether they were able to understand what to do based on the information provided. Before going on to the next step, they commented on what they thought should be added, removed, or changed to improve or clarify what the user was to do. They completed this process of review and comment for each of the five steps. Their responses are summarized in Table 2.

**Table 2. Quality of Instructions and Recommendations**

<b>Step Number and Name</b>	<b>Do you know what to do based on the information provided? (No/Yes)</b>	<b>What should be added, removed or changed? Other Comments?</b>
<i>Step 1. Creating an eMap page</i>	No=2; Yes=2	<p>- <i>I don't know where the page of content comes from. Is it built into the eMapper, or am I downloading/creating my own materials? Do I open any document and then click on the eMapper, or click on the eMapper and select a document, or...?</i></p> <p>- <i>It might be helpful to elaborate on the bit about multiple pages. Clarify what happens to pages you don't turn into eMaps.</i></p> <p>- <i>Do you need to 'upload' the pages that you want to modify to emapper (since the instructions start with the user clicking the emapper icon)? What types of pages can you modify (microsoft word, powerpoint, web based pages, pdf)?</i></p>
<i>Step 2. Selecting a Region to Adapt</i>	No=1; Yes=3	<p>- <i>Do I have any control over the regions, or are they preprogrammed?</i></p> <p>- <i>This is great - VERY clear.</i></p> <p>- <i>Other, more overt cues that you are in edit mode I am familiar with include a red border that subtly flashes around the editing box and navigation to what feels like a new page in a hypercard stack type of set up (like PowerPoint view modes).</i></p>
<i>Steps 3 and 4. Adapting the Region Selected</i>	Yes = 4	<p>- <i>I know how to select and modify an area, but I am not quite sure what the value is of doing so based on this example. To be honest, this is pretty much exactly what you can do with Word: change size and color of text, add images and charts, etc. I'm not sure that this is as adaptable as my word processing software!</i></p> <p>- <i>Are you dividing the page by 'region' to assist teachers in</i></p>

		<i>systematically adapting each part of the page? I would personally rather be able to click on any part of the page (in this way, each picture and word would be a 'region' - the regions would be much smaller). For example, I could just click on the word 'wind' at the top (thereby selecting it), and then choose from the toolbar options. I could then click on the picture, and choose from the toolbar options.</i>
<i>Step 5. Saving, Continuing, and Starting Over</i>	Yes=4	- <i>Will this save the page, as adapted to my own computer?</i>  - <i>You may already have this, but I would add a safety function where if the user clicks 'exit' a dialog box asks if they want to save their work before the entire entry is cleared.</i>

### **Usefulness of the Toolbar Options**

Participants rated the proposed toolbar options listed below according to their usefulness for adapting a page.

- **Text** – add, delete, change size, change color, and/or highlight text.
- **Illustrations** - insert or delete illustrations.
- **Diagrams** - insert or delete diagrams.
- **Tables** - insert or delete tables.
- **Links** - insert or delete links.
- **Sequential Reveal** – make “chunks” of material on the page appear in sequence.
- **Timer (Reminder)** - track the time that elapses between keystrokes and provide an auditory reminder after a set amount of time.
- **Scooper** - define syntactic chunks of text that are used to help readers apply appropriate intonation and stress in conjunction with speed and accuracy while reading.

Table 3 shows each participant’s rating using a 1 to 5 scale with 1 or 2 meaning the feature is not useful to them, 3 that is useful, and 4 or 5 that it is very useful.

**Table 3. Usefulness of the Toolbar Options**

Code Name	Toolbar Options							
	Text	Illustrations	Diagrams	Tables	Links	Sequential Reveal	Timer	Scooping
A	3	3	3	3	3	3	5	5
B	5	5	3	3	5	5	4	5
C	5	5	5	5	5	5		4
D	5	5	5	5	5	5	5	3

Participants provided general comments and questions about the toolbar options.

- *Since all this [text, illustrations, diagrams, tables, links] is available in a basic word processing package except sequential reveal, I'm not sure I understand the value.*

- *Where will the illustrations come from? Must they be already loaded on the user's computer or device?*

*Or will an image bank come with the program? Ease of locating and importing images would be a big factor for me.*

*- Diagrams, tables, and links may be useful for more advanced individuals where as text edits, picture supports, and reveals may help earlier learners. It is great to have all options.*

*- I really like all of the toolbar options!*

*- These items [timer and scooper] are NOT a part of ordinary word processing software and could thus be very helpful.*

*- In theory, I like the idea of the scooper! It would help address fluency, which is often challenging to teach. It is difficult for me to envision how this would work in practice, but I would be very interested in using it.*

*- I am not familiar with the scooper but understand this idea completely and think it sounds wonderful.*

*- In general I think scooping is helpful, it's just not appropriate (skill level wise) for my students.*

Participants had many suggestions for features to add to the toolbar.

*- I would offer a tool to help the teacher select the RIGHT adaptation for her student, depending upon how the text is being used. For example 'read aloud tools,' 'comprehension tools,' etc. I'd also offer a text reader option for low vision readers and for kids who need to hear the words spoken. I'd consider offering a library of animations for comprehension (tools for showing a sequence, direction, back-and-forth communication, change of expression, etc.)*

*- The more options for adding links and similar material, the better. It would be helpful to make the pages as multi-sensory as possible, such as by including audio files (e.g., to hear the sound of the wind), video files (e.g., to see wind blowing dirt), etc. Many of my students learn best when the material presented is as realistic/close to what they see in the real world as possible. The less symbolism, the better. In addition, the ability to add graphics to illustrations would be key. If given the illustration above, I would want to add images to represent 'warm air' and 'cool air' more clearly (maybe with familiar photos) and to better show motion. Very simple animation would excellent, as it would help convey actions to the students. Since the students may have trouble interpreting symbols, these edits might really help with comprehension.*

*- Text-to-speech functionality? Click on text and it's read aloud. Talking or picture dictionary access? Click on word and gain access to dictionary entry. Visual movement or dynamic text feature (a word or phrase blinks, is lit the way iDevices are lit on the 'slide to unlock' feature, or expands to capture/direct reader attention - similar to PowerPoint text emphasis tools).*

*- I would love to see the inclusion of other options similar to the 'sequential reveal' option. It would be neat to have a 'basic' editing section, and then also have an 'advanced' section. In the advanced section, I'm envisioning toolbar options such as adding preview and summary sections (blurb at the top and bottom with main ideas), adding a dictionary (word and/or picture/video based definitions), a 'read aloud' function, adding repetition of main ideas/vocabulary terms, adding a repeated story line, and so on. The inclusion of these toolbar options would help my students by maximizing repetition of vocabulary/linguistic information and providing information via multiple modalities (e.g., written and auditory).*

Bridge Multimedia suggested several modifications to the existing structure.

*-Built in Timers, Reminders (<http://itunes.apple.com/us/app/duer-super-fast-reminders-reusable/id390017969?mt=8>)*

*-Use of the phrase Window Shade to describe words/paragraphs that are blocked out.*

*-Use of a Page Persistent/ Write to All Pages feature for annotations that automatically appear on all of the pages selected.*

### **Products Similar to the eMapper**

*- As I mentioned, you can do almost all of this with a basic word processing program.*

- *Some education apps do sequential reveals for text. App versions of children's books usually do that. This helps the students keep their place, read at an appropriate pace, and recognize that each word in a sentence is an individual unit.*
- *I think [www.diigo.com](http://www.diigo.com) has similar capabilities (in terms of 'marking up' pages). 'Writing with symbols' software is a similar concept, but does not include the variety of options available with eMapper.*

### **Compatible Curricula and e-Materials**

Participants provided information about science, math, language arts, and social studies materials and curricula that might be used with the eMapper. They also named electronic materials that might work well.

- *Any material could be visually enhanced with this tool, but it would take some work for a teacher to enhance anything that is long or conceptually complex.*
- *Leveled readers from [readinga-z.com](http://readinga-z.com); Equals Math; PCI Reading; Words Their Way; Early Literacy Skills Builder; Accessible Literacy Learning; Reading Mastery*
- *Discovery Education (science); Equals Math (math); Possibly ELSB (literacy); MeVile to WeVile (literacy); Unique Learning Systems (science)*
- *Unique Learning Systems (some of their material includes a great deal of pictures - at points too many pictures - eMapper could help delete those pictures).*
- *The Learning A-Z websites*
- *Possibly News2You and Classroom Suite*

### **Additional Comments**

- *I'm assuming this product is intended to be used to enhance reading fluency and comprehension for younger or developmentally delayed students. There are some great additional tools out there that do a lot of what this does and more (adding in the ability to read aloud, respond to questions as you go along, use an electronic pen to circle and draw arrows, etc.).*
- *This is a wonderful idea.*
- *I really love this concept and think it's incredibly useful for the field of special education. I think my main idea for future directions with eMapper is the inclusion of 'advanced' editing capabilities (like those I mentioned in a previous question), and potentially more 'extension' options - options beyond modifying the page - such as creating follow up comprehension questions, a review page, a 'picture' preview page, etc.*

### **References Cited**

- Blackorby, J., Levine, P. & Sanford, C. 2008. *SEELS: A National Profile of Students With Autism*. SRI Project P10656. Retrieved February 1, 2012, from [http://www.seels.net/info\\_reports/national\\_profile\\_students\\_autism.htm](http://www.seels.net/info_reports/national_profile_students_autism.htm)
- Rose, D.H., and A. Meyer. 2002. *Teaching every student in the digital age. Universal design for learning*. Alexandria, VA: Association for Supervision and Curriculum Development.



# Appendix

## The eMapper: Paper Prototype Survey

### Part I: Participant Information

Please provide the following information about yourself:

1. Name
2. Title/Occupation (teacher, professor, therapist etc.)
3. Name of School/Institution
4. School/Institution Location (City, State)
5. Describe the individuals that you work with (including age/grade level, cognitive skills, academic ability, etc.)

### Part II: First Impressions

Read through the PDF version of the eMapper Paper Prototype that was sent to you with the link to this survey. Then answer the questions below.

1. What are your first impressions?
2. What is your understanding of the purpose of the eMapper?
3. Is there anything that you are unsure about or that is unclear or confusing? Please explain.

**Part III: Questions About Step 1 (Creating an eMap Page)**

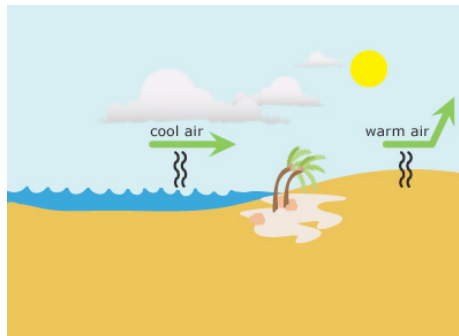
Use the information below to find out how to create an eMap page. Then answer the questions that follow.

**Step 1: Creating an eMap Page**

**Wind**

You can feel wind on your face. You can watch it lift a kite, blow tree branches, and fill the sails on a boat.

What causes wind? Sunlight warms the surface of Earth unevenly. The heat from warm areas of Earth's surface warms the air above. The warmer air rises and cooler air moves in to take its place. This movement of air is called *wind*.



**Create eMap**

**Step 1:** To create an eMap of the page to be adapted, the user first opens the page or pages of text to be worked on by clicking on the **eMapper icon** located on the desktop. The page or pages appear as above and the tool is activated. To create an eMap of the page, the user next clicks on **Create eMap** below the page to be adapted. If there are multiple pages, all of the pages travel in sequence with the page that is to be adapted. The eMap page selected appears as shown on the next page.

1. Based on the information provided, do you know how to create an eMap page? If not, please explain.

- Yes
- No

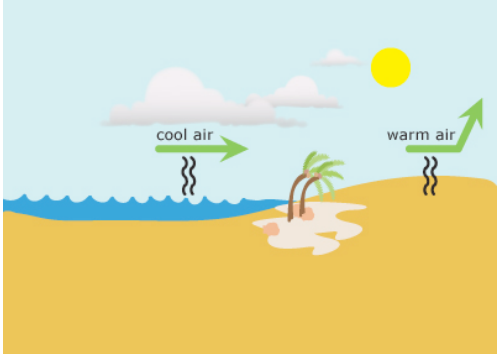
Other comments?

2. What might be added, removed, or changed to help you create an eMap page?

**Part IV: Questions about Step 2 (Selecting a Region to Adapt)**

Use the information below to find out how to select a region to adapt. Then answer the questions that follow.

**Step 2: Selecting a Region to Adapt**

<b>Wind</b>
You can feel wind on your face. You can watch it lift a kite, blow tree branches, and fill the sails on a boat.
What causes wind? Sunlight warms the surface of Earth unevenly. The heat from warm areas of Earth's surface warms the air above. The warmer air rises and cooler air moves in to take its place. This movement of air is called <i>wind</i> .


[Create eMap](#)   [Select a Region](#)   [Exit](#)

**Step 2:** The selected page is now divided into sections called *regions* as shown above. Each component of the original page is a separate region and is outlined in black. To select a region to work on, the user clicks on **Select a Region** and then clicks on the specific region to be adapted. The page appears with the region selected as shown on the next page.

1. Based on the information provided, do you know how to select a region to adapt? If not, please explain.

- Yes
- No

Other comments?

2. What might be added, removed, or changed to help you select a region to adapt?

**Part V: Questions about Steps 3 & 4 (Adapting the Region Selected)**

Use the information below to find out how to adapt the region selected. Then answer the questions that follow.

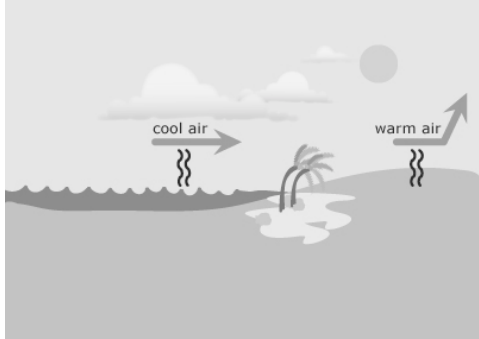
**Step 3: Adapting the Selected Region**

- |                |                      |                 |               |              |                          |
|----------------|----------------------|-----------------|---------------|--------------|--------------------------|
| <b>text</b>    | <b>illustrations</b> | <b>diagrams</b> | <b>tables</b> | <b>links</b> | <b>sequential reveal</b> |
| • delete       | • delete             | • delete        | • delete      | • delete     | • enable                 |
| • add          | • insert             | • insert        | • insert      | • insert     | • disable                |
| • change size  |                      |                 |               |              |                          |
| • change color |                      |                 |               |              |                          |
| • highlight    |                      |                 |               |              |                          |

**Wind**

You can feel wind on your face. You can watch it lift a kite, blow tree branches, and fill the sails on a boat.

What causes wind? Sunlight warms the surface of Earth unevenly. The heat from warm areas of Earth's surface warms the air above. The warmer air rises and cooler air moves in to take its place. This movement of air is called *wind*.



The diagram illustrates the process of wind formation. On the left, a body of water is shown with a cloud above it. An arrow labeled 'cool air' points from the water towards the right. On the right, a landmass with palm trees is shown under a sun. An arrow labeled 'warm air' points upwards from the land. Wavy lines below the arrows indicate the movement of air.

**Create eMap   Select a Region   Adapt a Region   Save Page   Exit**


**Step 3:** The page now appears with the regions not selected as greyed out and the region selected as unchanged. A toolbar also appears at the top of the page. Clicking Create eMap returns the user to the eMap and allows a different region to be selected. To adapt the region, the user clicks on **Adapt a Region** and then on an icon on the toolbar. After selecting the icon, a pull down appears with options, shown above as bullets. The user then selects an option and adapts the page in that way, and proceeds using this process until adaptation of the region is complete. An example of a region being adapted using the toolbar appears on the next page

### Step 4: Using the Toolbar to Adapt the Selected Region

- |   |  |  |  |  |   |
|---|--|--|--|--|---|
| <b>text</b>   | <b>illustrations</b>   | <b>diagrams</b>  | <b>tables</b>  | <b>links</b>   | <b>sequential reveal</b>  |
| <ul style="list-style-type: none"> <li>• delete</li> <li>• add</li> <li>• change size</li> <li>• change color</li> <li>• highlight</li> <li>• undo</li> <li>• redo</li> </ul> | <ul style="list-style-type: none"> <li>• delete</li> <li>• insert</li> <li>• undo</li> <li>• redo</li> </ul> | <ul style="list-style-type: none"> <li>• delete</li> <li>• insert</li> </ul> | <ul style="list-style-type: none"> <li>• delete</li> <li>• insert</li> </ul> | <ul style="list-style-type: none"> <li>• delete</li> <li>• insert</li> </ul> | <ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul> |

Wind

You can **feel wind** on your face.

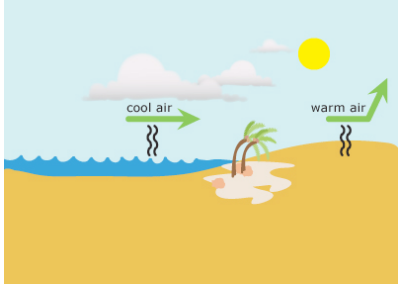


You can **see wind blow** trees.

You can **see wind blow** dirt in the schoolyard.

**What else can you see wind do?**

What causes wind? Sunlight warms the surface of Earth unevenly. The heat from warm areas of Earth's surface warms the air above. The warmer air rises and cooler air moves in to take its place. This movement of air is called *wind*.



Create eMap   Select a Region   **Adapt a Region**   Save Page   Exit

**Step 4:** Each adaptation appears as it is made. Clicking undo returns to the previous situation. Clicking redo causes the adaptation to reappear. To save the adapted region, the user clicks on **Save Page** as described on the next page.

1. Based on the information provided, do you know how to use the toolbar to adapt the region selected? If not, please explain.

- Yes  
 No

Other comments?

2. What might be added, removed, or changed to help you adapt the region selected?

3. Please rank each of the toolbar options according to your perception of its usefulness to you in adapting regions of text.

	Not useful			Very Useful	
	1	2	3	4	5
Adapting TEXT (delete, add, change size, change color, highlight)					
Adapting ILLUSTRATIONS (insert or delete)					
Adapting DIAGRAMS (insert or delete)					
Adapting TABLES (insert or delete)					
Adapting LINKS (insert or delete)					
Sequential Reveal (enable or disable)					

Other comments?

4. Other reviewers have suggested the addition of a timer and a scooper. The timer is used to keep track of the time that elapses between key strokes and provides an auditory reminder after a set amount of times. The scooper is used to define syntactic chunks of text that are used to help readers apply appropriate intonation and stress in conjunction with speed and accuracy while reading. Please indicate your perception of each of these tools below.

	Not useful			Very Useful	
	1	2	3	4	5
Timer					
Scooping					

Other comments?

5. What tools for adapting a selected region do you suggest adding? Explain what each tool would do and how you might use it to help the individuals with whom you work.

**Part VI: Questions about Step 5 (Saving an Adapted Region, Continuing, and Starting Over)**

Use the information below to find out how to save a region you have adapted, continue to adapt regions, and start over. Then answer the questions that follow.

**Step 5: Saving an Adapted Region, Continuing, and Starting Over**

**Step 5:** A dialogue box appears when **Save Page** is clicked asking the user if the page should be saved or if only the adapted region should be saved. The user is then asked if the item selected should be saved as is or as a PDF. Clicking **Create eMap** at any time before saving the page returns the user to the page as it appeared for Step 2 and allows a different region of the same page or a different page to be selected and adapted. Clicking **Exit** at any time clears the entire entry.

To continue adapting the same or a different region of the same page, the user opens the saved page, clicks on the eMapper icon on the desktop and repeats the same process as before. This can be repeated as often as needed until adaptation of the page is complete.

1. Based on the information provided, do you know how to save a region you have adapted, continue to adapt regions, and start over? If not, please explain.

- Yes  
 No

Other comments?

2. What might be added, removed, or changed to help you continue to adapt regions, save an adapted region, and start over.

**Part VII: Final Questions**

1. Do you know of other products that do any part of what the eMapper does? If so, please name these products and explain how they can be used to help the individuals with whom you work.

2. What science, math, language arts, or social studies materials or curricula do you think are a good fit for use with the eMapper.

3. What other electronic materials do you think are a good fit for use with the eMapper?

4. Please include any additional comments, suggestions, and thoughts about directions for development of the eMapper below.