References


173


Huerta, V. (2002). *Perceptions of Nebraska School Leaders on the Use of Handheld Computers: Do handheld computers make a difference?* Unpublished Doctoral Dissertation, University of Nebraska, Omaha, NB.


Pearson, P. D. (2005). *Assessing reading comprehension and vocabulary: What does the research tell us? What should we do in our schools?* : Lecture presentation hosted by University of Minnesota Center for Reading Research, St. Paul, MN.


Appendices
Appendix A Innovativeness Scale
Individual Innovativeness Scale (IS)

**Directions:** People respond to their environment in different ways. The statements below refer to some of the ways people can respond. Please indicate the degree to which each statement applies to you by marking whether you: **Strongly Disagree = 1; Disagree = 2; are Neutral = 3; Agree = 4; Strongly Disagree = 5**

Please work quickly, there are no right or wrong answers, just record your first impression.

1. My peers often ask me for advice or information.
2. I enjoy trying new ideas.
3. I seek out new ways to do things.
4. I am generally cautious about accepting new ideas.
5. I frequently improvise methods for solving a problem when an answer is not apparent.
6. I am suspicious of new inventions and new ways of thinking.
7. I rarely trust new ideas until I can see whether the vast majority of people around me accept them.
8. I feel that I am an influential member of my peer group.
9. I consider myself to be creative and original in my thinking and behavior.
10. I am aware that I am usually one of the last people in my group to accept something new.
11. I am an inventive kind of person.
12. I enjoy taking part in the leadership responsibilities of the group I belong to.
13. I am reluctant about adopting new ways of doing things until I see them working for people around me.
14. I find it stimulating to be original in my thinking and behavior.
15. I tend to feel that the old way of living and doing things is the best way.
16. I am challenged by ambiguities and unsolved problems.
17. I must see other people using new innovations before I will consider them.
18. I am receptive to new ideas.
19. I am challenged by unanswered questions.
20. I often find myself skeptical of new ideas.
**Scoring:**
Step 1: Add the scores for items 4, 6, 7, 10, 13, 15, 17, and 20.
Step 2: Add the scores for items 1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18, and 19.
Step 3: Complete the following formula: II = 42 + total score for Step 2 - total score for Step 1.

Scores above 80 are classified as Innovators.
Scores between 69 and 80 are classified as Early Adopters.
Scores between 57 and 68 are classified as Early Majority.
Scores between 46 and 56 are classified as Late Majority.
Scores below 46 are classified as Traditionalists.

In general people who score above 68 and considered highly innovative, and people who score below 64 are considered low in innovativeness.

**Sources:**

Appendix B Perceived Organizational Innovativeness Scale
Perceived Organizational Innovativeness Scale (PORGI)

**Directions:** Organizations respond to change in different ways. The statements below refer to some of the ways members of organizations perceive their organizations’ to be. Please indicate the degree to which you agree that the statement describes your organization. In the blank just before the statement, indicate whether you: **Strongly Disagree = 1; Disagree = 2; are Undecided = 3; Agree = 4; Strongly Agree = 5**

**My Organization is:**

____ 1. cautious about accepting new ideas.
____ 2. a leader among other organizations.
____ 3. suspicious of new ways of thinking.
____ 4. very inventive.
____ 5. often consulted by other organizations for advice and information.
____ 6. skeptical of new ideas.
____ 7. creative in its method of operation.
____ 8. usually one of the last of its kind to change to a new method of operation.
____ 9. considered one of the leaders of its type.
____ 10. receptive to new ideas.
____ 11. challenged by new ideas.
____ 12. follows the belief that "the old way of doing things is the best."
____ 13. very original in its operational procedures.
____ 14. does not respond quickly enough to necessary changes.
____ 15. reluctant to adopt new ways of doing things until other organizations have used them successfully.
____ 16. frequently initiates new methods of operations.
____ 17. slow to change.
____ 18. rarely involves employees in the decision-making process.
____ 19. maintains good communication between supervisors and employees.
____ 20. influential with other organizations.
____ 21. seeks out new ways to do things.
____ 22. rarely trusts new ideas and ways of functioning.
23. never satisfactorily explains to employees the reasons for procedural changes.

24. frequently tries out new ideas.

25. willing and ready to accept outside help when necessary.

**Scoring:**
Step 1. Add the scores for the following items: 1, 3, 6, 8, 12, 14, 15, 17, 18, 22, and 23.
Step 2. Add the scores for the following items: 2, 4, 5, 7, 9, 10, 11, 13, 16, 19, 20, 21, 24, and 25.
Step 3. Complete the following formula. PORGI = 66 + total from Step 2 - total from step 1.
Scores can range between 25 and 125.

Organizations with scores above 110 are classified as Innovative.
Organizations with scores between 91 and 110 are classified as Early Adopter.
Organizations with scores between 71 and 90 are classified as Early Majority.
Organizations with scores between 50 and 70 are classified as Late Majority.
Organizations with scores below 50 are classified as Traditional.

Generally, Organizations which score above 90 are high in innovativeness. Those scoring below 50 are low in innovativeness. Those scoring between 50 and 90 are moderate in innovativeness.

**Sources:**

Appendix C Perceived Characteristics of Innovating Scale
Perceived Characteristics of Innovating Scale (PCIS)

**Directions:** People respond to new technologies in different ways. The statements below refer to some of the ways people can respond. Please indicate the degree to which each statement applies to you by marking whether you: **Strongly Disagree = 1; Moderately Disagree = 2; Slightly Disagree = 3; are Neutral = 4; Slightly Agree = 5; Moderately Agree = 6; Strongly Agree = 7.** There are no right or wrong answers, just record your first impression.

____ 1. Using digital annotation software will enable me to accomplish tasks more quickly.
____ 2. Using digital annotation software will improve the quality of work I do.
____ 3. Using digital annotation software will simplify my work tasks.
____ 5. Overall, I find using digital annotation software will be advantageous in performing my job.
____ 6. Using digital annotation software will give me greater control over my work.
____ 7. Using digital annotation software will make me more productive.
____ 8. The use of digital annotation software is completely compatible with my current way of working.
____ 9. Using digital annotation software fits poorly with my current work practices.
____ 10. Using digital annotation software fits with my preferred work style.
____ 11. Using digital annotation software fits well with the way I like to work.
____ 12. Using digital annotation software will let me work the way I would like.
____ 13. It will be hard to employ my preferred work style when using digital annotation software.
____ 14. The use of digital annotation software is compatible with my past experience.
____ 15. I lack experience when it comes to things like using digital annotation software.
____ 16. Using digital annotation software is inappropriate for a person with my values regarding the role of technology.
____ 17. My values are in conflict with the use of digital annotation software.
____ 18. Using digital annotation software is completely consistent with my values.
____ 19. I believe that digital annotation software is cumbersome to use.
____ 20. It will be easy for me to remember how to perform tasks associated with using digital annotation software.
____ 21. When I use digital annotation software, it requires a lot of mental effort.
22. I believe that it will be easy to get digital annotation software to do what I want it to do.

23. Overall, I believe that digital annotation software will be easy to use.

24. Digital annotation software is user friendly.

25. Using digital annotation software improves my image within the organization.

26. In my organization, people will gain prestige by using digital annotation software.

27. People in my organization who use digital annotation software will have a higher profile.

28. Having digital annotation software will be a status symbol in my organization.

29. Because of my use of digital annotation software, I see myself as a more valuable employee.

30. I would find it easy to tell others about the results of using digital annotation software.

31. I think that I could easily describe the effects of using digital annotation software.

32. I believe I could communicate to others the consequences of using digital annotation software.

33. It will be hard to measure the results of using digital annotation software.

34. The effects of using digital annotation software can be assessed precisely.

35. It will be easy to determine the impact of digital annotation software.

36. I have had many opportunities to try out digital annotation software.

37. I know where I can go to satisfactorily try out digital annotation software.

38. Digital annotation software was available to me to test adequately.

39. I was permitted to use digital annotation software on a trial basis long enough to see what it could do.

40. I can have digital annotation software for periods long enough to try it out.

41. Supervisors in my organization expect me to use digital annotation software.

42. Although it might be helpful, using digital annotation software is optional in my job.

43. My decision to use digital annotation software is entirely up to me.

44. The use of digital annotation software is mandatory in my school.

45. My school requires me to use digital annotation software in performing my job.
Source:
Appendix D Outline of RepliGo ™ Workshops
Workshop Outline

Demonstrating RepliGo™
- This is digital annotation [show highlighting]
- [Show commenting]

Survey Time 1
- The next thing to do is to take three brief online surveys
- The first will ask you for some demographic information
- The second will ask about your personal level of innovativeness, or willingness to change
- The third will ask you your perceptions of your school’s innovativeness
- Please point your browser to [Survey 1 URL]

Introducing Digital Annotation Software
- RepliGo™ 2.0 from Cerience
- Originally designed for large corporations to make all their documents available to employees using handhelds and smartphones
- All versions of the reader are free to all
- Supports digital annotation
- Allows for viewing RepliGo™ files in a stand alone viewer or in a web browser
- RepliGo™ document creator required to make RepliGo™ files
- Adds a print driver and a converter button to the toolbar

Hands-on with RepliGo™
- [Use examples for each content area]
- Using the reader to annotate existing RepliGo™ files
- Using the converter to prepare electronic files to be read by the viewer
- Original document must be electronic
  - Web page, PDF, Word, Excel, PowerPoint, etc.
- If it can be printed, it can be made into a RepliGo™ file

Brainstorming
- How would you use your students’ annotations?
- What barriers do you foresee?

Survey Time 2
- You’ll be asked some questions about what you think of digital annotation
- Then you will choose whether or not you will participate in the four-week trial
- If you chose to participate in the trial, you will be offered the opportunity to participate in the second phase of this study
- Please tell me what day/time is best for your follow-up interview,
- Please point your browser to: [Survey 2 URL]

Thank You!
- Drawings for gift cards
- Please contact me if you have any questions about this study
Appendix E Screenshots of RepliGo™ Software
Eight colors are available

Highlighting can be edited, deleted, or color changed after insertion

Comments are added to a database

Highlights are vivid in thumbnail view

Comments database is still full size
Appendix F Screenshots of RepliGo™ Online Support Materials
Digital Annotation Resources

RepliGo User Guides & Movies

Userguides:
- RepliGo Viewer (students)
- RepliGo 2.0 (teachers)

Movies:
These movies require QuickTime be installed on your computer.
- Installing RepliGo Viewer
- Getting started with RepliGo Viewer - 1
- Getting started with RepliGo Viewer - 2
Making RepliGo files with RepliGo 2.0

When converting documents use the RepliGo printer. This special printer is for converting files to RepliGo.

Directions:
1. Open your original document in its native application and launch the Print dialog (usually File > Print) and select the RepliGo printer. The conversion process takes over and creates a corresponding RepliGo document. See figure one.

![Figure One: The RepliGo printer](image)

2. In the dialog box that appears (see figure two):
   a. Type the name of the document.
   b. Browse to the folder you want to save it in. Remember where this is for when you want to find it.
   c. Click OK.

![Figure Two: The RepliGo 2.0 convert document dialog box](image)

For each document you want to convert, open it in its native application and repeat the steps above.

Your files will now be converted for viewing using RepliGo Viewer.
RepliGo Viewer Reference Guide

Installation

Note: You must be logged in with an Administrator account on the local machine to install RepliGo Viewer for Windows. Irving ISD students will have the software pushed to them by the school district and should not need to install it.

Step 1.
Download RepliGo Viewer for Windows from http://www.issproject.org/students/

Step 2.
Quit all other applications.

Step 3.
Double-click the self-extracting executable file on your desktop computer. This file can be found in the directory you specified during the download process.

Step 4.
Follow the onscreen instructions.

Working with highlights
Highlights are stored as Comments. They are shown when the Comments tab on the left is clicked. You can pin open the Comments tab by clicking on the pushpin icon.

Text Highlighter tool: Use this tool to highlight text within the document. The highlighted text is automatically added as a new comment.

Comments buttons: Use these buttons to display and navigate various comments, highlights, and notes. Use the Add Note to add a text comments to the current page.

Find and Find Next buttons: Find text within the document. Use the Find Next button to move to the next match.

Bookmarks buttons: Use these buttons to display and navigate converted document bookmarks and personal bookmarks. Use the Add Bookmark to add a personal bookmarks to the document.

Text Select tool: Use this tool to select text from your document to paste into another application.

Send via E-mail
You can send the current document via e-mail. Choose File > Send... or click the Send Mail toolbar button. This will launch your default e-mail program and attach the current RepliGo document to the e-mail for sending. Simply type in the recipient’s e-mail address, and click send.
Appendix G Phase 1 Follow-up Interview Protocol and Voicemail Prompts
Phase 1 Follow-up Interview Protocol

Tell me about your decision to adopt/not adopt digital annotation.

What made you decide the way you did?

---

Phase 1 Voicemail Prompt

Digital Annotation Workshop Follow-up Phone Call

Dial: (972) 504-6267

Say:
- First Name, Last Name
- Email address
- Spell the front end of your email
- I did/did not choose to participate in the RepliGo field trial
- What I saw in the workshop that had me choose this was...

Questions? Contact Barry Brahier at brah0002@umn.edu
Appendix H Phase2 RAT Taxonomy Interview Protocol
RAT Taxonomy Interview Protocol

What was your goal in using digital annotation in this instance?

What was interesting to you about this instance?

To what extent would you say using digital annotation changed
   How you taught?
   What you taught?
   What students learned?

What else would you like me to know about this instance?
Appendix I Perceived Characteristics of the Innovation Definitions and Sample Data
## PCI Definitions

<table>
<thead>
<tr>
<th>Construct</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Advantage</td>
<td>the degree to which the innovation is perceived as being better than the other options – the comparison may be explicit (A is better than B) or implicit (A is better)</td>
</tr>
<tr>
<td>Compatibility with Current Work Practices</td>
<td>the degree to which the innovation is perceived as being consistent with the way the potential adopter works now</td>
</tr>
<tr>
<td>Compatibility with Preferred Work Style</td>
<td>the degree to which the innovation is perceived as being consistent with the way the potential adopter would like to work, even if that is not the way they work now</td>
</tr>
<tr>
<td>Compatibility with Prior Experience</td>
<td>the degree to which the innovation is perceived as being consistent with the prior experience of potential adopters</td>
</tr>
<tr>
<td>Compatibility with Values</td>
<td>the degree to which the innovation is perceived as being consistent with the existing values of potential adopters</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>the degree to which an innovation is perceived as being easy to use</td>
</tr>
<tr>
<td>Image</td>
<td>the degree to which using the innovation is perceived to enhance one’s image or status in the organization</td>
</tr>
<tr>
<td>Communicability</td>
<td>the degree to which the results of using the innovation can be easily communicated to others</td>
</tr>
<tr>
<td>Measurability</td>
<td>the degree to which the impact of the innovation can be measured</td>
</tr>
<tr>
<td>Trialability</td>
<td>the degree to which the innovation may be experimented with before adoption</td>
</tr>
<tr>
<td>Voluntariness</td>
<td>the degree to which adoption of the innovation is viewed as a matter of personal choice, rather than external pressure</td>
</tr>
<tr>
<td>Others Use</td>
<td>the degree to which potential adopters are aware of other people using the innovation</td>
</tr>
</tbody>
</table>

**Source:**
Yesterday, or the day before, you attended the workshop and I think you chose to go ahead and give it a try. And what had you made up your mind about that? Basically because with the other reading teachers and ESL teachers we’ve been talking all year about how to improve our reading comprehension scores because we’ve got kids that are, you know, pretty low. We’re concerned about them on the TAKS test. And most of the research says that we need to get them interacting with the text and marking the text and digital annotation fits really well into that. It’s a tool we can use to help them with marking the text and interacting with the text.

And anything specific about it as far as the qualities of interaction or what you were after... It sounds like you came in looking for something, and was there anything you saw specifically that helped you tip your mind that “I’ll try this”... I liked the fact that I can, I guess, elicit comments from them fairly easily in the comments section. I like that more than any of the other tools that we’ve been able to get a hold of.

Was there anything else about the works itself, the surveys, any of the questions you had that didn’t get answered. No I don’t think so.
Appendix J Phase 2 RAT Taxonomy Self-Report
Phase 2 RAT Taxonomy Self-Report

What happened in your class today?
Describe the subject, the students, your intended outcomes, and how you and your students used digital annotation.

Comparing today to how you taught before using digital annotation:
Did the use of digital annotation change your instruction? How?
How would you have taught this topic before?

Comparing today to what you taught before using digital annotation:
Did using digital annotation change the topics you? How? What would you have taught before?

When you used digital annotation today, what did you notice about your students' learning?

What else would you like to say about the way(s) digital annotation was used in your classroom today? (Optional)
Appendix K Permissions to Reprint
October 5, 2005

Barry Brahler
658 Overlook Drive
Roseville, MN 55113
Fax: 651-499-5485

Dear Barry Brahler:

In reply to your fax received this morning, you have our permission to use Figure 5-1 (A Model of Five Stages in the Innovation-Decision Process), p. 170 from Diffusion of Innovations, 5th Edition by Everett M. Rogers, in your doctoral dissertation, to be submitted to the University of Minnesota. This permission is extended to all copies of the dissertation to meet degree requirements. Reapply for all subsequent uses.

The following acknowledgment is to be reprinted in the caption for the figure:


Sincerely,

[Signature]
From: Compeau, Deborah [DCompeau@ivey.uwo.ca]
Sent: Thursday, March 17, 2005 9:43 AM
To: Barry Brahier
Subject: RE: Seeking permission to use a figure
That's just fine.

Debbie

From: Barry Brahier [mailto:brah0002@umn.edu]
Sent: Thursday, March 10, 2005 11:51 PM
To: Compeau, Deborah
Subject: Seeking permission to use a figure

Hi Debbie:

Your figure 1 on p. 12 is one of those worth 2000 words it seems. It would be a big help to include it in my explanation of the evolution of the PCI.

May I have permission to include it in my dissertation? Here's how I intend to cite it, please make changes as you see fit (I need to use APA format though).


Of course I'll be delighted to change it all once you're in press!

Let me know, and thanks again for all your contributions.

Barry
From: Action in Teacher Education [ate@ou.edu]
Sent: Friday, October 28, 2005 10:12 AM
To: Barry Brahier
Subject: Re: Seeking permission to reproduce a figure from ATE 24(4)
Dr. Brahier,

Thank you for your recent inquiry regarding the use of a figure from ATE 24(4). Dr. Chiodo, co-editor of Action in Teacher Education grants permission. Please see his message below.

Thank you,
Laura Beliveau
Editorial Assistant, ATE

Message from Dr. Chiodo:

Laura, just get back to him and say he is free to use the figure.

John

----- Original Message ----- 
From: Barry Brahier
To: ate@ou.edu
Sent: Saturday, October 22, 2005 6:42 PM
Subject: Seeking permission to reproduce a figure from ATE 24(4)

Hello:

I'm requesting permission to reproduce a figure from an issue of ATE. Would you please respond with either a statement of permission or the procedure for obtaining it?

The request pertains to Figure 1 in this article:


Thank you, I'll look forward to your reply.

Regards,

Barry
Appendix L University of Minnesota Institutional Review Board Approval
The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #1 INSTRUCTIONAL STRATEGIES IN EDUCATIONAL SETTINGS.

Study Number: 0504268511

Principal Investigator: Barry Brahier

Title(s): Innovation Adoption Profile (IAP) Project

Grant Title: An Exploratory Study Of The Meaningfulness Of Student Annotations To High School Teachers

The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

For research in schools: Any changes to this research must be approved by the IRB and school district involved before initiation.

If you requested a waiver of consent or documentation of consent and you received this email, approval for the waiver has been granted.

Upon receipt of this email, you may begin your research. If you have questions, please call the IRB office at (612) 626-5694.

You may go to the View Completed section of eResearch Central at http://eresearch.umn.edu/ to view further details on your study.

The IRB wishes you success with this research.