Removing barriers: Using Inclusive technology to support learning, social engagement and workplace participation of people with literacy difficulties
Greg O’Connor
Education Services Manager, Spectronics
http://gregoconnor.wikispaces.com

http://twitter.com/gregoconnor

http://delicious.com/ocgreg

Email: grego@spectronicsinoz.com
Name: ________________________  Profession (if relevant): ________________________

Name of Workplace: ________________________

Work Address: ________________________

Suburb/Town: ________________________  State: ________________________  Postcode: ________________________

Phone: ________________________  Fax: ________________________

Email: ________________________

Home Address (if this is your preferred mailing address): ________________________

Suburb/Town: ________________________  State: ________________________  Postcode: ________________________

Your areas of interest?  [ ] Reading and Writing Difficulties  [ ] Physical Disabilities
[ ] Communication Impairments  [ ] Intellectual Disabilities  [ ] Low Vision  [ ] Early Childhood Education

What would you like to know more about? ________________________

__________________________

Would you like to receive emailed information updates from Spectronics?  [ ] YES  [ ] No Thanks  [ ] Already Receive Them

Spectronics  PO Box 88  ROO-HEADLE QLD 4325 AUSTRALIA  T: (07) 3926 6933  F: (07) 3926 6939  E: mail@spectronics.com.au  W: www.spectronics.com.au
Spectronics NZ  PO Box 201180 Auckland Airport MAUNALAU 8106 NEW ZEALAND  T: (09) 272 2746  F: (09) 272 2745  E: mail@spectronics.co.nz  W: www.spectronics.co.nz
Workshop Outline

1. Barriers to Learning & Opportunity
2. Tools for Reading
3. Tools for Writing
RaisingSmallSouls.com

presents

"Animal School"

Reproduced from:
"Preparing Our Children for Success"
by R. Z. Greenwald

with permission from the copyright holders

Artscroll/ Mesorah Publications, LTD.
The International Adult Literacy Survey (IALS) was undertaken in New Zealand in 1996.
Remediation vs Compensation

Barriers to Learning & Opportunity

“impaired access, participation and progress throughout the curriculum”
Using technology to remediate or compensate for difficulties
Barriers to Learning & Opportunity

Assistive technology...can remove barriers and enable (people) to gain more equitable access to successful learning experiences and accomplish things not thought possible before (Sitko, Laine and Sitko, 2005)
What is Inclusive Technology?

Inclusive (assistive) technology is defined as “the software and technology which helps people with disabilities and special needs to overcome the additional challenges they face in communication and learning” (BECTA, 2003).
E-inclusion: Learning Difficulties and Digital Technologies

Chris Abbott
2007

PDF can be downloaded from www.futurelab.org.uk
Universal Design for Learning

Multiple Means of

Representation
Expression
Engagement
Let’s take a look
Reading and Writing Tools

Promoting Independence and Inclusion in the Classroom and at Home
Reading Tools

- Text-to-Speech
- Check your Spelling
- Learn on the Move

The Results:
- Increased Attainment levels
- Improved Quality of Work
- Enhanced Motivation & Self-Esteem
Reading Tools

- Microsoft Word - *WordTalk*
- PowerPoint – *PowerTalk*
- E-books – *Spectronics Blog*
- Readability – *Spectronics Blog*

http://www.spectronicsinoz.com/blog/ Search for:
“weblinks for accessible text and eBooks”
“readability statistics in Microsoft Word”
Reading Tool Features

- Read text aloud (text to speech)
- Dictionary & Thesaurus
- Text to audio capabilities
- Scanning to text
Reading Tools

- Kurzweil 3000
- textHELP Read & Write
- WordQ / SpeakQ
- ClaroRead
- Read:OutLoud SOLO
textHELP Read & Write Gold

http://www.spectronics.co.nz/catalogue/texthelp-readwrite-programs
Alternative Formats

- PDF
- ePUB
- daisy consortium
Writing Tools
Speech Recognition

http://www.spectronics.co.nz/catalogue/dragon-naturallyspeaking
Who uses speech recognition in schools?

Students with:

• physical access difficulties
• specific learning difficulties
• vision impairments
What factors influence success?
Assessment of potential

S.E.T.T.

Speech Recognition Assessment Protocols
Word Prediction

1: Global
2: Global warming
3: Globes
4: Globe
5: Choppy
6: Droopy
7: Good night
8: Globally
9: Droppers

- amount average bottle bulb burn can carbon dioxide carbon car clear close coal cool cut damage data dioxide door
- Earth energy forest fuel
- gas global warming global greenhouse effect heat important open planet plant recycled scientist source travel tree tum warm waste water
Word Prediction

Who uses it?

Students who have:

- Illegible handwriting
- Very poor phonetic or inventive spelling
- A physical disability making typing difficult
- Difficulty translating thoughts into writing
Word Prediction

http://www.spectronics.co.nz/product/cowriter-6-uk-version
## Word Prediction Software Comparison Chart

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Core dictionaries</td>
<td>15</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>34</td>
<td>2</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Basic</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Advanced</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Web</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Thesaurus</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

[Link to the article](http://www.spectronics.co.nz/article/word-prediction-software-comparison-chart)
Implications

Disruptive Innovation
Implications

- Paradox
- Acceptance
- Training
- Revisit SETT to review changing curriculum access needs
- Management plan
outcomes
Resources


• LD Online - [www.ldonline.org](http://www.ldonline.org)


• Dave Edyburn Home Page provides links to research, publications and articles - [www.uwm.edu/~edyburn](http://www.uwm.edu/~edyburn)

• Journal of Special Education Technology - [www.tamcece.org/jset/index.htm](http://www.tamcece.org/jset/index.htm)
Resources

- Accessible Book Collection - www.accessiblebookcollection.org
- Bookshare - www.bookshare.org
- Project Gutenberg Online eBook resource with over 20,000 free books - http://www.gutenberg.org/wiki/Main_Page
- Daisy Books - http://www.daisy.org
- CITEd's Learn Center showcases select resources and targeted tools to help students meet the everyday educational challenges through technology - http://www.cited.org/index.aspx?page_id=2
Resources

• Assistive Technology Writing Tools - http://www.greatschools.net/cgi-bin/showarticle/3084

• A blog focusing on making the curriculum accessible to all learners through the provision of assistive technologies and universal design - http://www.teachingeverystudent.blogspot.com

• Accessibility features of Microsoft products - http://www.microsoft.com/enable

**Resources**


- CAST works to expand learning opportunities for all individuals through Universal Design for Learning - [www.cast.org](http://www.cast.org)

- UDL Technology Toolkit - [http://udltechtoolkit.wikispaces.com](http://udltechtoolkit.wikispaces.com)

- Universal Design for Learning Wiki - [http://udl4all.pbwiki.com](http://udl4all.pbwiki.com)
Effective teachers:

- Create supportive environments
- Actively engage students
- Provide instruction to match student level and needs
- Systematically present new knowledge
- Ensure learning is significant and relevant
- Provide immediate, specific and constructive feedback
Effective teachers:

• Use humour, flexibility & consistency
• Have high expectations
• Use a range of strategies including visual supports

(Hook 2006)

Julie Hook, Project Manager
The Australian Autism Education and Training Consortium (AAETC)
Piano Stairs

www.thefuntheory.com
http://gregoconnor.wikispaces.com

http://twitter.com/gregoconnor

http://delicious.com/ocgreg

Email: grego@spectronicsinoz.com