Assistive Technology in the Art Classroom

"A man paints with his brains and not with his hands."

~Michelangelo
What is Arts Education?

Arts education is an exciting and unique way of discovering and knowing about the world and human experience.

Inclusive Arts Practice may be defined as follows: Providing creative opportunities between marginalized and non-marginalized people through artistic collaboration and facilitation for the purpose of challenging existing barriers and promoting social change.

Two computer assistance programs students can use to create works of art.

- The Eyewriter and Digital Wheelart
Who?

- Students with significant physical impairments
- Students with poor gross motor skills
- Any and all students
Why Arts Inclusion?

- The benefits of art can be quite broad.
- Art can improve the emotional, mental, and physical state of people.
- Art can raise the quality of life for many people.
The Eyewriter

- A low cost eye tracking device which allows students with neuromuscular disabilities to operate a computer using their eye movement.

- Originally designed for a graffiti artist with ALS to be able to draw again.

- Time Magazine's Top 50 Best Inventions of 2010.
What does it look like?

愐 The goal of the project was to offer an eye tracking device that is lightweight, portable, cheap and accessible.

愐 This device can be self assembled using easily obtainable objects for all under $50.

How does it Work?

- A webcam attached to a pair of glasses monitors pupil movement.
- Eye movement is customized and synced with the current computer settings.
- As the pupil moves, the cursor moves.
- The user interacts with the computer normally.

http://www.youtube.com/watch?v=AztH_YVQN-k&feature=youtube_gdata_player
Commercial technology

- Arrington Research is the top manufacturer.
- Packages vary from $6,000-7,000.
- These devices are expensive and often bulky.
- Attainable usually only through hospitals and insurance companies.
Integration in the classroom

- Factors such as low cost, portability and accessibility makes integration easier.
- Disability students now have a greater opportunity to create, share and inspire.
- Students can utilize computer programs to paint and draw, while exploring color, light and texture.
Pros

- Inexpensive
- Lightweight and portable
- Assembled from t objects
- Free and accessible software
Cons

- Limited results
- Requires some extensive technical knowledge to assemble and calibrate
- Not available on the mainstream market (yet)
Digital Wheelart

- An interactive system that integrates wheelchair use and Wii remotes to create art.
- Dynamic and powerful new vehicle for self-expression.
What does it look like?

- Wheelchair is driven around the room and infrared signals follow movements, projecting on screen.

- Wii remote uses bluetooth technology to project brushstrokes on screen.

http://www.youtube.com/watch?v=iuYElAh2-rM&feature=youtube_gdata_player
Integration in the classroom

- Students in wheelchairs are now able to create works of art with complete independence.
- Drawings can be saved and played back, showing the entire creative process.
Pros

- Alternative process of creating art for the disabled
- Compatible with a wide range of disabilities and locations
- Lightweight controller
- Replay features
Cons

- Equipment can be expensive
- Requires large amounts of space
- Limited to the creation of only one work of art at a time
"I found I could say things with color and shapes that I couldn't say any other way-things I had no words for." ~Georgia O'Keeffe
References

http://www.inclusiveartspractice.co.uk

http://www.arttherapyblog.com/art-therapy-benefits/

http://risknfun.com/project/digitalwheelart/