

63<sup>RD</sup> CONFERENCE ON EXCEPTIONAL CHILDREN

# Believing In Achieving

SHERATON FOUR SEASONS | KOURY CONVENTION CENTER | GREENSBORO, NC



# Creating 21<sup>st</sup> Century Learners out of ALL students





- How many times have you used technology in the last 24 hours?
- How many times have you used technology in the past hour?
- When was the last time you didn't use technology?



- We live in a 21<sup>st</sup> century world, where everyone uses technology
- Elementary students will be holding jobs using technology that does not exist today
- College freshman have only grown up with the Internet and do not know what life was like before the Internet



- You read and see on the news how education is being shaped and changed by technology
- Some school districts have even give laptops or tablet devices to all students in the district or certain schools
- Some baby play activity centers even have a build in place for iPhones/iPods
- We live in a world where technology drives everything!



- However EC teachers/students and especially Extended Content teachers/students get out dated or broken equipment, if they are even lucky. Why is this?
- To explain why, there must be some difference between these two populations



- General Education Students

- Have likes and dislikes
- Like hands on activities
- Get bored easily
- Want to be “cool” and liked by their peers

- Extended Content Students

- Have likes and dislikes
- Like hands on activities
- Get bored easily
- Want to be “cool” and liked by their peers



- Okay, that covers personality, but I'm talking about education. There are differences there.





- General Education Students

- Attend school everyday
- Take End of Grade Tests
- School receives money for them

- Extended Content Students

- Attend school everyday
- Take End of Grade Tests
- School receives money for them



- Right, but Extended Content students behave differently and are not responsible. Thus they cannot be trusted with 21<sup>st</sup> century technology.





- General Education Students

- Have behavior issues
- Break things or loose things
- Loose privileges when misbehaving

- Extended Content Students

- Have behavior issues
- Break things or loose things
- Loose privileges when misbehaving



- Yeah, I see your point, but Extended Content students aren't required to learn about technology. It is not mandated by the State curriculum.





- General Education Students

- Entire thread “Information and Technology Standards”
  - Starts in Kindergarten and goes through 12<sup>th</sup> Grade

- Extended Content Students

- Only have threads for ELA, Math, Science and Social Studies.
- No thread dedicated just to technology



- See...point made they are different!





- No, just because they don't have an entire thread dedicated to technology, doesn't mean it isn't embedded in their curriculum.
- Let's take a look:





		English/Language Arts					
		Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade
Writing	2c					List facts or details related to the topic	Provide facts or details related to the topic using 2-3 word combinations
	3	Select an event and use a form of writing to write about it	Select an event and use a form of writing to write about it with one or more ideas	Select an event and use a form of writing to write about it with two or more ideas	Select an event or personal experience and use drawing, dictating, or writing to compose a narrative with at least two events in sequence	Select an event or personal experience and use drawing, dictating, or writing to compose a narrative with 3 or more events in sequence	
	4				With guidance and support from adults produce writing in which the organization is appropriate to the task and purpose	With guidance and support from adults produce writing in which the organization is appropriate to the task and purpose	With guidance and support from adults produce writing in which the organization is appropriate to the task and purpose
	5	With guidance and support from adults add more information to written products	With guidance and support from adults add more information to written products	With guidance and support from adults add more information to written products	With guidance and support from adults, add more and clarify writing to strengthen and develop it	With guidance and support from adults, add more and clarify writing to strengthen and develop it	With guidance and support from adults, add more and clarify writing to strengthen and develop it
	6	With guidance and support explore digital tools to produce and publish writing	With guidance and support explore digital tools to produce and publish writing	With guidance and support explore digital tools to produce and publish writing	With guidance and support from adults, use technology to produce and publish writing	With guidance and support from adults, use technology to produce and publish writing	With guidance and support from adults, use technology to produce and publish writing
	7a	Participate in shared writing about familiar topics	Participate in shared writing about familiar topics	Participate in shared writing projects	Gather information about a topic from two or more sources	Gather information about a topic from two or more sources	Gather information about a topic from several sources
	7b	Participate in shared writing about books or classroom activities	Participate in shared writing about books or classroom activities				



English/Language Arts					
		6th Grade	7th Grade	8th Grade	
Writing Standards	1	Write a claim and support it with two or more reasons or other relevant evidence.	Write a claim and support it with two or more reasons or other relevant evidence.	Write a claim.	
	1a			Support claim with two or more reasons or other relevant evidence.	
		1b			State one opposing or counterclaim.
	2	Write an informative or explanatory text.	Write an informative or explanatory text.	Write an informative or explanatory text.	
	2a	Write the topic.	Write the topic.	Write the topic.	
	2b	Develop the topic with two or more facts or concrete details.	Develop the topic with two or more facts or concrete details.	Use graphics (e.g., photos, drawings) and multimedia when useful to aiding comprehension.	
	2c	Provide a closing.	Use domain specific vocabulary	Develop the topic with two or more facts or concrete details	
	2d		Provide a closure.	Use domain specific vocabulary.	
	2e			Provide a closing.	
	3	Write a narrative about personal or imagined experiences or events.	Write a narrative about personal or imagined experiences or events.	Write narratives about personal or imagined experiences or events.	
	3a	Write about multiple events and use temporal words (e.g., next, then) to signal event order.	Write about multiple events and use temporal words to signal event order.	Write about multiple events and use temporal words to signal event order.	
	3b	Include one or more characters.	Include one or more characters.	Include one or more characters.	
	3c	Provide a closing.	Use words or phrases to describe the character(s).	Use dialogue as appropriate.	
	3d		Provide a closing.	Use words or phrases to describe the character(s).	
	3e			Provide a closing.	
	4	Produce writing that addresses a particular task or purpose.	Produce writing that addresses a particular task, purpose, or audience.	Produce writing that addresses a particular task, purpose, or audience.	
	5	With guidance and support from adults, develop and strengthen writing by planning, writing and revising.	With guidance and support from adults, develop and strengthen writing by planning, writing and revising.	With guidance and support from adults, develop and strengthen writing by planning, writing and revising.	
	6	Use technology to produce and publish writing.	Use technology to produce and publish writing.	Use technology to produce and publish writing.	
	7		Write to answer a question based on two or more sources of information.	Write to answer and pose questions based on two or more sources of information.	



English/Language Arts			
	9th-10th Grade	11th Grade	
Writing Standards	1	Write a claim.	Write an argument to support a claim that results from studying a topic or reading a text.
	1a	Support claim with two or more reasons or other relevant evidence.	State claim clearly.
	1b	State one opposing or counterclaim.	State one opposing or counterclaim.
	1c		Support claim with two reasons or other relevant evidence drawn from the text when appropriate.
	1d		Use complete, simple sentences, as well as simple compound sentences when appropriate.
	1e		Provide a closing or concluding statement.
	2	Write an informative or explanatory text.	Write informative or explanatory texts that convey ideas, concepts and information.
	2a	Write the topic.	Write the topic.
	2b	Use graphics and multimedia when useful to aiding comprehension.	Use graphics and multimedia when useful to aiding comprehension.
	2c	Develop the topic with two or more facts or concrete details.	Develop the topic with three or more facts or relevant details emphasizing those that are most important when appropriate.
	2d	Use domain specific vocabulary.	Use domain specific vocabulary.
	2e	Provide a closing.	Provide a closing or concluding statement.
	3	Write narratives about personal or imagined experiences or events.	Write narratives about personal or imagined experiences or events.
	3a	Write about multiple events and use temporal words to signal event order	Introduce the narrative by stating the problem, situation or event; introduce a narrator or characters.
	3b	Include one or more characters.	Write about multiple events in a logical sequence using temporal words to signal event order.
	3c	Use dialogue as appropriate.	Use dialogue as appropriate.
	3d	Use words or phrases to describe the character(s).	Use precise words and phrases to convey details.
	3e	Provide a closing.	Use complete, simple sentences, as well as simple compound sentences when appropriate.
	3f		Provide a closing.
	4	Produce writing that addresses a particular task, purpose, or audience.	Produce writing that addresses a particular task, purpose, or audience.
	5	With guidance and support from adults, develop and strengthen writing by planning, writing and revising.	With guidance and support from adults, add more and clarify writing to strengthen and develop it relative to the purpose or audience.
	6	Use technology to produce and publish writing.	Use technology to produce and publish writing.



- So all grade levels in writing explicitly state to use technology. Are we as teachers supposed to ignore this part of our students required curriculum?
- Not only is technology tied into that standard, but can also be used to help teach and reinforce many other areas in ELA, Math, Science and Social Studies.



- So what is the big difference between general education and Extended Content students?
- If they have all these things in common and both are required to teach technology, then why do Extended Content students get the reject, broken or “dinosaur” technology?
- Or get told there is no money or no more money for Extended Content students?



- Realities are that Extended Content students do need accommodations/additional adaptations to access and use the technology
- Our students can have:
  - Limited physical movement
  - Limited cognitive ability
  - Learn things at different rates
  - Need extra guidance and/or support to learn and maintain skills



- However, this doesn't mean that with adaptations that 21<sup>st</sup> Century technology cannot be used to teach Extended Content Standards and life skills.
- Let's look at some 21<sup>st</sup> Century tools and how they can be used with our students



## Interactive White Boards

- Boards that connect to your computer in which they can be controlled by a stylus, finger or other devices.
  - Ex: SMART Boards, Promethean Boards



- These are perfect for students with disabilities but it seems that general education classes are the ones who get these first.
- Let's see how these boards can be used to support and teach our students



# Interactive White Boards

- Benefits
  - Easy to erase and start over
  - Animations, videos, pictures
  - Highlight information
  - Make items larger or in contrasting colors
  - Differentiate lessons or pages
  - Everyone can interact on their own level



# Interactive White Boards

- Benefits
  - Download millions of lessons from the internet
  - Can use to display anything on your computer
  - Don't need pincher grasp or isolated fingers in order to control and interact with the board
  - Can create multiple pages with same skill instruction



# Interactive White Boards

- Benefits
  - Can create self-checking lessons
  - Can save or print out for work samples
  - All subjects can be taught on the board
  - Can be used in conjunction with other 21<sup>st</sup> century technology



# Interactive White Boards

- Replace
  - Multiple worksheets
  - Boring task box assignments
  - Separate instruction for students
  - File folder games
  - Using multiple devices (CD player, computer, worksheet, etc.)



# Interactive White Boards

- Adaptations:
  - Activewand
  - Interface connected to computer
  - Large grip stylus



# Interactive White Boards

- Limitations
  - Expensive
  - Wands/pens can break
  - Need to spend additional money to make it accessible for all of your students
  - Not likely students will have these outside of the school setting



# Tablet Devices

- Mobile computer that uses touch screen system to control the device
  - Ex: PC Tablet, iPad, iPod, Android



## Tablet Devices

- Most of the time these are not even considered for Extended Content students because of their cost and the fear that they will get broken.
- However, remember general education students are also careless and can break these devices as well.



# Tablet Devices

- Benefits:
  - They are “cool” and most people have them
  - Cause and effect activities
  - Individualized instruction
  - Learning stations instead of task boxes
  - Work on specific skills tailored to each student



# Tablet Devices

- Benefits
  - Can be used for communication
  - Can be used to record steps to complete a task
  - Discretely listen to reminders
  - Take notes without typing
  - Use as a leisure activity



# Tablet Devices

- Benefits
  - Deaf or hard of hearing can type to communicate
  - Can track progress
  - Use for writing samples
  - Take pictures/videos
  - Screen shot to record progress or work samples



# Tablet Devices

- Benefits
  - Use for reminders to complete assignments or tasks
  - Can store important information (lunch number, directions, maps, etc.)
  - Portable and can take discretely into places
  - Most people have them so students will not stand out in a crowd



# Tablet Devices

- Replaces
  - Tons of individual papers, file folders, etc. for each student
  - Bulky communication devices
  - Cue cards, picture symbols
  - New schedules everyday
  - Checklists



# Tablet Devices

- Adaptations
  - Bluetooth Interface for switch access
  - Bluetooth keyboards
  - Additional applications to use mouse or trackpad
  - Guided Access



# Tablet Devices

- Limitations
  - They are expensive
  - They can break easily
  - They can be stolen easily
  - Apps can become expensive
  - Might need to buy additional parts to make them accessible to all students
  - If using with Interactive White Board, touching the whiteboard will not interact with tablet



## Laptops/Computers

- If you are going to get any type of technology, you will probably at least get an old desktop, but this can be a starting point for teaching 21<sup>st</sup> Century skills



# Laptops/Computers

- Benefits
  - Type out papers/sentences instead of writing
    - Great for kids with fine motor issues
  - Complete simple research assignments
  - Create graphic organizers
  - Create simple stories
  - Create stories about individual students or entire class



# Laptops/Computers

- Benefits
  - Fun educational games
  - Practice typing skills and have the computer read it aloud
  - Read books/listen to books
  - Play games
  - Listen to music



# Laptops/Computers

- Replaces
  - Cause and effect toys
    - Helpkidzlearn.com
    - Priorywoods
    - SENswitcher
    - PowerPoint slideshows



# Laptops/Computers

- Replaces
  - Frustration for student who cannot write, but can type out their responses
  - Teacher always having to write out responses
  - Leisure activity and/or reward system
  - Paper copies of everything since items can be saved



# Laptops/Computers

- Replaces
  - Books that do not match student's interests or current reading level
    - Powerpoint books
    - Tarheereader
    - Tumblebooks
    - UNCC Adaptive Book
    - Baltimore City Public Schools Adaptive Books



# Laptops/Computers

- Adaptations
  - Switch Interfaces with Big macs, Little macs,
  - Eye Gaze Systems
  - Intellikeys
  - Big keys keyboards, little key keyboards
  - Track balls, track pads



# Video Cameras and Digital Cameras

- These are the things that are being pushed to the side to make room for “cooler” and more advanced technology
- If you can’t get anything else, why not start here.



# Video Cameras and Digital Cameras

- Benefits
  - Most people aren't as concerned if these break
  - Less complex than tablet devices
  - Bulker to allow better grip
  - Don't have the other features that could be a distraction



# Video Cameras and Digital Cameras

- Benefits
  - Students can take pictures of their work samples to have a digital copy (cuts down on paper)
  - Pictures can be taken and e-mailed to parents or other staff members



# Video Cameras and Digital Cameras

- Benefits
  - Pictures/videos can be taken and then put together in a PowerPoint (can be used for students to show their strengths/needs in IEP meetings)
  - Pictures/videos can be put together for a slideshow to demonstrate what they did during the school year



# Video Cameras and Digital Cameras

- Benefits
  - Since generalization is hard things that they are doing at school can be shown to parents and vice versa
  - Students can document how to complete a task so they can go back later and recall the steps



# Video Cameras and Digital Cameras

- Benefits
  - Students can be included in their school's journalism or yearbook classes in which they help take pictures
  - Students learn a leisure skill that is used everyday by almost everyone



# Video Cameras and Digital Cameras

- Benefits
  - Students can video and take pictures of field trips or special activities at their school for other people to watch/view
  - Can be included in general education events by being the event recorder



# Video Cameras and Digital Cameras

- Adaptations
  - Covering up everything but the needed buttons
  - Dowel rods or probing devices to click record or take pictures
  - Tripods to hold camera or video camera steady



# Video Cameras and Digital Cameras

- Limitations
  - Not as current as other devices
  - Already starting to be outdated
  - Batteries or battery packs must be replaced when running low
  - Must plug into another device in order to put together PowerPoint, e-mail, message, etc.



- Okay, so 21<sup>st</sup> century tools can be used and are beneficial for Extend Content Students, but how are you going to deal with the fact that these things are expensive and can be broken easily?





# Suggestions

- Protective Cases
- Rules and consequences
- Extra guidance/support at the beginning or for struggling students
- Signed parent permission slip
- Ask how general education teachers handle their 21<sup>st</sup> Century technology



## Why teach these skills?

- Increase independence and reliance on adults/care givers
- Prepares for a future where use of technology will be required



## Why not?

- Infants/toddlers are being raised with this technology
- If a 2-year old can access and use this technology, why can't our kids
- It will take awhile to learn and will need extra support in the beginning, but everyone has to start somewhere



- So one last question:
  - Why are Extended Content students not being taught or using 21<sup>st</sup> Century skills?