

Implementing Universal Design for Learning

Four County Career Center

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Four County Career Center

- Rural NWO
- 1:1 laptops
- 1,000 students – Juniors and Seniors
- 22 Associate School
- 30 CTE Programs
- 34% Special Education Students
- 50% Free and Reduced Lunch

leads collaboration
better Learning
choice Design
teacher students
differentiation
communication
integration

Universal
student
technology

Official UDL Definition

- Multiple Means of Representation
 - Provide options for perception
 - Provide option for language and symbols
 - Provide options for comprehension
- Multiple Means of Action and Expression
 - Provide options for physical action
 - Provide options for expressive skills and frequency
 - Provide options for executive functions
- Multiple Means of Engagement
 - Provide options for recruiting interest
 - Provide options for sustaining efforts and persistence
 - Provide options for self-regulation

Implementation process at FCCC

- Year 1:

- 1. Attended 2 informative sessions on UDL

- Put on by Ocali and State Support Team Region 1

- 2. Selection of team

- Science department – chose because of struggle with special education students
- Academic Supervisor
- 2 special education teachers

- 3. Team went to 2 training sessions on UDL

- 4. In house professional day to revamp lesson plans

- Use check sheet, peer edited by special education teacher and/or a teacher unfamiliar with course content
- **What are the road blocks of this lesson/unit and what can I do to fix them?**

- Year 2:

1. For year two we continue to have off campus and on campus training

- The off campus training introducing more adaptive technology and provided time to explore the technology
- Invite someone unfamiliar with the content area into your room to observe and give helpful hints for improving the lesson to meet the needs of more students

- 2. UDL was introduced by department meetings

- Teachers were asked to bring a lesson/unit the UDL trained teachers looked for road blocks and gave suggestions on ways to modify the lesson

Insightful moments

- Realization that in class work did not equal testing methods
- Students are capable of giving higher quality work when given presentation options
- Better to work smarter not harder
- Rubric point heavy on presentation instead of skills
- Unintended Results:
 - Collaboration is the norm in the science department
 - Sharing of UDL thought process with other teachers

Essential components to successful implementation


- Must have administrative support
- Start small – it's an evolution and not a revolution
 - start with what is not working and then move from there
- Teacher work days are a must
- Special education input
- Work with people outside of content area

Science Lesson Examples


- Endocrine System Before:
- Students work on coloring pages
- Students get guided notes and I cover chapter with PowerPoint
- Students do a labeling WS and a vocab WS
- Students do a review sheet and flashcards
- Go over review and flashcards and play a game
- Test

- Endocrine System After UDL:
- Students work on coloring pages
- Students work in groups to present chapter to class using PowerPoint, prezzi, xtranormal, Voki, poster, pamphlet, or anything else approved by teacher
- Students were also given a copy of teachers PowerPoint so that they had all of the information and could just listen to presentation
- Students do a labeling WS and a vocab WS
- All hormones were written on the board and as a class we figured out way to help them remember how to match up the hormone with the gland and the hormones function
- All students were then given a dry erase board and worked on the same list individually
- Review sheet and flashcards
- Go over review and flashcards and play a game
- Test


- <http://s3.amazonaws.com/farmprod.content.xtranormal.com/2012-04-10/publish/7bd82b1c-8312-11e1-8a70-12313d1c822c.mp4>
- http://prezi.com/fbgul4x7i_er/thyroid/
- <http://s3.amazonaws.com/farmprod.content.xtranormal.com/2012-04-12/publish/e37742c4-84ae-11e1-9e1c-12313d1c822c.mp4>




Enter the room
quietly and sit in your
assigned seat.




Listen quietly to all
directions. Ask questions
if you are unsure.



Stay in your seat unless
you are directed to get
up. Avoid low-keying.



Follow the directions
in the lab book. Ask your
teacher before you try
a "new idea."



Never eat or drink in
lab. Your teacher knows
what part in the book
before you read it.

Growth

Insulin

Estrogen

Melatonin

Glucagon

Luteinizing

Calcitonin

Glucocorticoids

Andrenocorticotrophic

Follicle-Stimulating

Catecholamine

Antidiuretic

Adrenal

Gonads

Hypothalamus

Pancreas

Pineal

Pituitary

Thyroid

Parathyroid

Thymus

• Thyroxine (T_4)

Progesterone

Thyrotropic

Parathyroid

Testosterone

Oxytocin

Triiodothyronine

Mineralocorticoids

Thymosin

Sex hormones

Prolactin



Enter the room quietly and sit in your assigned seat.



Listen quietly to all directions. Ask questions if you are unsure.



Stay in your seat unless you are directed to get up. Avoid horseplay.



Follow the directions in the lab book. Ask your teacher before you try a "new idea."



Never eat in lab. You were put in before you.

Growth - grow muscles and bones Pituitary
Insulin - ↓ B.S. Pancreas
Estrogen - Sex characteristics Gonads
Melatonin - day/night cycle Pineal
Glucagon - ↑ B.S. Pancreas
Luteinizing - ovulation Pituitary
 testosterone production
Calcitonin - ↓ B. calcium levels Thyroid
Glucocorticoids - metabolism Adrenal
Andrenocorticotrophic - adrenal gland Pituitary
Follicle-Stimulating - Follicle Stimulating Pituitary
 or sperm stimulating
Catecholamine - fight or flight Adrenal
Antidiuretic - inhibits urine hypothalamus

Adrenal
 Gonads
 Hypothalamus
 Pancreas
 Pineal
 Pituitary
 Thyroid
 Parathyroid
 Thymus

glucose burned.
 Thyroid ● Thyroxine (T₄)
 Gonads cycles - Progesterone
 Pituitary Thyroid Thyrotropic
 Parathyroid Parathyroid
 Calcium levels
 Gonads reproductive organs Testosterone
 hypothalamus contractions
 Thyroid Oxytocin
 thyroxine converted Triiodothyronine
 Adrenal regulate minerals Mineralcorticoids
 Thymus T cells Thymosin
 Estrogen & Adrenal testosterone Sex hormones
 Pituitary milk production Prolactin

Science Lesson Examples

• Muscular System Before:

- Coloring pages packet (10 pages)
- Muscle list WS go over as a class
- Review muscles at the start of each class
- Make flashcards
- Test

• Muscular System After UDL:

- Labeling/coloring page of whole body (I made)
- Muscle list WS go over as a class
- Review muscles as a class
- Make flashcards
- Tape flashcards on self
- Play anatomy arcade
- Written and/or video (youtube) test
- <http://youtu.be/ilKmtusWDL4>



English lesson examples

- Original lesson:

- Listen to a recording and follow along with typed version of I have a dream speech
- Look for rhetorical devices using a given worksheet
- Write own I have a dream speech (must be real)

- UDL Lesson:

- Listen to a recording and follow along with typed version of I have a dream speech
- Look for rhetorical devices using a given worksheet
- Write own I have a dream speech (must be real) or compare and contrast I have a Dream Speech with another speech

English lesson examples

- Call of the Wild
 - about a sled dog who reverts to wolf like behavior
 - Extended activity--follow the Iditarod via the Internet; **pick a musher--points for however s/he places**; learn the difference between different types of sled dogs used today and their equipment
- The Adventures of Huckleberry Finn--Twain's classic
 - Extended Activity--learn all the neighboring states of the Mississippi River; **do a PowerPoint presentation or prezzi on subjects suggested by the class** (this year's suggestions: child abuse, alcoholism, Mississippi River, steamboats, Civil War, life in the 1800s, slavery, Romeo and Juliet, Mark Twain, books by Mark Twain, Emancipation Proclamation, superstitions)
- Poetry Unit extended activity
 - copy lyrics of favorite song and analyze it as to how it fits into poetry forms

English lesson examples

- Aron Ralston
 - Had to break the radius and ulna in order to escape from being pinned by a rock in a canyon
 - Extended activity--learn the major bones of the body
- “To Build a Fire”
 - Man goes to the Yukon Territory and freezes to death
 - Extended activity--learn all the provinces of Canada
- “It Was an Accident”
 - Short story which takes place in Massapequa, New York
 - Extended Activity--learn the major cities and geographical areas of the state of New York

English lesson examples

- “The Notorious Jumping Frog of Calaveras County”
 - Mark Twain short story about a frog and a guy who cheats in a frog-jumping contest
 - Extended activity--students make jumping frogs out of index cards and have a contest against one another to see which one jumps the farthest. Prizes and certificates are awarded.
- *Homeless to Harvard: the Liz Murray Story*
 - A true story about a girl who goes from being homeless to attending Harvard.
 - Extended activity--students wrote letters to the actual Liz Murray and told how their lives were similar to hers and how the movie inspired them. I was able to take these letters to Liz and present them to her at a conference in Pittsburgh.

Math lesson examples

- Original lesson:

- Students do worksheet of problems for the unit
- Students do online work for a different unit

- UDL lesson:

- For most units students can choose to learn work online or on paper

- Variety

- Give guided notes or make notes as you do practice problems

Math lesson examples

- Amazing Race game – have questions on different colors of paper, once they get the problem completed correctly the group gets the next colored paper with the next problem
 - - the first team to complete all problems wins
- How to podcasts
 - - the teacher podcast her doing sample problems so the students can watch them if they get stuck
- Have students tell the teacher how to work out the problem
 - - this also allows the teacher to see what the students are thinking
- POD – Problem of the Day
 - - Bell ringer to serve several purposes ; review previously covered material from this year or previous years, introduce a topic that involves previous knowledge, and gives them more practice
 - - if students can turn in all problems for a couple weeks it is bonus points

Math lesson examples

- 5.3 lesson – Advanced math lesson and it is also discussed in Algebra 2
- • POD (problem of the day) – used to refresh long division with numbers before trying it with polynomials
- • Example problems using long division. I walk students through first example then they walk me through the rest. Sometimes I purposely make mistakes with the signs when students are vague with answers to prove the point that attention to signs is key.
- • Prior to showing the synthetic division method I have them watch the video on synthetic division. They are to just watch and not write anything down. Purpose is to see entire process. When trying to write it down at the same time they may not see what numbers are being added and multiplied.
- • Then students walk me through the remaining steps.
- • If times allows we complete the exit ticket, otherwise the students are given an 8 question homework (4 of each type) over division with polynomials.
- -Sample

Math lesson examples

- 7.5 lesson – Advanced Math and Algebra 2 (except we do this with the Absolute value function instead of quadratics)
- Students use graphing calculators and colored pencils to fill in the notes themselves. On the graphing calculator they use the table feature to help plot all the functions (each function in a different color). Then they try their best to fill in the 3rd column.
- Once students are finished we go over the notes to verify they are correct and to reiterate what part of the function made the parabola open down or shift left, etc.
- Students then complete the 7.5 Notes #2 (7.5 in class) paper with partners. We then go over this together and the students are given a worksheet where they have to circle the correct features of the graph and sketch the graph.
- Usually a 3 day lesson because not all students have graphing calculators so the notes can only be completed in class.

Social studies lesson examples

- With Google docs I have assigned students each a part and they have to read the information posted by the next class. They will either have a 5 question open note quiz or just a 5 questions quiz. The next time they will switch parts for fairness.

- Example:

Korean War- Students had to find a map, how it started, 5 slides of pictures, the outcome, problems face between the two countries today, weaponry, leaders and their country, about the main leaders, death toll, and two videos. I will check and edit everything as they are working on it in class. They will get this as a participation grade and then the mini quiz.

Civil Rights of the 50's: Students were in a group of three and had to find information (who, what, why, where, and outcome) on the Civil Rights of the 50's and they had to add pictures to their document. Same concept of grading.

Social Studies Lesson examples

- Political cartoon: to explain an amendment
 - Drawn by hand, Google sketch, online comic strip, or animated cartoon
- Political Video Ads: Rubric used

The ad should be two minutes long. Every member in your group must be in the video somehow. The ad needs to be creative and have two sources. The video should be done through windows movie maker. Before you begin you must have your concept approved by me and your outline turned in.

Concept due by March 13- ____/10

Outline due March 13 by the end of class ____/10

Video:

Creativity	____/5
Sources	____/5
Group Grade	____/ 10
Individual Grade	____/10
Participation and time	____/10
Slides	____/5
Political Message	____/10
Overall video	____/20

Total____/80

Due March 16

Ten points will be deducted for everyday it is late.

Spanish lesson examples

- Day 1:
 - Students receive a grammar handout and watch jing video
 - <http://screencast.com/t/FZF7MCqqoK>
 - Students then complete a grammar comprehension worksheet immediately following the video
 - Students have me go over comprehension worksheet with them one on one before they leave class
- Day 2:
 - Review grammar comprehension worksheet together as a class, and grammar concepts from the video
 - do practice examples on board together as a class
 - start a grammar practice handout in class together, students finish for homework

Expésate 1
Capítulo 6.2
Commands comprehension

Nombre _____

1. Why do we use affirmative commands? _____
2. How do you form an affirmative tú commands? _____
Write an example: _____
3. True or False, Some verbs have irregular tú command forms. _____
4. Do you notice any pattern with some of the verbs in the irregular tú command form? _____
5. True or False, You can use direct object pronouns with commands? _____
6. If you are using a pronoun with a command, where do you put it? _____
Write an example: _____

PRACTICE EXAMPLES: Write these commands in Spanish

EX: Open the door = Abre la puerta Open it = Ábrela

Cut your meat =

Cut it=

Eat your dinner=

Eat it=

Go to school=

Set the table=

Set it=

Open the refrigerator =

Open it=

Heat up the soup =

Heat it up=

Come here =

Make breakfast =

Make it=

PRACTICE EXAMPLES: Answer each sentence in command form using a direct object pronoun.

EX: ¿Dónde pongo mi tarea? = Ponla en el inbox.

¿Cuándo hago la cena? =

¿Debo calentar el pollo ahora o luego? =

¿Saco los huevos del refrigerador? =

¿Te ayudo preparar el desayuno? =

¿Dónde pongo los platos? =

Spanish Lesson Plans

- Day 3:
 - Review homework together
 - Guided practice with individual white boards in class (1-2 days of this)
 - Grammar practice homework
- Day 4:
 - Collect homework
 - Grammar practice collaborative learning activity
 - Examples: commercial or infomercial on a food product, introduce self, information on a Spanish speaking country, share your daily routine



Never eat or drink in the lab. You never know what was put in the beaker before you used it.



Clean up all messes immediately.



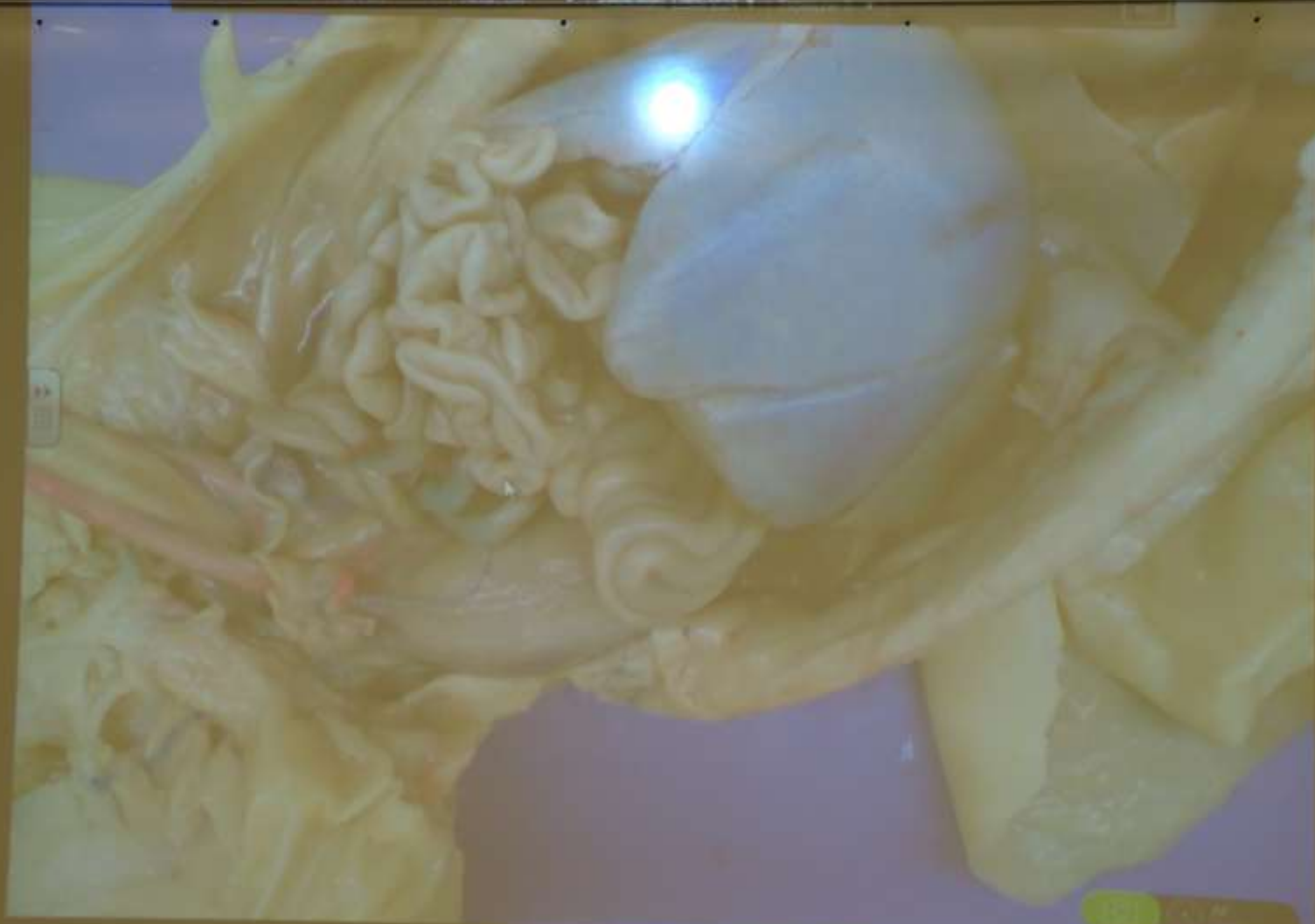
Wear goggles when you heat anything or mix chemicals.

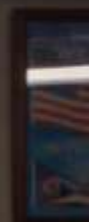


Use the equipment with care so that the students after you have the same opportunity to learn.



Clean your lab area before you leave.





Adrenal
Gonads
Hypothalamus
Pancreas
Pineal
Pituitary
Thyroid
Parathyroid
Thymus

- Thyroxine (T₄)
- Progesterone
- Thyrotropic
- Parathyroid
- Testosterone
- Oxytocin
- Triiodothyronine
- Mineralocorticoids
- Thymosin
- Sex hormones
- Prolactin



Muscle Test							
	2011				2012		
A	18	53%		A	25	58%	
B	10	29%		B	7	16%	
C	2	6%		C	2	5%	
D	2	6%		D	2	9%	
F	2	6%		F	5	12%	
Total	34	100%			43	100%	
	84% B Average					85% B Average	
Word Bank					No word bank		

Circulatory Test							
	2011				2012		
A	3	8.80%		A	6	15.40%	
B	8	23.50%		B	14	35.90%	
C	12	35.30%		C	8	20.50%	
D	4	11.80%		D	3	7.70%	
F	7	20.60%		F	8	20.50%	
Total	34	100%			39	100%	
	71% C Average				75% c Average		

Respiratory Test							
	2011				2012		
A	13	38.20%		A	26	66.70%	
B	9	26.50%		B	11	28.20%	
C	7	20.60%		C	1	2.60%	
D	4	11.80%		D	1	2.60%	
F	1	2.90%		F	0	0.00%	
		100%				100.00%	
	84% B Average				92% A Average		

- Most teachers already use UDL but are you using it “90 % of the time with intention.”
- Same with content standards most teachers incorporate a majority of the standards, but if you do not sit down and analyze it you do not know what you are missing.

websites

- www.quizlet.com
 - Flashcards and games to review words
- www.prezi.com
 - Similar to a PowerPoint
- www.xtranormal.com and www.voki.com and www.goanimate.com
 - Animated characters that talk
- <http://lieberrian.edu.glogster.com/kickinitnewschool/>
 - Websites to help teachers
- <http://www.glogster.com/>
 - Virtual poster

websites

- <http://udltechtoolkit.wikispaces.com/>
 - Tools for teachers
- <http://www.edmodo.com/>
 - Controlled social networking site
- <http://grammar.quickanddirtytips.com/>
 - Examples of proper grammar
- <http://wallwisher.com/>
 - online Notice board maker - A good way for students to do some research on a topic and post it for everyone to see
- <https://bubbl.us/>
 - a good way to brainstorm ideas or do a good way to create a graphic organizer

Websites

- <http://www.docs.google.com>
- - to use to collaborate on doing research or working on the same topic at the same time and in putting the information into the PowerPoint
- <http://www.pixton.com/>
 - Make comic strip
- www.toondoo.com/
 - Make comic strip