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TE 846
Final Project
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Universal Design for Learning: Theory

Universal Design for Learning is the idea that learning should be accessible to all students regardless of learning style, strengths, or abilities. UDLs take into account that there is no one-size-fits-all approach to learning and that material should be presented in a way that it is available to all students. The use of UDL offers a variety of methods to reach and effectively teach all students.

While UDLs can include many different tools for learning, I chose to research Thinking Maps for the final project simply because I did not know much about them and have never used them before in my teaching career. Concept maps and graphic organizers prove to be valuable in numerous ways for all students with varied abilities. Thinking Maps, which includes eight different types of maps, are designed so that thinking skills are linked to a dynamic visual representation. The visual of the concept map allows students to organize ideas and thoughts in a structured way in order to promote cognitive understanding of a subject area. Hyerle and Yeager (2007) write, “Current brain research shows that the brain is a natural pattern detector and that we store and remember knowledge in both linguistic and nonlinguistic forms. The Thinking Maps are effective because the brain is supported in making patterns from content area information by showing ideas in visual-spatial-verbal form.” Graphic organizers pertain to a wide variety of learners and learning styles in which visual representation is the key for organizing ideas and helping the student understand what they are learning, why they are learning, and how they are learning.

Universal Design for Learning: Practice

Thinking Maps can be used for any student such as general education students, English Language Learners, students with learning disabilities, cognitive impairments, emotional impairments, or students with other special needs from preschool to high school. Thinking Maps addresses the theory of Multiple Intelligences in the fact that students can verbally discuss with teacher and peers their ideas on the topic, visually observe the structure of a topic, and kinesthetically construct a variety of maps through appropriate modeling by the teacher or other peers in the class. Thinking Maps, and in particular the Flow Map, helps students breakdown their ideas and explain how certain causes lead to certain effects. Breaking down the ideas helps students with learning disabilities visually see what they have written down and how their choices affect their personal lives.

Universal Design for Learning: Examples

I used Thinking Maps in the content area of health education with two students who have learning challenges. The lessons and the Thinking Maps helped both students visually represent their ideas in a structured manner. The students and I focused on the importance of healthy activities and healthy choices and how they can improve the overall holistic health of the individual. In order to give students some background knowledge on the topic of health, I showed them some pictures and had the students write down or verbally explain why they thought the pictures were healthy activities. The pictures included examples of physical exercise, hygiene, mental relaxation, and other healthy activities. Once the students had completed the writing and verbal explanation of each picture they moved on to the Thinking Map. I chose Flow Map in order to teach the idea of cause and effect. The Flow Map has boxes for the “cause” and

the “effect” for students to write down how a healthy choice or activity can lead a person to become a healthier person. The students and I worked through the first example together so they could better understand how the Flow Map worked. Both students said they had used graphic organizers in other classes so they seemed to pick up the strategy very quickly and had no problem coming up with examples of healthy activities that make an individual a healthier person.

The students responded very well to the Flow Map and expanded their knowledge of the subject area by explaining their choices for healthy activities. For example, while both students were filling in the boxes of the Flow Map, I would ask questions like “how is that important?” or “what could that mean for that person in their everyday life?” Through these questions they not only had to verbalize and breakdown the question, but the students also had to stop and think on how to connect the concepts they had just learned and apply those concepts to how a person can become more healthy. The students did a wonderful job explaining these reasons, especially because they had the Flow Map with the visual representation to refer to right in front of them. The final segment of the lesson asked for students to write down in a half page journal summary what the lesson had meant to them and how healthy choices could affect them for the rest of their lives. Since students had a difficult time writing down the words, I altered the lesson and had them explain verbally how healthy behaviors affect their lifestyle. Neither student had a problem explaining how healthy activities can lead to an overall healthy person.

Universal Design for Learning: Lesson Plan

Unit: Lifetime Health	Lesson Topic: Descriptive	Grade: 9-12
Skill Level: Beginning	Time Requirement : 50 min	Day: 2
State or National Content Standards Addressed in this Lesson:		
Content Standard # 1. All students will apply health promotion and disease prevention concepts and principles to personal, family, and community issues.		
Content Standard#2. All students will access valid health information and appropriate health promoting products		

and services.

Content Standards#3. All students will practice health enhancing behaviors and reduce health risks.

Content Standard#4. All students will analyze the influence of cultural beliefs, media, and technology on health.

Content Standard#5. All students will use goal setting and decision making skills to enhance health.

Content Standard#6. All students will demonstrate interpersonal communication and other social skills which enhance health.

Content Standard#7. All students will demonstrate advocacy skills for enhanced personal, family, and community health.

Objectives To Be Taught In This Lesson:

Cognitive- The student will be able to write down or draw at least 5-6 effective characteristics of a healthy person with 3-4 other group members.

Cognitive- The student will demonstrate knowledge of a healthy person by writing down in a concept map the list of healthy activities that makes a person more healthy.

Affective- The student will demonstrate teamwork by working with other students on group work of an overall healthy person.

Affective- The student will be able to demonstrate honesty by completing the concept map with the teacher and another peer.

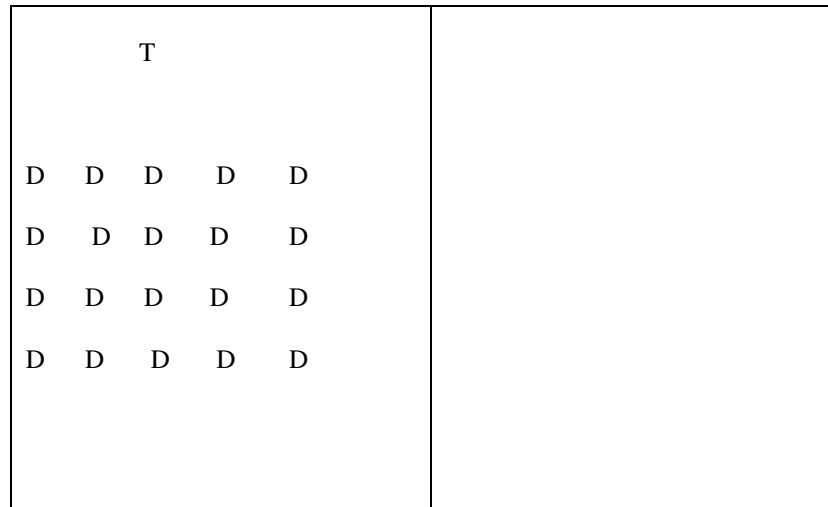
Pre-Requisite Skills Or Knowledge Needed For This Lesson:

Social Health, Personal Hygiene, Sexual Health, Nutrition, Exercise Awareness.

Equipment: Poster board, markers.

Facility Set-up Diagram:

Classroom



T= Teacher
D= Desks/students

Management Issues For This Lesson:

Make sure students remain focused during the lesson and that the conversation does not deviate from the topic of healthy activities.

Safety Issues or Concerns For This Lesson: If sexual health is brought up, make sure that all students are comfortable talking about it in order to create a healthy and safe classroom environment.

Notes:

Time Needed	Instructional Sequence	Management Signals, Cues, and Class Organization
1 min	<p><u>Welcome, Roll Call, Overview of the Day:</u> Good morning class.</p>	<p>X x x x x x X x x x x x T</p>
5 min	<p><u>Introductory Activity:</u> Men's/Women's Health minute discussion on Muscular Endurance</p>	<p>X x x x x x X= students T= teacher</p>
2 min	<p><u>Review:</u> What did we learn yesterday and from the video clip? What makes up a healthy person? -certain exercises are better for muscular endurance than others</p>	
2 min	<p><u>Anticipatory Set:</u> The students will share some of the ideas of what the video clip meant to them and what they might do after seeing it.</p>	<p>T X X X X X X X X X</p>
10 min	<p><u>Information, Input and/or Demonstration of Skill:</u> The teacher will show a list of slides that have healthy behaviors that the student must identify from what they see. The students will discuss why they are healthy with the teacher and peers in order to give some previous knowledge before starting the Thinking Map Activity.</p>	<p>T X X X X X X X X X</p>
20 min	<p><u>Whole Group Guided Practice:</u> The students will complete a flow map (thinking maps/graphic organizer) on what actions or lifestyle changes it takes to become a healthier person and what the result will be if the student becomes more healthy</p>	<p>T=Teacher X=Students "Good Job" "Great Teamwork"</p>
5 min	<p><u>Applied Activity Using Skills</u> Students will write a ½ page journal explaining what they learned and what it meant to them and if they would use any of the healthy activities in their own life</p>	<p>X X X X X X X X X X X X X X T</p>
5 min	<p><u>Lesson Closure:</u> What did we learn today? Answer- What makes up a healthy person Answer- how to construct a flow map</p>	<p>X= students T= teacher Positive reinforcement -Good Job -Everyone did well on this activity</p>
50 total min	<p><u>Notes</u></p>	

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Universal Design for Learning: Rubric

The following rubric was created for both of my students with learning disabilities. The rubric focuses on grading for class participation simply because it encouraged my students to contribute more in a discussion, Thinking Map construction, and overall accountable talk for each student.

Rubric for Class Participation

	1	2	3	4
Frequency	Too frequent responses: dominates discussion, not allowing students (or sometimes even teacher) to contribute or is silent or creates distractions by playing with items.	Comments occasionally or a bit too much or at times that break the flow of the discussion. Sometimes talks over others.	Contributes regularly to discussions, and allows others their turns to share their comments as well in the discussion.	Frequency of comments is optimal (just right: neither too frequent so as to dominate, nor so little that there is no contribution). Steps in when there are silences to move discussion along but keeps quiet when this allows others to contribute creating a safe and comfortable learning environment.
Relevance	Comments are not related to topic at hand, or go back to previous part of discussion or question. Language is so general or confused that it's difficult to understand where comment fits.	Comments may only repeat what has been already said or may sidetrack discussion from time to time. Language is fairly general; only personal experience has some specific details.	Contributions are related to the topic and some support is provided, at least in general ways, to make connections between the topic and the students' comments. Clarification questions are asked. Language is clear, if somewhat general, and specific details are provided.	Contributions enhance lesson or discussion: they may ask a key question, elaborate, bring in relevant personal knowledge, move the discussion along, identify issues or take the discussion to another level. Students use the vocabulary of the topic to be precise and clear. Able to synthesize or indicate gaps or extensions to topic.

Growth of School Community	Comments may focus attention on self rather than on discussion. Comments may frequently interrupt others or be disrespectful. Side conversations, body language or actions, inappropriate comments or sounds may make class participation fragmented.	Listens intermittently as others speak, so comments are sometimes off topic or don't follow thread of discussion. Comments and body language sometimes respectful. Sometimes follows the lead of others to disrupt participation.	Listens as others contribute. Comments acknowledge others' contributions. Student both asks and answers questions in discussion. Comments and body language are generally respectful.	Listens actively and attentively to others prior to making own comments. Comments focus on and enhance consideration of topic rather than focusing on specific people. Comments and body language validate and encourage others' contributions.
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Universal Design for Learning: Reflection

The students as well as I really seemed to be benefit from the use of the Thinking Map in the lesson. Once the lesson began and once it completed I could see nothing but positive effects from the use of the Thinking Map/Flow Map that I used during the lesson. Both students were given the Flow Map and seemed to understand how it worked before I even started to explain it to them. Since students had already had experience working with concept maps it was very simple for me to incorporate into the lesson and the students could focus more of their ideas on contributing to the class about how to become a healthier person than worrying about if they were writing down ideas in the correct box of the Flow Map. The students easily understood the Flow Map and readily volunteered information and ideas towards the construction of the Flow Map. Both students participated in verbal discussion with me, each other, and by writing down key examples in the Flow Map, as well as making connections between previous knowledge and new ideas that the Flow Map help to construct.

Yet another pro to the learning experience is that both students responded better to filling in charts of ideas through discussion than as opposed to be give a blank sheet of paper for notes. Students had to verbally discuss and offer insight on how they came to their answer and why

they chose it as opposed again to just writing it down on a sheet of paper or copying down what I said during the lesson. The Flow Map promoted student accountability for their reasoning and answers in the discussion. The Flow Map also allowed both students to fully participate and offer up ideas for the construction of the map. I felt this is a huge pro because if students with learning disabilities are able and comfortable enough to readily offer ideas it contributes to their understanding of the topic and gives them confidence to succeed in a classroom. Also, both students seemed to respond better than in previous lessons by verbally going over what to write down in each box of the Flow Map as opposed to just writing down ideas or constructing ideas in formal note taking format. The Flow Map also promoted a “visual ending result” for the students in which they could see and understand why it is important to become a healthier person. For example, The Flow Map started with a prompt “ If I _____, Then I Become More Healthy, and As A Result _____.” The example gave the students progression in their thought process in which they could see the end result of the healthy activities that they chose and discussed with me and the other students. The major pro of this Flow Map is that it gave each student a reason why it is important to engage in their choices of healthy activities. In other words the learning from the Flow Map related back to each student’s personal lifestyle and the choices they make every day to become or not become a healthier person.

Overall the lesson was very beneficial to me as a teacher and to both of my students. Since I had never used graphic organizers/Thinking Maps, it was great for me open up and expand my teaching to incorporate elements and strategies that will better benefit students, especially students with learning disabilities. Predominantly teaching physical education and a few classes in health education, I hadn’t given much thought to using graphic organizers. The lesson had me breakdown my teaching in a way that I had never thought of before, by not only

incorporating Thinking Maps, but also by using multiple strategies to encourage student participation in the lesson. The visual of the Flow Map that I used even helped me to see firsthand how easy it was to determine what I wanted my students to learn on this particular lesson and how I could make simple changes to promote discussion and student participation by putting in simple prompts like “ If I... Then I Become More Healthy, and As A Result ...” Using the Flow Map in the lesson provided a great tool for me to refer to during the lesson and ask review questions to my students in which both students could easily and readily use their own map as a reference.

Thinking Maps was a new tool that I used in my teaching to help students learn in a new way that truly seemed to motivate the student and keep their interest. For example, I asked both of the students if they preferred using concept maps as opposed to just regular notes and both students responded with a resounding “yes.” The use of a different tool in the lesson opened up another “avenue” of learning for my students as well as for me as a teacher. The use of the concept map really made me realize how many different types of learning were taking place during the lesson. For example, the visual representation of the flow map helped students to see where their ideas started and where they ended. Through the visual construction of the flow map, both students were able to verbally explain why each activity would make them a more healthy person. The concept map really made great strides incorporating the theory of Multiple Intelligences. For me as a teacher, addressing multiple forms of intelligences through differentiated instruction was the most important element in the construction of the lesson because I could see how confident and comfortable the students were becoming with just the simple tool of using the Flow Map.

The use of a graphic organizer contributed to the learning of both of my students. Both of my students said that they liked Thinking Maps more than just standard note taking. The two students with learning disabilities were able to construct a visual and connect that knowledge by writing it down in the boxes of the Flow Map. The students readily and willingly gave some great examples of healthy activities and their end results. The Flow Map really seemed to promote a comfortable, safe, and enthusiastic environment for the students. It seemed as though the students could see their knowledge of the content being filled in along with the Flow Map and I feel that gave them confidence and motivation to keep going in the lesson and keep volunteering information. Both students gave great examples about healthy activities and what were examples of healthy activities, but the Flow Map also in a sense had them explain in their own words why those activities would fall in each category of the map. In other words, it made both students accountable for their explanations and I feel it really helped them connect with the material at a personal level, which is what I feel that every teacher should strive to have their students accomplish.

Universal Design for Learning: References & Tools

National Center on Accessible Instructional Materials

http://aim.cast.org/learn/historyarchive/backgroundpapers/graphic_organizers_udl

Concept Map Examples

www.enchantedlearning.com/graphicorganizers/

National Center on Universal Design for Learning

www.udlcenter.org

Thinking Maps

www.thinkingmaps.com

(Also used complete manual borrowed from another teacher)

Universal Design for Learning: Self Evaluation

The project was extremely helpful and vital to my teaching experience. I feel that just by doing this one project I have grown as a professional teacher. As stated earlier, I predominantly teach physical education and some health education classes. Until this project, I had never thought about using Thinking Maps in lesson development for teaching because of unfamiliarity of the topic or lack of time and planning during the day to address all students from different educational backgrounds. The Flow Map is a great strategy and teaching tool to use because I feel it can be used to help any type of student from those who are labeled as: ELL, ESL, LD, CI, EI, etc. because it is so beneficial for students to track their progress and explain their thinking. Browsing UDL related sites and looking through other material related to UDLs has truly opened my eyes as a teacher simply because of the vast variety of tools that teachers have at their disposal to assist students from varying backgrounds. The variety of UDL related tools is a great way to address the Multiple Intelligences of the students that I teach on a daily basis. The planning that this project had me do really encouraged me as a teacher to strive for new and innovative ways to reach all of my students through the use of visual, auditory, and kinesthetic learning techniques.

The sheer volume of material on graphic organizers/Thinking Maps and other UDLs are definitely resources that I would continue to experiment with throughout my teaching career. I understand that some UDLs may work better than others, but I feel that giving each type a trial run in my classes is a great strategy to find out what UDLs work best for each student. I feel that if I experiment with something new every couple of weeks it really would make me a better teacher and my students better students, simply because education is ever-changing and

successful teachers and students have to adapt their teaching and learning styles to various types of instruction.