**Understanding by Design Technology Template**

(Dreamweaver Web Design Workshop, Adult/ Late Teens)

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| **Content** | **Technology** |
| **Stage 1** | **Desired Results** |
| **Standard(s) (Content):**  **1- Students plan a website.**   * Students will come up with a website idea, create a plan for a website and translate it into a website map. * Students will determine the target audience and the purpose of the website. * Students will explain and demonstrate the principles of good web page design. * Students will review and analyse two worst sites and two best sites. * Students will evaluate web page design and layout, with a focus on effective use of space, symmetry, time to load, balance and color.   **2- Students design and develop a website.**   * Using Dreamweaver software plan a basic website considering audience, layout, color, links and graphics. * Create an ordered/ unordered list utilizing html <ol> <li> <ul> tags. * Utilize html div tags and AP div tags that create and display web content. * Students will learn to use CSS to format HTML pages.   **3- Students utilize graphics and multimedia in their website.**   * Students will insert images in their website. * Students will resize images. * Students will insert video or audio in their website.   **4- Students will create links in their website.**   * Students will link to other web pages in the same website. * Students will create links to other websites. * Students will create email links.   **5- Students will create and format a table.**   * Students will diagram and construct a table. * Students will create table rows and columns. * Students will control dimensions of a table. * Students will insert and manage text in a table.   **6- Students will create frames.**   * Students will compare and contrast the usage of frames in web design. * Students will insert frames in their website.   **7- Students will create forms.**   * Students will discuss the usage and concept of forms * Students will design a basic form, utilizing a variety of input controls such as text fields, check box, pull down menu, scroll box and submit reset button.   **8- Students will show knowledge of content management.**   * Students will test their site content for integrity. * Students will perform updates in a timely manner. * Students will test their sites on different browsers, platforms and screen resolutions.   **9- Students follow proper ethics and understand legal issues.**   * Students will apply proper copyright laws in their website. * Students will understand the differences between different software copyright such as freeware, shareware and public domain. * Students will evaluate the validity of information on their website. | **ISTE Technology Student Standard(s):**  **1. Creativity and Innovation**  **b.** Create original works as a means of personal or group expression.  **2. Communication and Collaboration**  Communicate information and ideas effectively to multiple audiences using a variety of media and formats.  **3. Research and Information Fluency**  **a.** Plan strategies to guide inquiry.  **b.** Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.  **4. Critical Thinking, Problem Solving, and Decision Making**  **a.** Identify and define authentic problems and significant questions for investigation.  **b.** Plan and manage activities to develop a solution or complete a project.  **5. Digital Citizenship**  **a.** Advocate and practice safe, legal, and responsible use of information and technology.  **b.** Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.  **6. Technology Operations and Concepts**  **b.** Select and use applications effectively and productively.  **NETS Technology Teacher Standard(s):**   1. **Facilitate and Inspire Student Learning and Creativity**     **Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.**   * 1. Promote, support, and model creative and innovative thinking and inventiveness.   2. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources.   3. Promote student reflection using collaborative tools to reveal and clarify students’ conceptual understanding and thinking, planning, and creative processes.   4. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.   **3.  Model digital age work and Learning**  **Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.**   * 1. Demonstrate fluency in technology systems and the transfer of current knowledge to new technology.   2. Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation.   **4. Promote and Model Digital Citizenship and Responsibility**    **Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.**   * 1. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.   2. Promote and model digital etiquette and responsible social interactions related to the use of technology and information. |
| **Understanding(s) (Content):**  *Students will understand...*   * *Computer ethics and legal issues.* * *Web design worst practices.* * *Web design best practices.* * *Web layout and design with an emphasis on:* * *color,* * *background,* * *time to load,* * *use of space,* * *balance,* * *symmetry* | **Understanding(s) (Technology):**  *Students will understand...*   * The different applications that are used for web design. * Technology can be used to solve problems. * Technology can be used to collaborate with their peers and instructor. * Technology can be used to enhance and showcase creativity. |
| *Students will know...*   * *How to plan, design and develop a website.* * *How to create forms, frames, tables, links graphics and other multimedia in their websites.* * *How to manage content on their websites.* * *How to be good digital citizens* | *Students will know...*   * How to buy and download Dreamweaver software. * How to use Dreamweaver software to design and develop a website. |
| *Students will be able to...*   * *Plan, design and develop their own websites.* * *Manage content on their websites.* * *Become good global citizens and be aware of legal and ethical issues regarding the internet and technology.* | *Students will be able to...*   * Solve a problem or a shortage in their community using technology. * Use technology to transform their ideas into a website. * Use technology to display their creativity. |
| **Essential Question(s) (Content):**   * What are the legal issues associated with technology and particularly web development? * What are the steps taken to create a website? * What constitutes bad web design? * What constitutes good web design? | **Essential Question(s) (Technology):**   * How does technology help you get your ideas across to others? * How does technology help you collaborate with your peers? * How does technology showcase and encourage creativity? * How does technology assist in solving problems and implementing solutions? * How do we think critically about technology? * How to choose the correct applications to use for web design and development? |
| **Stage 2** | **Assessment Evidence** |
| **Performance Task(s (Content):**  Students will follow the teachers instructions by firstly:   * Reading the materials provided and discussing the topics with the class. * Students will work collaboratively with their groups to answer content questions. * Students write a proposal for an idea for a website * Students will discuss with their peers legal issues concerning technology. | **Performance Task(s) (Technology):**  Students will follow the instructors instructions by:   * Students will use their knowledge of Dreamweaver software to plan develop and maintain a website. |
| **Other Evidence (Content):**   * Students will display their interests and showcase their creativity. * Students will show their artistic and design abilities. * Students will meet new people and make new friends. * Students will collaborate with other people from a range of different ages, backgrounds and educational levels. | **Other Evidence (Technology):**   * Students will post links of their completed websites. * Students will access each others websites and give feedback. * Students will evaluate each others final websites. |
| **Stage 3** | **Learning Plan** |
| **Learning Activities (Content):**  This workshop will be given as an intensive course in 10 days.  **Day 1:**  Students will be formed into groups and each group is given a Worst site and a Best site. Students will work together to evaluate the sites and discuss the characteristics of the two sites and what makes them bad/ good.  Students are given a checklist of things to consider when designing a website. (attached)  Students will download Dreamweaver software.  Homework: Students must write a proposal and come up with an idea for a website.  **Day 2:**  In their groups, students will discuss copyright laws legal issues related to software, shareware and open source software and how to be good digital citizens.  Students will sketch a layout for their website and decide on a color palette.  **Day 3:**  Students will develop their index page and add text and (about section) to the main homepage.  Students will add links to other html pages in the index page.  Students will create an email link.  Students will add images to their index page.  Homework:  Complete whatever was not finished in the workshop.  **Day 4:**  Students will create and style a new Cascading Style Sheet.  Students will apply and edit a style.  Students will attach CSS to an html page.  Students will create unordered/ ordered lists where appropriate on their website.  Students will write and format text where appropriate.  **Day 5:**  In their groups students will discuss the use of tables and frames.  Students will create a table wherever appropriate on their site.  Students will create a frame where appropriate on the site.  **Day 6:**  Students will review the code.  Students will utilize AP Div tags and Div tags to move page content.  **Day 7:**  Students will attach a video to their site.  Students will develop other pages in their site and ensure consistency in the layout.  **Day 8:**  In their groups students will discuss what they plan to do to maintain and update their website.  Students will create a basic form where appropriate on their site.  Students will utilize a variety of input controls such as text fields, check box, pull down menu, scroll box and submit reset button.  **Day 9:**  Students will upload and publish their websites.  Students will review their sites test and validate their code according to W3C validator to check for any errors.  validator.w3.org/  **Day 10:**  Students will review each others work give feedback and evaluate each other.  Students will test their websites on different platforms, screen resolutions and browsers. | **Learning Activities (Technology):**  **Day 1:**  Students will download Dreamweaver software and surf through the software to become familiar with the workspace.  Students will start a new site and create a folder on their personal disk space to save the new site.  Students will create new blank html pages.  **Day 2:**  Students will use google images to find public domain images.  Students will develop a sitemap for their website.  Homework: Students will use technology to design a banner for their website.  Students may use free banner maker sites to create a free banner or choose to design their banners themselves.  <http://www.bannerfans.com/banner_maker.php>  [http://www.mybannermaker.com](http://www.mybannermaker.com/)  **Day 3-8:**  Students use Dreamweaver software to develop their websites.  **Day 9:**  Students test, validate and publish their websites.  **Day 10:**  Students evaluate other students websites and evaluate them. |

**Bloom’s Revised Digital Taxonomy and the Web Design Workshop:**

Bloom’s Taxonomy was developed in 1956 by a group of educational psychologists headed by Benjamin Bloom. The new revised version of Bloom’s Taxonomy was updated by a team which was headed by Lori Andersen a former student of Bloom. The new version developed in the 1990’s was updated to make it more relevant to the 21st Century (Overbaugh, Schultz, 2013).

The following graph shows the 6 layers of the revised Bloom’s Taxonomy



(Overbaugh, Schultz, 2013)

1- Remembering: The lowest level in Bloom’s Taxonomy. This refers to students memorizing and remembering information. Action words: Define, List, Identify, Memorize, Recall.

2- Understanding: The second level in Bloom’s Taxonomy. This refers to students understanding the ideas and concepts that are instructed. Action words: Paraphrase, Describe, Discuss, Explain, Translate, Classify.

3- Applying: The third level in Bloom’s Taxonomy. This refers to students using information in a new way. Action words: Demonstrate, Illustrate, Sketch, Solve, Write, employ.

4- Analyzing: The fourth level in Bloom’s Taxonomy. Student distinguish between different parts and judge information. Power words: Examine, Question, Differentiate, Compare, Contrast, Experiment, Criticize.

5- Evaluating: The fifth level in Bloom’s Taxonomy. Students select and justify a decision. Power words: Select, Support, Evaluate, Argue, Defend, Judge.

6- Creating: The highest level in Bloom’s Taxonomy. This refers to students creating a new product, or a new point of view. Power words: Assemble, Create, Construct, Design, Write, Develop, Formulate.

In the web design workshop the levels of Bloom’s Taxonomy incorporated in the workshop are as follows:

2- Understanding: Students will understand Copyright issues and laws. Students will understand the principles of good web page design. Students will also understand how to plan, design and maintain a website.

3- Applying: Students will sketch a layout of their websites and they will also sketch a sitemap for their websites.

4- Analyzing: Students will test and validate their websites.

5- Evaluating: Students will evaluate their peers and give them feedback. Students will also evaluate worst and best sites and give reasons to their judgments.

6- Creating: Students will design, develop and publish their own website.

**Multiple Intelligence Theory and the Web Design Workshop**

Multiple Intelligence Theory was developed by Professor Howard Gardner in which he categorized the most aptitude set of peoples capabilities and the common ways in which people show their intellectual abilities. Early in his career, Professor Gardner identified six intelligences. Today there are nine Intelligences on the list.

The following is the most current list of Multiple Intelligences containing the last two on the list which professor Gardner introduced in his book (Gardner, 1999):

1. Verbal-linguistic intelligence (Refers to verbal skills and sensitivity to the sounds and meanings of the words)
2. Logical-mathematical intelligence (Refers to logical and numerical skills)
3. Spatial-visual intelligence (Refers to the ability to think in images and pictures, and to visualize accurately and abstractly)
4. Bodily-kinesthetic intelligence (Refers to the ability to control body motions and movements)
5. Musical intelligences (Refers to the ability to produce rhythm and distinguish sounds)
6. Interpersonal intelligence (Refers to the ability to respond to the moods and desires of others)
7. Intrapersonal intelligence (Refers to the ability to be self-aware of inner feelings, beliefs, values and thinking processes)
8. Naturalist intelligence (Refers to the ability to recognize and categorize plants, animals and natural objects)
9. Existential intelligence (Refers to the ability to think and tackle deep questions about human existence)

The Web Design workshop focuses on Logical- mathematical intelligence and spatial- visual intelligence. Students use visual skills to design and map the layout of the website. They also use visual skills to decide on the color, balance and use of space on their sites. Students use logical and numeric skills when creating their websites by developing forms, frames, tables, AP div tags, inserting images and videos which require some logical skills. Also when revising and testing the source code. The workshop also includes Intrapersonal intelligence as students must propose an idea from their own interests.

**Constructivism and the Web Design Workshop**

Constructivism theory was developed by Jean Piaget and Jerome Bruner. In this theory they call for active learning and encourage student involvement in constructing knowledge for themselves and building knowledge, ideas and concepts based on past experience.

According Constructivism theory an effective learning environment is one where the teacher understands the students levels and their knowledge and the curriculum is built on what the students know and gives them the freedom to develop and build upon it. Active learning is a form of constructivism theory where the students take action of their own learning and are given freedom to explore within a given framework or structure. The teacher’s role is still very important and they act as a facilitator to the learning. Teachers role is also to encourage students to discover information by themselves and to construct knowledge by working to solve real life problems (Thirteen-ED, 2013).

The Web Design workshop is planned in a way where students take action in developing their own websites. The skills and knowledge gained are come along the way of creating and developing their sites. The teachers role in this workshop is a facilitator to their learning.

**References**

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