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EDTECH 592-4203

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Artifact Rationale Statements

 As a part of the Masters of Educational Technology program at Boise State University, I learned about the Association for Educational Communications and Technology (AECT) standards. Each course I took as part of my degree aligned artifacts with certain AECT standards. The artifacts I have created demonstrate my competency as an educational technologist and educator. Specific examples of my competency are explained below.

**STANDARD 1 - CONTENT KNOWLEDGE**

*Candidates demonstrate the knowledge necessary to create, use, assess, and manage theoretical and practical applications of educational technologies and processes.*

**1.1 Creating:** Candidates demonstrate the ability to create instructional materials and learning environments using a variety of systems approaches.

* EDTECH 506 – [Unit of Instruction Planning Document](https://docs.google.com/document/d/1x7QrvTYHCLEhRw2ilx18n99U7MSEoVvPeDCHHtbSPJo/edit?usp=sharing)
* EDTECH 535 – [Design a Gamified Learning Environment: PAST Video Game](https://drive.google.com/file/d/1_ha27K35ORISuQ7ay73v1ttQ4Bf5AdW6Yb7CXwknLPgXgimoeCiSIzavZwDHRUrHPf2we7tFh0dznfJL/view?usp=sharing)

The creation of unit plans and gamified learning environments provided me with the opportunity to create instructional materials using different methods. In EDTECH 506, I created a unit plan for online educators regarding the Community of Inquiry Framework. Various techniques and methodologies were considered while designing the instructional materials, such as the selection principle, organization principle, integration principle, and CARP (contrast, alignment, repetition, and proximity). The project was designed throughout an entire semester as principles and methodologies were studied.

In EDTECH 535, I created a final project consisting of a video game prototype called PAST: People, Achievements, Structure, and Technology. The video game was designed around a sixth-grade Social Studies topic on ancient civilizations. Theories related to motivation were incorporated into the design, such as flow theory, achievements, and relatedness. The prototype incorporated immersive and social learning environments by incorporating role-play and player-to-player interaction. Rubrics were designed for the educator to assess to what degree the learner met the objectives.

**1.2 Using:** Candidates demonstrate the ability to select and use technological resources and processes to support student learning and to enhance their pedagogy.

* EDTECH 513 – [Haiku Desk](https://haikudeck.com/p/f0f56694b9)
* EDTECH 513 – [Prezi](https://prezi.com/iuaq4xqbexk5/the-modality-principle/)

Part of my EDTECH 513 Multimedia course included selecting and using presentation tools. The purpose of presentation tools such as Haiku Deck and Prezi is to reduce the amount of text on the slides. The users of these presentation tools naturally utilize the multimedia principle. The dual channels of auditory and visual processing were critical as I designed both the Haiku Deck and the Prezi. The speaker notes contained most of the content, while the visuals were selected with consideration of the specific type of learning being conducted. Decorative visuals of little educational value were left out of the presentations, which increased the learners’ active processing of the presentations. Additionally, the contiguity principle was applied through the deliberate placement of text above the pictures instead of on separate slides, or even below the pictures (Clark & Mayer, 2011). The Prezi was narrated, and it provided me with the opportunity to consider different ways to attend to the multimedia and contiguity principles.

**1.3 Assessing/Evaluating:** Candidates demonstrate the ability to assess and evaluate the effective integration of appropriate technologies and instructional materials.

* EDTECH 513 - [Examples of Good/Bad Courseware Evaluation](https://docs.google.com/document/d/1CfdreXkTONnqTgOe8d6fGW30HkGMh7GTknDUvoAi94g/edit?usp=sharing)

In EDTECH 513 Multimedia, I evaluated two online courses and the effectiveness of technology integration. I also reviewed the content within the online courses. The evaluation considered student customization, levels on engagement, multimedia principles, and pacing. The “good” courseware contained many opportunities for student customization and pacing. Additionally, the level of behavioral engagement was high due to the variety of question types. The level of psychological engagement was also high because of the practice test opportunities before, during, and after the course is completed (Kapp, 2012). The creator of the course considered a variety of multimedia principles, such as coherence, contiguity, modality, personalization, and modality principles. In contrast, the example of “bad” courseware lacked interactivity, appropriate levels of engagement, and student customization (Clark & Mayer, 2011). The course was similar to reading a text book with distracting advertisements that made navigation confusing and difficult. The experience of evaluating two very different types of courseware allowed me to understand effective integration of both technology and instructional materials, and that not all courseware is of equal quality.

**1.4 Managing:** Candidates demonstrate the ability to effectively manage people, processes, physical infrastructures, and financial resources to achieve predetermined goals.

* EDTECH 505 - [Evaluation Report: Course Project](https://drive.google.com/file/d/1iCpLnjZF4f9xqXJyyGD7iy4x59-qFnUWEkViHwA6cvVQ33ftGq4J_eCqfTQD9-vt9FAf4st9rgajZOOI/view?usp=sharing)

The primary focus of EDTECH 505 was a comprehensive evaluation of a technology process, procedure, or program. I could choose what I wanted to evaluate, and I selected the Little Big Planet (LBP) Club program in my city. The evaluation’s focus was to determine if the LBP Club was meeting the program’s objectives. Throughout the evaluation, I met with multiple people, such as stakeholders and LBP staff, to conduct interviews. I gathered information related to the processes of the LBP Club, including financial scholarship information. Once all information was gathered, surveys were sent to former students to determine the effectiveness of the program’s goals. It was determined that the program was meeting most of the objectives, specifically their STEM (Science, Technology, Engineering, and Math) objectives. Suggestions for improvement were provided regarding maintaining a list of demographic information of previous club attendees for ongoing evaluation purposes. The LBP Club personnel were very appreciative of the feedback, and plan to make changes to their future student evaluation process.

**1.5 Ethics:** Candidates demonstrate the contemporary professional ethics of the field as defined and developed by the Association for Educational Communications and Technology.

* EDTECH 502 – [Netiquette Webpage](http://edtech2.boisestate.edu/carlicockrell/502/netiquette.html)

The Association for Educational Communications and Technology’s (AECT) Code of Professional Ethics is important for any educational technologist to consider when designing instructional products. The Netiquette Webpage project I created for EDTECH 502 was used in my sixth-grade classroom to inform the students of professional, safe, and positive online communication guidelines. I developed an original acronym called N.E.T. (net) to help the students monitor their online posting behavior. The acronym stood for “Necessary, Emotions, and Time” and reminded students to reflect on these words before posting online. Students were encouraged to determine if the post was necessary or appropriately added something of value to the conversation at hand. Emotions the students were feeling were considered, as many negative posts are posted out of emotion. Finally, the students had to feel comfortable with the fact that the posting would likely be online forever. The Netiquette Webpage aligned with ethical guidelines, and improved the quality of the interaction between my students in their Moodle discussions.

**STANDARD 2 - CONTENT PEDAGOGY**

*Candidates develop as reflective practitioners able to demonstrate effective implementation of educational technologies and processes based on contemporary content and pedagogy.*

**2.1 Creating:** Candidates apply content pedagogy to create appropriate applications of processes and technologies to improve learning and performance outcomes.

* EDTECH 502 – [Netiquette Webpage](http://edtech2.boisestate.edu/carlicockrell/502/netiquette.html)
* EDTECH 535 – [Video Creation and Rationale](https://drive.google.com/file/d/1nnKLgq873KUaJLLpXIeXjGUCwd0A7YhDsFAo_ALvQ1zNp4V5Mg9VdhOguncq5NpJ_R5iVxrhG0kVHQAK/view?usp=sharing)

The Netiquette Webpage project in EDTECH 502 was created using Dreamweaver. I wrote the HTML code and ensured that the webpage passed validation. The design is simple, clean, and is an excellent example of CARP (contrast, alignment, repetition, proximity) (Lohr, 2008). The webpage allowed me to improve learning in my flipped sixth-grade classroom as it reduced postings that were distracting, harmful, and/or negative. The Netiquette guidelines provided the students with parameters related to their online communication.

The video I created in EDTECH 535 was created out of necessity. Throughout the school year, I had noticed the same writing mistakes continually being made by students. Direct instruction did not seem to be making much of a positive impact, so I created a video using PowToon narrating and animating examples of what I called the “Top 5 Writing Bloopers.” The video incorporated a lot of humor, and for the remainder of the school year, my students would often mention the jokes when editing their own writing. Their learning was improved, and the students appreciated how the animated video taught them in a more contemporary manner.

**2.2 Using:** Candidates implement appropriate educational technologies and processes based on appropriate content pedagogy.

* EDTECH 522 – [Rich Media Tutorial](https://www.youtube.com/watch?v=5eYGlA_GL28&feature=youtu.be)

As a part of my Online Teaching of Adult Learners certification, I learned various methodologies and theories specific to andragogy. One important component of andragogy is ensuring lessons are designed with the “why” in mind. Adult learners want to know why they are learning something, and my tutorial on how to use Quizlet in online education makes the “why” explicit. The objectives of the video are explained at the beginning, and reviewed again at the conclusion of the video. I created this tutorial using Bandicam, which allowed me to screencast Quizlet, record myself talking, and add narration with ease. It is clear where the learner should click and navigate in the tutorial because I incorporated a unique highlighting feature for my mouse clicks, thus reducing the learner’s extraneous cognitive load. I also made sure that the tutorial included content related to the contemporary education movement of gamification by demonstrating the various study games available on Quizlet.

**2.3 Assessing/Evaluating:** Candidates demonstrate an inquiry process that assesses the adequacy of learning and evaluates the instruction and implementation of educational technologies and processes grounded in reflective practice.

Many professionals familiar with instructional design know about the Quality Matters rubric (<https://www.qualitymatters.org/>). The Quality Matters rubric is often used to evaluate online courses. As a part of EDTECH 522, I modified portions of the Quality Matters rubric to make the indicators more condensed. I looked at the rubric through a “learner’s lens” instead of as a future instructional designer or online educator. I evaluated two online courses and used a Yes/No table to determine what percentage of the indicators were met. The indicators were learner-centered, such as: learning objectives, assessments, instructional materials, learner engagement, course technology, learner support, and accessibility. I ended the assessment by reflecting on how I would use my assessment when developing my own online instruction. I determined that using a rubric like Quality Matters while designing my instruction would reduce learner confusion. Additionally, I concluded that maintaining consistent expectations when designing online instruction would improve learner experience and understanding of the content.

**2.4 Managing:** Candidates manage appropriate technological processes and resources to provide supportive learning communities, create flexible and diverse learning environments, and develop and demonstrate appropriate content pedagogy.

* EDTECH 522 – [Moodle Online Lesson](http://edtechdev.mrooms2.net/course/view.php?id=737)

EDTECH 522 provided me with the opportunity to use Moodle, a popular learning management system, to create a learning community. I chose to create a course on Indian Education for All, an important education initiative in Montana. The course was designed for educators, and the pedagogy applied included social constructivist and transformative learning-based approaches to discussion. Students were provided with articles and videos related to modern-day Native American lifestyle, and the students then had to consider what preconceived notions people have regarding Native Americans. When students are asked to discuss in this fashion, it helps the students develop an understanding that they potentially may not reach independently (Stavredes, 2011). The design of the Moodle course further demonstrated my ability to create diverse learning environments with the tasks the students were expected to complete, such as a historical timeline and a VoiceThread reflecting on the change of Native American culture of past and present.

**2.5 Ethics:** Candidates design and select media, technology, and processes that emphasize the diversity of our society as a multicultural community.

* EDTECH 501 – [Digital Divide Presentation](https://www.haikudeck.com/digital-inequality-and-digital-divide-in-montana-education-presentation-7jgbwIrUh5)

The diversity of our society is quite intriguing to me. As an educator in Montana, I chose to highlight diversity within my own state. In EDTECH 501, I created a Haiku Deck related to the digital divide in Montana. The selection of Haiku Deck as the presentation method means that it can be accessed on virtually any device with an internet connection. The speaker notes explain the lack of internet and cellular service providers in the state’s rural areas, along with school technology infrastructure dilemmas. Information regarding financial hardships and subsidized internet opportunities are examined. As an ethical educator, I wanted to ensure that I challenged the perspectives of others regarding internet access and equality, so it was imperative that I provided statistical information to explain the theories I presented. I compared the statistics on low-income families in Montana with the statistics of other states to further clarify the problems that digital divide and digital inequality have caused. The Haiku Deck has proven to be of interest to the public as it has generated a considerable about of traffic, with 201 views of the presentation to date.

**STANDARD 3 - LEARNING ENVIRONMENTS**

*Candidates facilitate learning by creating, using, evaluating, and managing effective learning environments.*

**3.1 Creating:** Candidates create instructional design products based on learning principles and research-based best practices.

* EDTECH 502 - [Virtual Fieldtrip Webpage](http://edtech2.boisestate.edu/carlicockrell/502/vtour/start.html)

Best practices in instructional design were examined in nearly every course I took as a part of the MET program, but EDTECH 502 was dedicated solely to online course design. The Virtual Fieldtrip Webpage I designed during the course focused on the instructional design principles of CARP (contrast, alignment, repetition, and proximity) to make the design easier for the learner to focus on the content (Lohr, 2008). The Virtual Fieldtrip Webpage is a series of six webpages that examine school life in the countries of Japan, Somalia, Haiti, and Singapore. The videos are embedded for easy access, and the design of each page is similar: a description of the country to the left and a photo of a local school to the right. Contrast was used to draw attention to the questions the students should consider throughout the virtual fieldtrip. Although the virtual fieldtrip was not a Common Core standard for the sixth-grade class I was teaching at the time, the students thoroughly enjoyed watching the videos and discussing the content on their free time. In fact, this project was one of the most well-received projects I showed my students throughout my MET coursework.

**3.2 Using:** Candidates make professionally sound decisions in selecting appropriate processes and resources to provide optimal conditions for learning based on principles, theories, and effective practices.

* EDTECH 513 – [Static Multimedia Instruction](https://carlicockrell.files.wordpress.com/2017/02/how-to-create-and-organize-a-google-scholar-library.pdf)

Effective static multimedia instruction needs to align with a variety of multimedia principles, such as: contiguity, modality, redundancy, coherence, personalization, segmenting, and pretraining principles (Clark & Mayer, 2011). During EDTECH 513, I was tasked with creating a static multimedia instruction tutorial that could be downloaded by individuals to learn a process or procedure through screenshots. I chose to design a tutorial on how to use and organize a Google Scholar library as I noticed many of my colleagues did not seem to know how to do so. I used the contiguity principle by ensuring that I placed the screenshot directly below the instructions, yet on the same page. I also used callout boxes to point to important information on the screenshot instead of using a legend below the screenshot. I considered the redundancy principle by choosing to either type the instructions or narrate the instructions. Additionally, the segmenting principle was addressed by sectioning the task of creating and organizing a Google Scholar library into steps, thus reducing the likelihood that the content could “overload the learner’s cognitive system” (Clark & Meyer, 2011, p. 210).

**3.3 Assessing/Evaluating:** Candidates use multiple assessment strategies to collect data for informing decisions to improve instructional practice, learner outcomes, and the learning environment.

* EDTECH 501 – [School Evaluation Summary](https://docs.google.com/document/d/1YZ65mb3unHLSg00-dY5PKO9DuGJhblQIruc4Gnvvoug/edit?usp=sharing)

The School Evaluation Summary I completed during EDTECH 501 used many different assessment strategies to reflect on the school’s technology maturity. The assessments included obtaining information on technology usage in the following categories: policies, planning, budget, electronic information, assessment, curricular integration, teacher usage, student usage, stakeholder involvement, administrative support, training, technical/infrastructure support, connectivity, new technologies, and comprehensive technologies. I conducted many interviews with key technology personnel, accessed various plans, and reviewed student demographic classification information throughout the process. I noted that the school should develop a comprehensive technology plan, as nearly every category rated quite low on the maturity scale. The administration and teachers seemed split on their technology viewpoints, as the administration was reluctant to provide more technology opportunities for students and the teachers were more accepting of potential changes. The results were shared with a trusted technology coach within the district, and she has been instrumental in helping the district develop technology standards that were integrated this school year. Additionally, the school district is improving their stakeholder involvement by conducting community meetings related to the technology needs of the district’s schools.

**3.4 Managing:** Candidates establish mechanisms for maintaining the technology infrastructure to improve learning and performance.

* EDTECH 505 - [Evaluation Proposal: Response to RFP](https://drive.google.com/file/d/1HMDpPFXFbYgy3kABORpWANPh6PfMWGVB4Oz3GSGhl5D66T-pYL2HC9yQbL-iS_8IniGCegGu6xCYSC40/view?usp=sharing)

Although hypothetical, the Evaluation Proposal I completed in EDTECH 505 demonstrated my abilities to establish instruments that would improve learning and performance. This project was a unique challenge, as I had to propose a plan to a fictitious company attempting to market their training program. I determined the evaluation methods my “team” would use, such as how we would conduct a market analysis, send out potential buyer surveys, and the steps we would take to review a pilot program of the company’s curriculum. A task schedule was developed to show the amount of time it would take for the team to complete the proposal. Personnel biographies were created for the roles of evaluator, market research analyst, and communication specialist, each highlighting the skills the team member would bring to the proposed plan. The entire proposal focused on not only determining if the training program was a worthwhile monetary investment, but also on how the information discovered during the review would then be used to help the company ensure the future success of the program.

**3.5 Ethics:** Candidates foster a learning environment in which ethics guide practice that promotes health, safety, best practice, and respect for copyright, Fair Use, and appropriate open access to resources.

* EDTECH 512 – [Online Course Final Project](http://cybersecurityforbeginners.weebly.com/)

An artifact I created throughout EDTECH 512 is an online course dedicated to teaching cybersecurity to beginners, or people that use the internet in a more casual manner. I wanted the course to highlight the safety measures each person must take to ensure that their online identity is not stolen. Additionally, the learners are asked to explore their own digital footprints. Many videos were used, and the guidelines on YouTube regarding sharing and embedding the videos had to be researched to ensure copyright and Fair Use laws were not broken. The resources I created are open for anyone to use if they are students of the course. The discussion boards within the course are moderator-approved to ensure that the students are kept safe from inappropriate online behavior. The course clearly aligns with ethical practices online, given the topics of cybersecurity, malware, password protection, digital footprints, and advice for a variety of cybersecurity problems.

**3.6 Diversity of Learners:** Candidates foster a learning community that empowers learners with diverse backgrounds, characteristics, and abilities.

* EDTECH 535 – [Gamified Lesson Design (Minecraft)](https://drive.google.com/file/d/1ro2uRTaCzGyXZD9-UmOjry4vxmL1_bhjUp2QYZwcN_o-ESQd9um4UHWwJpqOLJaSXepOCNqGZx3iMS9i/view?usp=sharing)
* EDTECH 512 – [Implementation Plan](https://docs.google.com/document/d/1uBHI9Qgkc-bimHT7UMYOW7bYXxC0vQBipZMzd7UokVI/edit?usp=sharing)

When I create lessons, I always consider the backgrounds, characteristics, and abilities of the learners. The lessons I develop are often shared with other educators, therefore, I ensure that I provide instructions for learners with specific needs, such as vision, hearing, and mobility impairments. The gamified lesson design that I created to teach surface area and nets using Minecraft contains a section on differentiation, such as how to adjust the shading of the game for learners with colorblindness. The implementation plan I created for EDTECH 512 contained sections on abilities and disabilities, and I explained how I would design the course for people with vision impairment by making sure the course content could be listened to, or even translated for learners that are non-native English speaking. Additionally, both artifacts mentioned above included the prerequisite knowledge the learners would need to effectively learn the assigned content. The goal of ensuring that a wide range of learning background, characteristics, and abilities are considered while fostering a learning environment has helped me perfect my teaching craft.

**STANDARD 4 - PROFESSIONAL KNOWLEDGE AND SKILLS**

*Candidates design, develop, implement, and evaluate technology-rich learning environments within a supportive community of practice.*

**4.1 Collaborative Practice:** Candidates collaborate with their peers and subject matter experts to analyze learners, develop and design instruction, and evaluate its impact on learners.

* EDTECH 512 - [Formative/Summative Assessment Project](https://docs.google.com/document/d/1uBHI9Qgkc-bimHT7UMYOW7bYXxC0vQBipZMzd7UokVI/edit?usp=sharing)

A significant portion of my EDTECH 512 online course creation was collaborating with peers and subject matter experts on effective course design. The professionals I selected for the formative evaluation (see page 19) of my online course answered questions related to the learner’s perspectives. They analyzed the design of the course’s headings and titles, syllabus, content, learner tasks and objective alignment, graphic elements, and the course navigation. The professionals were from varying backgrounds. An example of the diversity amongst my review team is the fact that one professional was a video game designer, and another was a corporate quality analyst manager. Although their subject matter expertise was very different, they both concluded that learners would likely have a positive learning experience while taking my course. Suggestions were provided in the form of adding a button at the bottom of the pages to move from module to module instead of only having a navigation bar at the top of the website. Peer and subject matter expert assessment has proven to be an integral part of instructional design.

**4.2 Leadership:** Candidates lead their peers in designing and implementing technology- supported learning.

* EDTECH 502 – [Web Accessibility Hot Links Webpage](http://edtech2.boisestate.edu/carlicockrell/502/accessibility.html)

As an educator that has learned from other educators, I believe in sharing what I have learned and created with other educators. One such example of sharing what I have learned and created is the inclusion of the Web Accessibility Hot Links Webpage in staff emails I sent to other educators as part of my technology assistance role when I taught sixth grade. I wanted to provide my co-educators with resources that test web accessibility, but I also wanted them to learn about different assistive technologies available for learners with physical disabilities. My co-educators were unaware of most of the information I included on the webpage, and many said they would bookmark the website for future use. The positive response to the website I created and the other artifacts that I shared directly lead to my selection to serve on the district’s technology standard development team. I was one of two sixth grade teachers selected, and the only person selected from my specific school. I was able to lead my school in a portion of the technology standard integration, as well.

**4.3 Reflection on Practice:** Candidates analyze and interpret data and artifacts and reflect on the effectiveness of the design, development and implementation of technology-supported instruction and learning to enhance their professional growth.

* EDTECH 503 – [ID Project: Reflection](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing)

One example of my frequent reflection on my professional craft is the reflection I did after designing a unit on writing for Kindergartners (see page 30). I reflected on the learner reaction to the unit, the learning that occurred, the change in learner behavior, and the long-term results of the unit. The subject matter expert and teacher that taught the unit I designed provided me with artifacts that her students created throughout the unit, along with her own opinion of the unit. I determined through the final project artifacts and the many conversations with the subject matter expert and teacher that instructional designers must reflect on what the educators and learners both want from the instruction. Specifically, the reflection within this project helped me to conclude that many educators are struggling to meet district content timelines, so an integrated “across the subjects” approach, especially at the elementary level, can be very effective in not only building learner schema, but also at reducing the amount of time it takes to teach what seems like two different subject areas.

**4.4 Assessing/Evaluating:** Candidates design and implement assessment and evaluation plans that align with learning goals and instructional activities.

* EDTECH 503 – [ID Project: Planning](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing)

The EDTECH 503 course focused on the instructional design process. The planning section of the Kindergarten-level writing unit focused on aligning learning goals with learner tasks (see page 12). First, I had to develop a rationale regarding the Common Core standards, the supplantive strategies used (Kindergartners were just beginning writing), and why I used the social constructivist method as my pedagogical approach. I then had to explain each learning objective in detail, determine the objectives Bloom’s Taxonomy classification, scaffolding strategy, and assessment method. Finally, I designed the assessment tools that the teacher would use throughout the unit, which directly aligned with the selected Common Core standards. The teacher completed a survey at the end of the unit and informed me that the unit met all the learning goals identified, and that the unit did not need to be changed for future use. She also informed me that her students were much more conscientious of capital letters and periods, which was an area the teacher had previously described as a problem amongst most of her students.

**4.5 Ethics:** Candidates demonstrate ethical behavior within the applicable cultural context during all aspects of their work and with respect for the diversity of learners in each setting.

* EDTECH 503 - [ID Project: Analysis](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing)

Most educators understand that attending to diversity and culture are important consideration for all learning environments. The instructional design project where I created a writing unit for Kindergarten educators considered culture and diversity, as outlined in the analysis section of the project (see page 4). It was determined that the learners would require considerable reading assistance during the needs assessment survey, so the teacher was directed to read the surveys aloud. Students were not asked to circle the words “Yes” or “No”, but instead were asked to circle a smiley face or a frowny face, a response easily understood by a variety of cultures. The needs assessment also indicated that many of the students in the class were below grade level, but the design of the unit was diversified to provide extra challenge to students that were ready to move on, yet provided enough scaffolding for the students that needed support. Additionally, the decision was made to integrate the study of butterfly habitats, as it is a portion of the science curriculum. The writing curriculum requested the teacher read books on foxes and birds, but after reviewing the needs assessment, it was determined that too much variety regarding habitats would likely cause confusion. The age of the learners was at the foundation of every instructional design decision I made, as I wanted to make sure the learners had enough life experience to relate to the lessons in the unit. The fact that the learners had a butterfly habitat in their classroom made the butterfly theme a natural fit.

**STANDARD 5 - RESEARCH**

*Candidates explore, evaluate, synthesize, and apply methods of inquiry to enhance learning and improve performance.*

**5.1 Theoretical Foundations:** Candidates demonstrate foundational knowledge of the contribution of research to the past and current theory of educational communications and technology.

* EDTECH 501 – [Annotated Bibliography](https://docs.google.com/document/d/1B411FvnTi16MmQsBlZyozJVha3AtPmJMGAae-1_fm7Q/edit?usp=sharing)
* EDTECH 504 – [Learning Theory Annotated Bibliography](https://drive.google.com/file/d/1kHneuBcIma1WUV16GWuz3_2ylLpiABdNMaE5RC-Zsu4DFriqUBekaLcWhIy7kpl8tQ_g1bzE-j0bLIHp/view?usp=sharing)

The research of learning theory helped me make better instructional design and teaching decisions. In EDTECH 501, I researched flipped classrooms as I desired to “flip” certain subjects in my own sixth grade classroom. The research I completed in the annotated bibliography was a catalyst in my decision to use the jigsaw method for face-to-face conversations after students had read and viewed VoiceThreads on their assigned topics on their own time. The conversations in the face-to-face portion of the lesson were much deeper, as noted by the authors of the peer-reviewed articles included in the annotated bibliography. In EDTECH 504, I chose a different topic to research. I selected constructivist learning theory, specific to online courses. The research helped me understand the change in constructivist learning theory as it has adapted from face-to-face to online learning environments. Many of the articles mentioned the use of various web 2.0 tools, such as wikis, blogs, discussion boards, social media, and Google apps. The knowledge obtained from the constructivist theory research I performed has been implemented in nearly every instructional design project I have created, as I now understand how learning occurs.

**5.2 Method:** Candidates apply research methodologies to solve problems and enhance practice.

* EDTECH 504 - [Learning Theory Synthesis Paper](https://drive.google.com/file/d/1x28skC_LVfPsoVg8ak5brG2mqogrMWd65kfeJ9kOL46KB8_RPlq3zVZKQhsjfY1k4VNqwjgx9qA0XHdj/view?usp=sharing)

The research I conducted on constructivism and transformative learning theory helped me solve instructional design problems and improved my design practice. In EDTECH 504, I summarized my research by explaining the history of both theories, and how both theories are being used in modern-day online education. I then thought of the current problem in which transformative learning theory is underutilized in online education. The paper highlighted a solution to the lack of transformative learning in online education, and the solution was for educators to consider the learner’s previous life experience. Another problem I discussed was how to use online education for life-improvement courses, such as Alcoholics Anonymous or Weight Watchers, specifically for learners that are unable to attend life-improvement courses in person. The research I performed while writing this paper has remained in my mind throughout the rest of my MET journey, and because of this newfound knowledge, I always include discussions related to learner experience in each online course I create.

**5.3 Assessing/Evaluating:** Candidates apply formal inquiry strategies in assessing and evaluating processes and resources for learning and performance.

* EDTECH 512 – [Critique a Course](https://drive.google.com/file/d/1FtzHAFwJ0jS78Lk5YoctXKt25dfDSgj-Cb3Mff3cVT7dxAyw6q32mFOmexjAd_KxGTDIZX6tk3GVDnQj/view?usp=sharing)

Quality Matters is a widely-used formal assessment program designed specifically for the assessment of online courses. In EDTECH 512, I was able to assess an online course of my choosing using the Quality Matters rubric. The Quality Matters rubric evaluates courses in the following areas: course overview and introduction, learning objectives, assessment and measurement, instructional materials, learner interaction and engagement, course technology, learner support, and accessibility. Point values are then assigned to each standard as the evaluator analyzes the course. The experience of using the Quality Matters rubric helped me to understand effective instructional design. Additionally, I was able to gain valuable experience using Quality Matters, which is often required in many instructional design related professions. I have continued to use the Quality Matters rubric when I design or evaluate courses, and it has helped me streamline the assessment process for online courses.

**5.4 Ethics:** Candidates conduct research and practice using accepted professional and institutional guidelines and procedures.

* EDTECH 506 – [Universal Design Example](https://carlicockrell.wordpress.com/2017/01/22/universal-design-and-visual-literacy/)

A well-known professional guideline amongst designers is universal design. Universal design focuses on “making information and learning accessible in the broader sphere on life for all people” (Lohr, 2008, p. 8). In EDTECH 506, I was instructed to find an exemplary example of universal design in action. I researched universal design, and found many “non-examples”, but I then connected an experience I had learning American Sign Language (ASL) and the flashcards I used. I located an example of the flashcard and concluded that it met universal design guidelines, specifically as a transformative visual. I concluded that many ASL signs are actually transformative visuals as they mimic the real-life object the person is signing. The flashcard only used the word of the object, a photo of the object in real life, and how to do the sign. The research and writing I did on universal design has helped me to remember that it is best to reach a large audience with your graphics, rather than a small subset of individuals.

**LIST OF ARTIFACTS**

EDTECH 501 – Introduction to Educational Technology: Schroeder, Fall 2015

1. [Digital Divide Presentation](https://www.haikudeck.com/digital-inequality-and-digital-divide-in-montana-education-presentation-7jgbwIrUh5) (2.5)
2. [School Evaluation Summary](https://docs.google.com/document/d/1YZ65mb3unHLSg00-dY5PKO9DuGJhblQIruc4Gnvvoug/edit?usp=sharing) (3.3)
3. [Annotated Bibliography](https://docs.google.com/document/d/1B411FvnTi16MmQsBlZyozJVha3AtPmJMGAae-1_fm7Q/edit?usp=sharing) (5.1)

EDTECH 502 – The Internet for Educators: Evanouski, Fall 2015

1. [Netiquette Webpage](http://edtech2.boisestate.edu/carlicockrell/502/netiquette.html) (1.5, 2.1)
2. [Virtual Fieldtrip Webpage](http://edtech2.boisestate.edu/carlicockrell/502/vtour/start.html) (3.1)
3. [Web Accessibility Hot Links Webpage](http://edtech2.boisestate.edu/carlicockrell/502/accessibility.html) (4.2)

EDTECH 503 – Instructional Design: Black, Spring 2016

1. [ID Project: Reflection](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing) (4.3)
2. [ID Project: Planning](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing) (4.4)
3. [ID Project: Analysis](https://docs.google.com/document/d/1OtzX32_LDUIkT9ODOnaRew6SXHzb7gbhtigjSzWEv0s/edit?usp=sharing) (4.5)

EDTECH 504 – Theoretical Foundations of Educational Technology: Yang, Summer 2016

1. [Learning Theory Annotated Bibliography](https://drive.google.com/file/d/1kHneuBcIma1WUV16GWuz3_2ylLpiABdNMaE5RC-Zsu4DFriqUBekaLcWhIy7kpl8tQ_g1bzE-j0bLIHp/view?usp=sharing) (5.1)
2. [Learning Theory Synthesis Paper](https://drive.google.com/file/d/1x28skC_LVfPsoVg8ak5brG2mqogrMWd65kfeJ9kOL46KB8_RPlq3zVZKQhsjfY1k4VNqwjgx9qA0XHdj/view?usp=sharing) (5.2)

EDTECH 505 – Evaluation for Educational Technologists: Thompson, Fall 2016

1. [Evaluation Report: Course Project](https://drive.google.com/file/d/1iCpLnjZF4f9xqXJyyGD7iy4x59-qFnUWEkViHwA6cvVQ33ftGq4J_eCqfTQD9-vt9FAf4st9rgajZOOI/view?usp=sharing) (1.4)
2. [Evaluation Proposal: Response to RFP](https://drive.google.com/file/d/1HMDpPFXFbYgy3kABORpWANPh6PfMWGVB4Oz3GSGhl5D66T-pYL2HC9yQbL-iS_8IniGCegGu6xCYSC40/view?usp=sharing) (3.4)

EDTECH 506 – Graphic Design for Learning: Parlin, Spring 2017

1. [Unit of Instruction](https://docs.google.com/document/d/1x7QrvTYHCLEhRw2ilx18n99U7MSEoVvPeDCHHtbSPJo/edit?usp=sharing) Planning Document (1.1)
2. [Universal Design Example](https://carlicockrell.wordpress.com/2017/01/22/universal-design-and-visual-literacy/) (5.4)

EDTECH 512 – Online Course Design: McGregor, Fall 2016

 16. [Online Course Final Project](http://cybersecurityforbeginners.weebly.com/) (5.4)

 17. [Implementation Plan](https://docs.google.com/document/d/1uBHI9Qgkc-bimHT7UMYOW7bYXxC0vQBipZMzd7UokVI/edit?usp=sharing) (3.6)

 18. [Formative/Summative Assessment Project](https://docs.google.com/document/d/1uBHI9Qgkc-bimHT7UMYOW7bYXxC0vQBipZMzd7UokVI/edit?usp=sharing) (4.1)

 19. [Critique a Course](https://drive.google.com/file/d/1FtzHAFwJ0jS78Lk5YoctXKt25dfDSgj-Cb3Mff3cVT7dxAyw6q32mFOmexjAd_KxGTDIZX6tk3GVDnQj/view?usp=sharing) (5.3)

EDTECH 513 – Multimedia: Hall, Spring 2017

 20. [Static Multimedia Instruction](https://carlicockrell.files.wordpress.com/2017/02/how-to-create-and-organize-a-google-scholar-library.pdf) (3.2)

 21. [Examples of Good/Bad Courseware Evaluation](https://docs.google.com/document/d/1CfdreXkTONnqTgOe8d6fGW30HkGMh7GTknDUvoAi94g/edit?usp=sharing) (3.3)

 22. Haiku Deck (1.2) – will be completed before Beta

 23. [Prezi](https://prezi.com/iuaq4xqbexk5/the-modality-principle/) (1.2)

EDTECH 522 – Online Teaching of Adult Learners: Ching, Fall 2016

 24. [Rich Media Tutorial](https://www.youtube.com/watch?v=5eYGlA_GL28&feature=youtu.be) (2.2)

 25. [Compare and Evaluate Two Online Courses](https://drive.google.com/file/d/1T5wgYgl3150QZfAtx6KzfapIehTBFt2r1iYPZZXi47hQkIbEhfMd47GTXMGgMWAO5Y7ZhQuolxpMKCoV/view?usp=sharing) (2.3)

 26. [Moodle Online Lesson](http://edtechdev.mrooms2.net/course/view.php?id=737) (2.4)

EDTECH 535 – Digital Engagement for Learning: Baek, Spring 2016

 27. [Design a Gamified Learning Environment: PAST Video Game](https://drive.google.com/file/d/1_ha27K35ORISuQ7ay73v1ttQ4Bf5AdW6Yb7CXwknLPgXgimoeCiSIzavZwDHRUrHPf2we7tFh0dznfJL/view?usp=sharing) (1.1)

 28. [Video Creation and Rationale](https://drive.google.com/file/d/1nnKLgq873KUaJLLpXIeXjGUCwd0A7YhDsFAo_ALvQ1zNp4V5Mg9VdhOguncq5NpJ_R5iVxrhG0kVHQAK/view?usp=sharing) (2.1)

 29. [Gamified Lesson Design (Minecraft)](https://drive.google.com/file/d/1ro2uRTaCzGyXZD9-UmOjry4vxmL1_bhjUp2QYZwcN_o-ESQd9um4UHWwJpqOLJaSXepOCNqGZx3iMS9i/view?usp=sharing) (3.6)

**REFERENCES**

Clark, R. & Mayer, R. (2011). *E-Learning and the science of instruction: Proven guidelines for*

*consumers and designers of multimedia learning* (3rd ed.). San Francisco, CA: Pfeiffer.

Lohr, L. (2008). *Creating graphics for learning and performance: Lessons in visual literacy* (2nd

ed.). Upper Saddle River, NJ: Pearson Education.

Kapp, K. M. (2012). The gamification of learning and instruction: Game-based methods

 and strategies for training and education. San Francisco: CA: Pfeiffer.

Stavredes, T. (2011). *Effective online teaching: Foundations and strategies for student success*.

San Francisco, CA: Jossey-Bass.