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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.

According to Januszewski & Molenda (2008), educational technology (EdTech) is summarized as: "...the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (pg. 1). The Boise State Educational Technology graduate program prepares its candidates with the knowledge and skills required to enact effective learning using technology. In **EDTECH 501 - Introduction to Educational Technology**, I was provided the opportunity to research and define this definition, then present within an [infographic](#), allowing me to translate a string of words into meaningful use of software and other technical resources to promote learning. Further, I uncovered the notion that EdTech is actually a concept, or a field of practice – not just an outcome. This artifact demonstrates my ability to create instructional materials with visual literacy principles, useful for special needs students, English language learners (ELL) and as a tool to differentiate instruction and scaffold complex definitions for improved understanding.

In **EDTECH 502 - Creating Educational Websites**, I created a virtual [Jigsaw activity](#) using technological resources (website) to support student learning. The focus of this exercise was to utilize a traditional method where students become experts of a piece of information, then collaborate to solve the entire puzzle. Learning was made more relevant to them because students were encouraged to use technology in the classroom. This artifact demonstrates my ability to create learning environments using web-based design to organize and deliver instructional activities which maximize classroom time and direct student attention and effort.

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

The Educational Technology graduate program prepares its candidates with the knowledge and skills required to enact effective learning using technology. In **EDTECH 502 - Creating Educational Websites**, I was provided the opportunity to select and use technological resources to enhance pedagogy. For example, the [m-Learning activity](#) was designed as a companion for the 8th grade field trip to New York City. Students are encouraged to use their phones to direct them to the current body science exhibits and to explore the information and draw independent

conclusions. Metacognition was included in this exercise where they needed to reflect on the value of their learning experience based upon the quality of the exhibit, and provide a short testimonial on Yelp. By selecting this technologically interactive activity, students became the guides for their own learning, and were rewarded for their participation by leaving a digital footprint for other learners in the future. This artifact demonstrates my ability to select multimedia resources to promote learning through a student-centered mobile learning activity which guides their focus and efforts during the learning process.

In **EDTECH 501 - Introduction to Educational Technology**, [RSS in Education](#) was introduced as a valuable resource which enables students to subscribe to various websites and view updates in real-time. The ability to quickly and easily leverage existing web content for use in education makes this approach a valuable technological solution to improve learning, and supports teachers with quickly gathering authentic learning materials. This artifact demonstrates my ability to use technological resources to enhance pedagogy because it provides additional resources outside of a pre-printed classroom textbook. RSS will alert subscribers to updated information and content. In the classroom, RSS can be used as part of warm-ups, peer debate activities, or to augment research papers.

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

The National Association for Media Literacy Education (NAMLE) defines media literacy as the ability to access, analyze, create, reflect, and act upon mass media communication. Some educators argue that media literacy engages students in higher order thinking skills for a wide range of subjects. **EDTECH 533 - YouTube for Educators** provided the opportunity to create a [Media Literacy Lesson](#) from existing YouTube videos, then introduce a focused lesson through Google Forms. In this activity, I was able to demonstrate my ability to assess the instructional materials and integrate them in a cohesive learning path using technology. First, I created a comprehensive lesson for the "grit" phenomenon through videos which encourage the learner to deconstruct meaning, expand upon messaging, and apply learning to their daily life. Students were instructed to imagine how they can implement "grit" for improved grades and effort. I selected media based upon the following criteria:

1. Short video length (< 3 minutes)
2. Low cognitive load where school-aged children could comprehend the material, yet not be so elementary that a college student would lose interest.
3. Authentic content where "grit" is defined with examples on how it is used to improve school performance.

The selected media was sequenced into three sections to first provide students with foundational knowledge, then educate them on psychological research, and finally give pop culture

examples. Learning is demonstrated through self-reflection, critical thinking, and creation of an individualized action plan to define how “grit” will be used in their future academic journey.

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

Graphic design is an important part of the learning process. Within this field of expertise includes such educational initiatives as mind maps, visual literacy, and universal design for learning. Though the output of the process generally yields one cohesive visual product, people, processes, infrastructures, and resources must be managed. In **EDTECH 506 - Graphic Design for Learning**, I was provided the opportunity to create an asynchronous course which was reliant upon the visual deliverables to serve as the instruction. A cohesive approach to the design of these artifacts required careful planning as detailed in the [Justification Paper](#), and quality, low-cost or free tools were researched and selected. Many times, one software had to be coupled with another to create the desired look. This artifact demonstrates my ability to consider financial resources when selecting a learning management system and weigh the benefits the technology offers against the monetary restrictions. I found that many free tools offer great benefit, and some of the extra capabilities that come with a paid subscription were not needed to meet the goals of this course.

Managing the artifacts appropriately became critical in this development stage. In the same course, a [Unit of Instruction](#) was created to plan how the graphic artifacts would be used, and how the learning environment would be managed to include people (students), processes (media and sequenced materials), infrastructure (classroom setup), and resources (cost of production and delivery). This artifact demonstrates my ability to effectively manage the learning environment to create a seamless experience for the learner through planning for design, development, and integration of the learning management system and its visual learning objects.

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

The “digital divide” concept was first coined in the 1990’s and refers to the gap between the groups of people that have internet access, and those without. Despite an explosion of technological innovation and advancement in the last quarter century since its inception, the digital divide is still very much a part of our Western civilization and may still impact local student communities. In the **EDTECH 501 - Introduction to Educational Technology** course, I was able to further explore this condition and collaborate with peers to produce a [Digital Divide](#) presentation. This recording reveals potential solutions and strategies in closing the digital divide here in the United States.

This artifact supports the element of this standard because students that are not afforded the same advantages in contemporary times are at a disadvantage for educational development. As online schools and technological resources continue to evolve, those without internet access

are unable to participate, thereby not able to take advantage of the same learning experiences as their peers. From our research, it seems as though rural geographical location, lack of broadband infrastructure, and transportation limitations further complicate this issue. As educators, we have the responsibility as outlined within the AECT (2018) Code of Ethics where educators “shall engage in fair and equitable practices with those rendering service to the profession” (pg. 2). Further, it is our role to engage with virtual and brick-and-mortar schools in helping the student overcome these challenges for digital equality.

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.

Today’s technologically proficient students seek an opportunity to leverage digital skills within the classroom. The focus of this standard is application of EdTech knowledge into appropriate learning experiences that extend content pedagogy. For example, in **EDTECH 502 - Creating Educational Websites**, I was encouraged to develop a [Virtual Field Trip](#), drawing upon a microbiology lesson in which we explored Food Safety. Instead of direct instruction, a website scavenger hunt was developed to explore the microscopic world for themselves, selecting their favorite microbe to first learn about. To keep the student focused, a worksheet activity as a Google Form is included to check their understanding. By using technology, the student is transported from lecture to exploration and has the ability to expand their thinking for deeper learning. This artifact demonstrates my ability to apply content pedagogy for microbiology in an authentic digital application. The focus for the field trip is to enlist open-source content to provide the student with a semi-immersive experience for improved student engagement, which promotes improved learning outcomes.

As a companion to this exercise is the [Mini-documentary](#) on Chipotle’s food safety crisis. This video deepens the student’s understanding of food pathology and includes animation, news headlines, and infectious disease control recommendations. By creating a video experience, this artifact brings the food incident “alive” through a real-world case study, created with the intent to excite and engage the learner through visual stimulation.

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

Today’s learners want to be excited and be an active participant in their learning experience. Educational technology provides learners with the ability to engage in resources and learning objects. In **EDTECH 533 - YouTube for Educators**, I was provided the opportunity to

create a [Playlist Lesson](#) that explains the concept of “growth mindset”, a noncognitive factor that many educators and psychologists recommend as being a precursor to academic success. The YouTube platform was selected as the educational technology because many public domain videos can be used to build a cohesive learning experience in this content area and is available to access on school computers. This artifact demonstrates my ability to implement appropriate technology to support content pedagogy. As growth mindset is an important phenomenon to build student self-esteem and promote persistence through difficult learning material, using a playlist provides bite-sized encouraging lessons that introduce students to this topic and creates an opportunity for guided self-reflection and goal setting.

Additionally, a [Virtual Worlds Lesson](#) was created for middle school students as part of the Minecraft EDU space. This idea was forged in **EDTECH 531 - Teaching and Learning in Virtual Worlds**. This technology was selected because students are highly proficient with Minecraft builds, and offered them an opportunity to “leave” the classroom and engage with content through experiential learning practices. Students visit the space constructed for this activity, and match the builds to the handout that provides learning content. The student is then required to use the materials learned to construct an effective hiding space in survival mode - similar to the early settlers. This artifact demonstrates my ability to implement technological processes to engage the student and deepen their learning of the content by providing an authentic and immersive learning experience.

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.

Instructional design focuses on cultivating an improved teaching process and subsequent learning experience. This process translates into a planned approach for instructional materials, activities, and assessments. In **EDTECH 503 - Instructional Design**, I was provided the opportunity to create an Instructional Design Plan. Within this document, is the [Evaluation Plan](#), a section that is focused upon an inquiry process among subject matter experts (SMEs) that evaluates the instruction and implementation of the proposed learning deliverable. This artifact demonstrates my ability to assess and evaluate instruction through the feedback provided by SMEs. By considering their perspective, I was able to reflect upon how the course could be improved through such avenues as improved navigation and more authentic practice experiences.

In **EDTECH 533 - YouTube for Educators**, the [Course Reflection](#) provided an opportunity to reflect upon the lessons created with multimedia and determine adequacy of learning. For example, three deliverables were assessed and justified for alignment with the 2012 AECT Standards. More importantly, application of skills, such as instructor vlogging, was assessed for use in the Flipped Learning model. Vlogging is an easy way to communicate with students after the school day and provide a reminder for key content or assignment directions, and an effective way to introduce complex topics or new modules. This artifact demonstrates my ability

to reflect upon how student learning can be improved by merging evidence-based learning theories with modern advances in technology.

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.

Resource management focuses on efficient and effective deployment of organizational resources based upon where and when it is needed. One of the most important duties in schools is the ability to manage resources while delivering an effective learning program. In **EDTECH 533 - YouTube for Educators**, I had the opportunity to create media objects as part of the [Media Asset Plan](#). By including standards-aligned content, engaging visual artifacts, and recorded documentary, I was able to develop and demonstrate standards-based content for diverse learners. This artifact demonstrates my ability to manage technological processes and resources to cultivate a flexible and diverse learning environment to support different learning styles while introducing Vygotsky's scaffolded approach for students requiring more content background or explanation.

The [Storyboard](#) which accompanied the Media Asset Plan was required to effectively manage the technological resources required for the documentary, and to intentionally consider how learning could be constructed in such a way to evoke supportive learning communities. Mentioned in the documentary are three federal oversight agencies, all of which have public blogs and communities. This artifact demonstrates my ability to provide and develop a supportive learning community because students were encouraged to subscribe to the FDA & CDC blogs for real-time food safety updates. From this information, safety communities could be created to instruct and remind others of prevention behaviors outlined in the video to circumvent foodborne illness.

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

The purposeful integration of multiculturalism within educational materials is important because it creates a sense of tolerance among different races and ethnicities, thus diluting and dissipating the divisiveness of ignorance. In academia, multiculturalism sparks dialogue between diverse cultures that may have very different perspectives. To be sensitive to this need, I intentionally created a diverse population of users and animated characters within the [Key Characteristics](#) presentation within the **EDTECH 531 - Teaching and Learning in Virtual Worlds** course. This presentation included characters of different racial backgrounds for inclusiveness. This artifact demonstrates my ability to design and select media technology to emphasize diversity, which includes socioeconomic status in addition to gender, race, and ethnicity, to reflect our multicultural community. To be sensitive to the digital divide and inequality among socioeconomic status, I chose to create a video which could be housed and easily

accessed within YouTube versus a learning management system. Since YouTube has responsive technology, students could view the tutorial on a desktop, tablet, or mobile phone, and would have access within the school library or classroom.

To further demonstrate my ability to design and use technology and processes that emphasize diversity, the [Web Accessibility](#) content page developed within **EDTECH 502 - Creating Educational Websites** is a valuable resource which considers the unique limitations of special needs learners. By providing resources as to how popular tools meet accessibility requirements, education professionals can select these tools for content development, ensuring an effective learning experience for these exceptional learners.

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.

Instructional design products range from simple learning objects, such as a job-aids, graphic organizers, and content articles up to complex learning environments to include full eLearning courses, multimedia artifacts, or simulations. In **EDTECH 512 - Online Course Design**, I was given the opportunity to create an instructional product based upon learning principles and research-based best practices. The [Teachable Online Course](#) presents a culmination of my knowledge and skills in educational technology and instructional design, presented in a five-lesson mini course. The course implements multimedia and graphics to support learner engagement, a constructivism component through application of knowledge to create their individual time management schedules, and teacher moderation to appropriately scaffold the learner during the process. This artifact demonstrates my ability to create a learning product that is founded upon constructivism and experiential learning theories.

The [course overview](#) document provides the student with a mental map of the required learning, and the instructional model is built on the foundation of competency-based education. As the student meets the required competencies, new activities and content are unlocked as each of the five lessons address and build upon the life skills needed for college success. This artifact demonstrates my ability to apply recent learning approaches such as microlearning to the current perceived problem of decreased attention spans of current K-12 students. This approach was intentionally designed into this course to “chunk” information into bite-sized lessons for improved engagement and retention. I found this format to be very beneficial as a method to differentiate instruction because it provides short bursts of learning followed by experiential activity.

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.

As per the New Teacher Center, “optimal learning” is the belief that certain learning environments can promote student engagement and motivation so that students are best able to achieve high standards as set forth by their instructor. During the instructional design process, educators must determine appropriate and effective processes and resources that will produce optimal environments. In the **EDTECH 503 - Instructional Design** course, I was provided the opportunity to determine what type of learning materials best suited the delivery of my proposed course. Starting on page 23 of the [Instructional Design Plan](#), learning materials were sources or created based upon effective practices and theories. For example, the adult learner must use project management software to manage educational projects. Activating prior knowledge through short video demonstration of how a project is defined ensures that they approach the lesson with the right mindset. Since the learner will be required to perform an activity, experiential learning theory suggests that an authentic, hands-on experience will be required to move knowledge from short-term to long-term memory. Andragogy dictates that learning must be relevant and solve a real-life problem, so the scenario was set based upon a current issue in the workforce at the time of training.

To build upon these ideas, a [Rich Media Tutorial](#) was created in **EDTECH 522 - Online Teaching for Adult Learners** for online teaching colleagues to demonstrate usefulness of a new learning management system tool. The learner is encouraged to watch the video, then use the knowledge to facilitate a course via peer role play in Pathwright. These artifacts demonstrate my ability to make sound instructional decisions in selecting processes, content, and technology based upon evidence-based learning theories. Further, I was able to implement effective practices in providing the learner with authentic learning activities as suggested within Kolb’s experiential learning theory and creating relevant activities as part of Malcolm Knowles’ andragogy principles.

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.

When the term “assessment” is used, most often we think of a student exam or classroom activity. Put simply, this term is defined as an evaluation or estimation of a quality or ability. In **EDTECH 505 - Evaluation for Educational Technologists**, I was provided the opportunity to research a current instructional process and provide an assessment of its effectiveness, impact, and efficiency in delivering instruction as intended. The [Final Evaluation Report](#) summarizes this work, which utilizes objective evidence to draw conclusions and provide recommendations for improvement. Some of the assessment strategies included: instructor interviews, LMS metrics for posting frequency, subjective review of post content based upon a pre-established rubric for standardization, and instructor polls. This artifact demonstrates that multiple assessment strategies

were used to collect data in order to conclude that both the content and frequency of instructor posting led to higher student success outcomes.

Another type of evaluation that was conducted was a [comparison between two online courses](#) within **EDTECH 522 - Online Teaching for Adult Learners**. This artifact demonstrates my ability to collect objective data and make conclusions to improve the learning environment. In this situation, the Quality Matters (QM) rubric was used to benchmark a current course offering by my employer institution and a popular on-demand course offered through Udemy. By contrasting strengths and weaknesses of each course through a standardized assessment strategy, informed decisions were made to improve the university course, thus creating better learner outcomes.

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

Managing the technology infrastructure, which may include media assets and delivery mechanisms, is a critical function for the educational technologist in order to support and improve learner performance. In **EDTECH 533 - YouTube for Educators**, I was provided the opportunity to establish a technology infrastructure related to creating, combining, and publishing cohesive video lessons through a [YouTube Channel](#). In order to improve student learning and performance, I first had to create an inviting visual experience. This included learning the new Beta system offering by YouTube and customizing my channel for ease in navigation. Next, playlists and published videos were constructed based upon the focus for the channel, which promotes and showcases video artifacts from the MET program. This artifact demonstrates my ability to create a sustainable technology infrastructure to meet the digital needs of today's learners.

Though not yet robust, I envision the channel to include many different support mechanisms. As I begin my full-time K-12 teaching career this fall, a new YouTube site will be created through my institution's Google account. Technological support mechanisms will be provided such as: recorded lectures to promote a flipped classroom, playlists which offer scaffolded instruction and remedial support, media literacy lessons for deeper learning and enrichment for gifted students, and engagement videos to serve as lesson "hooks".

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.

In an age where many people believe that if "you find it on the internet, it's free", protecting intellectual property has never been more relevant. In an effort to educate my students on the rules of copyright, fair use, and open access, I created a [Copyright Hunt](#) in **EDTECH 502 - Creating Educational Websites**. This assignment presents students with the knowledge needed to recognize creative commons, and the ability to practice that knowledge through a virtual hunt

through selected websites. This activity promotes awareness and respect for the productivity of others, and in itself, is 100% compliant with the rules to demonstrate a positive model. This artifact meets the requirements of this standard because it will introduce students to ethical use of internet resources and teach them what is permissible for publishing.

In this same course, an [Interactive Concept Map](#) was created to explain the best practices of Netiquette, or a manner of interaction among online learners that fosters a safe and healthy learning environment. By setting forth these requirements, students can focus on the content and activities of the course, rather than the interpersonal dynamics that may become harmful. The foundation of netiquette is to provide an ethical communication practice between the parties, centered upon positivity, respect, and tolerance. This artifact supports the health, safety, and best practice elements of this standard by demonstrating requirements in using the internet in an academic setting and prepares students for professional expectations.

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

Differentiated instruction is a strategy used by educators to anticipate and respond to diverse student needs based upon disability or cognitive ability. To empower students, instructors often modify the content, the process, or the product of learning. However, learning diversity does not end with learner abilities - but rather must consider ethnicity, race, socioeconomic standards, and learner characteristics. In an online setting, many software and LMS systems have introduced “accessibility” to support learners with special needs. One way in which I foster an inclusive learning environment is by using tools that are created with such learners in mind. In **EDTECH 502 - Creating Educational Websites**, the [Web Accessibility](#) assignment was used to research and uncover technological solutions that have many features specifically for disabled learners. These Adobe products were added to my list of EdTech tools, and you will see them featured throughout many of my graphic deliverables. This artifact demonstrates my ability to create a learning community to empower students and consider different student personas and plan for them accordingly.

In **EDTECH 533 - YouTube for Educators**, I created a [Video Blog](#) that meets the visual and audio learning preferences and closed captioning for students with special learning or behavioral needs. This artifact helps to foster a learning community that does not exclude participants, rather provides a scaffolded approach for students with disabilities, or any student that needs additional help at any time. The recorded video provides all students with the same opportunity to re-watch as needed and follow along with the transcript for improved learning and retention.

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.

Just as peer review is a valuable assessment strategy in the face-to-face and online classroom, professional colleagues also use this approach to evaluate planned or produced instructional content and provide recommendations for improvement. In **EDTECH 503 - Instructional Design**, a comprehensive [instructional design plan](#) was created and submitted to professional colleagues for peer evaluation (page 34). Identifying and selecting subject matter experts (SME's) was an integral part of this process, because SME's have a deep understanding of the knowledge and skills necessary to perform a function. Though not specifically required for this project, leveraging the experience of a veteran instructional designer may help to identify areas where instruction could be delivered more simplistically to enhance student outcomes. To combine these two varied areas of expertise, I utilized a SME with both content proficiency and implementation/training history to comment upon the proposed learning plan.

This artifact demonstrates my ability to collaborate with peers to evaluate instruction. One of the most important lessons that I learned is that having an external perspective is paramount to delivering a high-quality and effective learning product, as third-party evaluations find more direct ways to maximize learning. Sometimes, instructional designers apply too many tools or activity choices when the learning could be more direct.

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

Proficiency in implementing technology-supported learning is a skill in high demand for new educators. In fact, 80% of my recent interviews involved administrative questions regarding my experience in applying "educational technology" to determine how I can support veteran teachers. To begin, **EDTECH 503 - Instructional Design** encouraged peer collaboration for a [Leading Group](#) exercise. Though this assignment was focused upon case studies seeking recommendation for impactful learning design, the technology in which the subject matter is presented was the group's decision. In alignment with this standard, we selected VoiceThread to demonstrate how visual, audio, video, and written information could be delivered, and provide a technological foundation for addressing formative assessments through checks for understanding. Each case study was thoroughly explained and provided an opportunity for the learner to comment, respond, and ask questions based upon a critical thinking exercise.

Another example of leading peers in designing tech-supported learning is within the [Key Characteristics](#) presentation in **EDTECH 531 - Teaching and Learning in Virtual Worlds**. This animation was created to provide the basic requirements in setting up an educational space within

a virtual world to intrigue, motivate, and teach students through a realistic scenario. These artifacts demonstrate my ability to implement a collaborative software program or digital solution while focusing on content to deepen and lead peer learning for improved teaching outcomes.

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.

Metacognition is a popular teaching strategy used to provide students with the time and space needed to reflect upon their learning and further organize new learning content within their preconceived schemas. In a similar way, this standard encourages candidates to interpret data and reflect upon the effectiveness of learning design as part of their professional development. In **EDTECH 501 - Introduction to Educational Technology**, a significant industry report was analyzed to uncover [technological trends](#) in adult education. Using the report data as a guide, a proposed virtual reality (VR) lesson was discussed as a potential solution for improving manager communication in crucial conversations. This exercise forced me to learn how VR is used within the academic sector and benchmark several world-renowned training initiatives against tech-supported instruction.

Ultimately, my knowledge of virtual worlds and modern research was later applied to create the Minecraft EDU [Virtual Worlds lesson](#) in **EDTECH 531 - Teaching and Learning in Virtual Worlds**. These artifacts demonstrate my ability to research and ponder current technology usefulness in the classroom. Interestingly enough, demonstration of the virtual lesson to K-12 recruiters positioned me as a valuable asset in their desire to create technology-rich classrooms and provide their current teachers with a professional resource to implement greater digital educational experiences.

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

Instructional plans for assessment and evaluation provide objective insight into the student's anticipated ability to successfully master learning goals and subsequently determine the overall effectiveness of a learning program. A [WebQuest](#) activity was designed in **EDTECH 502 - Creating Educational Websites** to promote knowledge of food safety practices and build awareness of the required expertise in creating a food safety plan. The assessment activity and evaluation plan was constructed with the intent to quickly determine gaps in skills, knowledge, or work experience as required by the Food and Drug Administration's (FDA's) Preventive Controls rule, and further determine if mastery of the learning objectives had occurred as listed within the [instructor page](#). This exercise replaced the need to use a LMS to organize the content and instead placed the learning in sequential order to align with the intended outcomes. This artifact

demonstrates alignment between the implemented curriculum and evaluation for instructional validity (accomplishes what it was intended to accomplish) in accordance with the learning goals.

The [Leading Group](#) activity within **EDTECH 503 - Instructional Design** provided our group the opportunity to design evaluation questions surrounding the case study, thus promoting critical thinking and problem solving skills. These queries were generated to serve as a companion to the case study instructional activity and offered the student a chance to evaluate the scenario and implement additional assessment questions to the classroom group. This artifact further demonstrates my ability to design instructional activities that build higher order thinking skills and evaluate student mastery through novel ideas.

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.

With the rise of student cyberbullying in recent years, educational professionals have a duty to set boundaries for ethical practices among culturally and academically diverse student populations. In **EDTECH 521 - Online and Blended Teaching in the K-12 Environment**, I was provided the opportunity to create a [digital citizenship lesson](#) which focused upon netiquette and social media rules for the online classroom. As part of this lesson, I introduced a metaphor to teach students how to disagree and communicate respectfully and considered the global audience with diverse participants and cultures to choose an appropriate model.

During the development of this lesson, I considered popular age-appropriate toys, movies, and food products. While introducing food items may be offensive to some cultures (e.g. a ham sandwich for Muslim students), it is important to consider that food can also be used as a unique method to unite different groups. This artifact demonstrates my ability to consider and select instructional objects keeping applicable cultural contexts in mind. Interestingly enough, the Oreo cookie, an American favorite, is also the world's favorite cookie and is sold in over 100 countries. As its popularity suggests, it is a well-known and accepted treat within diverse populations, and as such, became our common connector in providing the model for positive feedback to peers in an online setting.

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.

As educational technology gains both popularity and capability, traditional learning theories are being reinvented to align with modern times and the expressed interest of present-day

learners. In **EDTECH 501 - Introduction to Educational Technology**, I was encouraged to conduct [EdTech Research](#) that introduced me to how learning theories are applied to generating technology. It seems as though software developers seek out evidence-based learning theories and determine how technology can improve its delivery. For example, microlearning strategies are best deployed through multimedia lessons or mobile applications which can provide “just-in-time” learning bursts when needed. Through the popular expansion of YouTube, and its ease of access to viewers and authors alike, this technological platform provides a cost-efficient modality to provide remediation, enrichment, and flipped learning possibilities for students.

In **EDTECH 504 - Theoretical Foundations of Educational Technology**, I was provided the opportunity to uncover how experiential learning theory can be combined with educational technology to promote performance-based outcomes through tech-based communication. The [Final Synthesis Paper](#) unpacks the traditional guidelines of the Kolb Learning Cycle in light of technological expansion and offers recommendations to utilize educational technology to support student delivery and foster deep reflection within a hands-on, authentic learning experience. These artifacts demonstrate my ability to understand evidence-based learning theories and apply the best practices within current educational technology platforms, tools, and apps.

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

Educational Technology theories are founded upon peer-reviewed, evidence-based research. In order for future professionals to gainfully contribute to their field, it is imperative that this research is accessed and referenced to promote awareness and continuous enhancement of EdTech practices. **EDTECH 504 - Theoretical Foundations of Educational Technology** encouraged candidates to validate EdTech theories through research methodologies, then interpret and recommend educational practices based upon these ideas. The purpose for the [Annotated Bibliography](#) is to access and evaluate current research to further determine how these theories can be applied to current problems within the EdTech field. After completing this step, a [Synthesis Proposal](#) paper was created to reference these sources and offer suggested solutions to improve current educational technology infrastructure and learning approaches.

These artifacts demonstrate my ability to apply research methodologies to enhance best practices and solve classroom teaching problems. What is important to note is that my speculation and recommendation within the proposal must have research-based support and should clearly define how educational technology is not a replacement for traditional learning theories. Rather, it is necessary to explore how technology complements the design, delivery, experience, and retention capability of learning. From these exercises, I apply and cite learning research within my lesson plans for credibility and to offer peer guidance when implementing new technology.

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

When assessing and evaluating resources for learning and performance, a formal inquiry process introduces a series of questions that provides a standardized model for evaluation. In the case of the [School Evaluation Summary](#), a summary report created in **EDTECH 501 - Introduction to Educational Technology**, two institutions were evaluated in accordance with the Technology Maturity Model Benchmark. Using an inquiry-based approach prevents bias and assures objective results for comparison. In fact, this exercise is extremely valuable as it provides a structured, organized approach to determining the current state of the organization, promotes awareness of organizational barriers, and provides insight for the institution's readiness in deploying appropriate technology-based solutions. This artifact demonstrates how a formalized system can lead to impactful and effective solutions, thus promoting a student-centered learning environment more quickly than through trial-and-error.

Peer reviews are another valuable inquiry strategy which guides the reviewer toward topics of need. In **EDTECH 512 - Online Course Design**, I was provided the opportunity to share my online course with four various reviewers with standardized questions. Each of the [Peer Review](#) responses were as different as their position titles. However, it is apparent to me that using a standardized inquiry approach uncovers vulnerabilities in the learning environment, and once rectified, can be corrected to improve learning and performance.

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

Universal Design for Learning (UDL) is a peer-reviewed framework which is growing in popularity as an effective solution for closing the gap between learning preferences and learning ability. With the goal of UDL being a visual representation that explains a process or idea without the need for specialized adaptation, this approach to teaching and learning is providing an avenue to differentiate instruction, support the English Language Learners (ELL), and special needs community. In **EDTECH 506 - Graphic Design for Learning**, I was provided the opportunity to evaluate an existing visual image and recommend specific changes to align with [Universal Design](#) principles. This is important because many open-source images are available, but must be altered to accommodate my student's capabilities. This artifact demonstrates my ability to research modern practices and guidelines, and apply them in an impactful manner within my classroom for improved content / process understanding.

The Program Recommendations subsection within the [Final Evaluation Report](#) was constructed within **EDTECH 505 - Evaluation for Educational Technologists**, and provides an ethical representation of findings and solutions. Many times, data is collected through subjective means, such as employee interviews and polls, and it is important that the evaluator remain unbiased. This exercise revealed the Program Evaluator guiding principles, similar to a code of ethics which govern data collection and reporting behaviors. This artifact demonstrates my ability to ethically use and apply institutional guidelines without bias.

LIST OF ARTIFACTS

Deliverables listed below are linked within this Rationale Paper where appropriate and can be found within the [Standards & Artifacts Table](#) within my e-portfolio site.

EDTECH 501 - Introduction to Educational Technology: Schroeder, Summer 2016

1. EdTech Infographic (1.1)
2. RSS in Education (1.2)
3. TechTrends (4.3)
4. EdTech Research (5.1)
5. School Evaluation Summary (5.3)

EDTECH 502 - Creating Educational Websites: Scoresby, Summer 2016

6. Jigsaw Activity (1.1)
7. mLearning Activity (1.2)
8. Virtual Field Trip (2.1)
9. Web Accessibility (2.5, 3.6)
10. Copyright Hunt (3.5)
11. Interactive Concept Map (3.5)
12. WebQuest (4.4)

EDTECH 503 - Instructional Design: Ching, Fall 2016

13. ID Project - Evaluation Plan (2.3)
14. ID Project - Learning Materials (3.2)
15. ID Project - SME Evaluation (4.1)
16. Leading Group (4.2, 4.4)

EDTECH 504 - Theoretical Foundations of Ed Tech: Friesen, Spring 2017

17. Final Synthesis (5.1)
18. Annotated Bibliography (5.2)
19. Synthesis Proposal (5.2)

EDTECH 505 - Evaluation for Educational Technologists: Thompson, Summer 2017

20. Final Evaluation Report (3.3, 5.4)

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

21. Unit of Instruction Outline (1.4)
22. Justification Paper (1.4)
23. Universal Design (5.4)

EDTECH 512 - Online Course Design: Lowenthal, Summer 2017

- 24. Teachable Online Course (3.1)
- 25. Peer Reviews - Design (5.3)

EDTECH 521 - Online and Blended Teaching in the K-12 Environment: Rice, Summer 2018

- 26. Digital Citizenship (4.5)

EDTECH 522 - Online Teaching for Adult Learners: Ching, Fall 2016

- 27. Rich Media Tutorial (3.2)
- 28. Course Comparison (3.3)

EDTECH 531 - Teaching and Learning in Virtual Worlds: Haskell, Fall 2017

- 29. Virtual Worlds Lesson (2.2, 4.3)
- 30. Key Characteristics (2.5, 4.2)

EDTECH 533 - YouTube for Educators: Snelson, Fall 2017

- 31. Media Literacy Lesson (1.3)
- 32. Short-Form Ed Video (1.3)
- 33. Mini-documentary (2.1)
- 34. Playlist Lesson (2.2)
- 35. Course Reflection (2.3)
- 36. Media Asset Plan (2.4)
- 37. Mini-doc Storyboard (2.4)
- 38. YouTube Channel (3.4)
- 39. Vlog with CC (3.6)

REFERENCES

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