Digital Portfolio Reflection

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**Introduction**

The purpose of my digital portfolio is to display the coursework I’ve completed in the Instructional Technology Master’s Program through Towson University. I have been working towards my master’s degree in Instructional Technology with an Educational Technology concentration for the past 3 years. Through my experience in the program, I have many artifacts that showcase my knowledge, practice and understanding involving instructional design and the integration of technology into the classroom with alignment to the ISTE Coaching Standards. This portfolio will demonstrate my knowledge of these standards and will provide examples of how they will be addressed in teaching and learning.

The ISTE Standards is a framework that can be used to guide educators, leaders and coaches in using technology to create high impact and effective learning experiences. The ISTE Standards for Coaches consist of 7 standards with indicators that outline how it is met. The standards and indicators for each help to define the role of an instructional technology coach and show how that role relates to the roles of students, educators and education leaders. The coaching standards include the following: change agent, connected learner, collaborator, learning designer, professional learning facilitator, data driven decision maker, and digital citizen advocate.

**Standard 1: Change Agent**

The ISTE Coaching Standard 1 is the Change Agent. This standard is where coaches inspire educators and leaders to use technology to create equitable and ongoing access to high quality learning. In my portfolio, I have three artifacts that I have described, connected and analyzed covering all the indicators of this standard. These artifacts include the Change Agent Project, Professional Learning Facilitator Plan and Presentation, and the AI Case Study.

**Artifact: Change Agent Project**

The Change Agent Project was created individually for my Summer 2023 ISTC 731 Theory and Practice for Integrating Digital Resources into Learning and Teaching with Professor Sadera. This course focused on current research and the integration of technology into diverse educational settings. The Change Agent Project involved reviewing research related to technology integration and becoming a change agent by redesigning an instructional unit to reflect change in appropriate technology use in the learning environment.

For this project, I chose to redesign a first-grade social studies unit on civics with the first focus being on the topic of community. This consisted of 5 lessons and was chosen knowing that integrating technology tools and resources could be beneficial to students and their understanding. The redesign of lessons used the Taylor Integration Model for technology integration. The revised lessons have been used and shared for instruction in my first-grade classrooms at Red Pump Elementary and Magnolia Elementary in Harford County Public Schools.

The Change Agent Project has addressed many of the ISTE change agent standards. Indicators 1b, 1c, and 1d are addressed by using technology to help to meet the needs of the learners. Students have all different learning styles, and this project provides variation to meet those different needs. This project was also easily shared with other educators to promote and achieve a shared vision, along with allowing the connections to occur between educators, leaders and technical support to maximize the use of technology for learning.

These lessons were effective in the classroom to help boost the student engagement related to the content and overall learning. Students enjoyed using their laptops in a different subject area and were able to gain a better understanding of concepts through the added videos. The only challenge has been time with some of the activities involving students and their computers. Social Studies is a 30-minute block on our schedule and since this unit is done in the beginning of the school year when we are still practicing how to log-in, it can take a little longer than the allotted time. Overall, I hope to continue the incorporation of various digital tools and components of UDL to boost student learning in the classroom.

**Artifact: Professional Learning Facilitator Plan and Presentation**

This project was created in collaboration with Drake Stockett (6th grade social studies) and Jeffrey Kirkpatrick (middle school band). Drake, Jeff and I developed this plan and presentation for our Fall 2024 course ISTC 702 Educational Leadership and Technology with Professor Li. The purpose of this course was to investigate current research and theory related to change in education and technology with a focus on planning and leadership in the educational setting. The Professional Learning Facilitator Plan and Presentation involved creating a 3–5-year plan to address school or district technology integration issues.

For this project, my group members and I had a shared vision of how Generative Artificial Intelligence (AI) could be integrated into the school district in a way to provide educators with a better understanding of how AI is being used, responsible use associated with AI, and how it can be utilized. This became our topic of interest due to recent surveys that were conducted throughout the counties, and the results indicating that there was still a huge lack of knowledge associated with AI and its usage. For this project, we developed a 3–5-year professional learning plan with a focus on how it would be implemented to educate teachers in Annapolis Middle School where Drake teaches. We collaborated throughout the project with each of us taking responsibility for a section of the development. My main contributions to this plan involved the development of the executive summary, literature support and articles. For the presentation, I developed the introduction, professional learning facilitator overview and the anticipated results. Drake, Jeff and I were able to communicate our ideas throughout the development of this project, giving each other feedback and ideas throughout. Overall, we felt that this plan would be very beneficial to educators in providing them with the knowledge and confidence to use AI to enhance their practices.

This plan was aimed to be implemented in Annapolis Middle School which is part of Anne Arundel County Public Schools with students of varying backgrounds and most students coming from families of lower income including 95% of students who are eligible for Title 1 status. Additionally, this school has targeted groups of students who are English Language Learners, have IEPs and 504s. When knowing this, educators must provide a lot of differentiation in their lessons to accommodate the different needs of the learners. This is where educating teachers on AI can be beneficial. This plan provides educators with general knowledge on AI and tools like ChatGPT to generate content for lessons. Participants in the plan will be coached on using the tool to create community messages, authentic lesson materials, setting professional goals, collaboration, etc. and will save time by doing so.

            The Professional Learning Facilitator Plan aligns with the ISTE change agent standards by meeting indicators 1a and 1d. These indicators are met because the plan helps to create a shared vision and culture for using technology involving AI. Teachers will be educated by coaches and will be provided with the general knowledge needed to benefit from new AI technologies. Also, this plan recognizes educators who are already using AI technology tools to enrich the learning of students in their classrooms. These educators will have the opportunity to coach others.

This plan has not been implemented but could be shared with school leaders going forward to help educators gain a better general understanding of AI and how it could be used. I am sure it would be effective in just allowing time to explore new tools associated and would make a great PDP for teachers who are looking for helpful ways to incorporate differentiated materials to their students.

**Artifact: AI Case Study**

The Artificial Intelligence Case Study was a case study that looked at my current position in Harford County Public Schools as a first-grade teacher at Red Pump Elementary. This case study included an overview of my school, its population and the usage of technology. The population being diverse and consisting of students of different races, 20% FARMS, 25% multilingual learners and about 16% of students with disabilities. It further studied how the AI integration process is occurring, how leaders were involved and the effectiveness of the plan along with the challenges that are being faced.

The case study meets the ISTE change agent standard 1a by laying out the current integration process of AI in the school system along with some of the challenges being faced. The study suggests servant leadership being beneficial in this integration process to help learn and accelerate transformation regarding AI in our school.

It will be interesting to see how AI continues to be integrated into the school system. There are a lot of important factors to consider throughout the process to be sure that it is integrated safely and with training opportunities for educators and students available. I do believe that the integration of AI through the pre-survey that the county sent out to educators and students has been an effective way to move forward with decisions in the county.

As you can see, through the three artifacts above all indicators of the Change Agent Standard for Coaches were met through these artifacts. I hope to continue to inspire educators and leaders to use technology to create equitable and ongoing access to high quality learning.

**Standard #2: Connected Learner**

The ISTE Coaching Standard 2 is the Connected Learner. This standard is where coaches model the ISTE Standards for educators and identify ways to improve their coaching practice. In my portfolio, I have three artifacts that I have described, connected and analyzed covering all the indicators of this standard. These artifacts include a Self-Study Journal, Universal Design for Learning Reflection, and Professional Learning Facilitator Plan and Presentation.

**Artifact: Self-Study Journal**

This Self-Study Journal was completed individually and then shared with Drake Stockett and Jeffrey Kirkpatrick, who were also in my instructional technology program cohort. This activity was completed in the Summer of 2024 in ISTC 735 Technology, Learning and Design with Professor Kenton. For this assignment, we were to go through a reflection process to help us understand our beliefs about teaching, learning and the classroom computer. The self-study protocol: Making Meaning Through Storytelling was used in this process to share a powerful teaching experience that used computer technology, explain the activity and the role the technology played, and then ask each other questions.

            For this assignment, I decided to share an experience of a first grade reading lesson that focused on knowing how to read based on clues in the text including punctuation, special print and dialogue. This lesson took place at Magnolia Elementary in Harford County Public Schools and consisted of 18 readers of various levels and backgrounds. Students practiced this skill in their individual reading time, and then had the opportunity to create a post on Padlet of them reading and showing how they changed their voice to match what was in their books. Drake and Jeff read about my experience and this lesson, and then gave me feedback on why they believed it was a powerful lesson for the students. In addition, I was able to read about experiences that they shared involving a teaching or learning experience and give feedback to them on why I thought it may have been a powerful experience for them. This self-study journal gave a lot of good insight on how incorporating technology can impact the learning experience in positive ways.

The Self Study Journal addressed many of the ISTE connected learner standard indicators 2b and 2c. This study allowed me to participate in a professional learning network with members of my cohort to enhance our coaching practice. It also allowed me to reflect on my successes and find ways to continue to improve my teaching through reading the suggestions given by my group members.

This self-study using the Making Meaning protocol was effective and I can see why collaboration and connecting with others is so important. Hearing from others and their experiences is motivating and can be so helpful when incorporating new strategies in the classroom.

**Artifact: Universal Design for Learning Reflection**

This first-grade math lesson on telling time to the half-hour is part of the Envision 2.0 math curriculum for Harford County Public Schools. It was chosen to be revised using the UDL checklist to gain a better understanding of what components of UDL existed within the lesson and what could be revised to strengthen it even further. With the completion of this reflection, I was able to revise the lesson to incorporate more elements of UDL to meet the needs of the students in the classroom. This lesson has been used since the revision in Summer 2023, with the added components of UDL to help improve overall student learning. It has also been shared with colleagues with included revisions based around UDL. The audience is about 20 first grade students in a general education classroom setting of students with diverse needs including IEP, 504 plans and English language learning students.

          This Universal Design for Learning reflection activity meets the ISTE connected learner standard indicators 2b and 2c. It met these indicators by allowing me to actively participate in professional learning based on the UDL guidelines. While revising the lesson, I was able to think about emerging technology and how it could be incorporated into the lesson to improve it based on UDL. I was also able to participate in a professional learning network with educators and colleagues through the sharing of this lesson. Feedback was given based on the lesson revisions which allowed me to reflect and find additional ways to improve my teaching practices.

          This revised lesson using additional means of UDL has been used in the classroom for instruction. Incorporating additional means of UDL to promote overall student learning was successful and effective. Students enjoyed being more hands-on in the lesson and playing an online game helped to boost student engagement in the lesson, along with allowing the time to pull small groups and provide needed differentiation of the lesson.

**Artifact: Professional Learning Facilitator Plan and Presentation**

This artifact was already described above but was a huge project and met a lot of ISTE Standards for Coaches. As mentioned, the plan involved creating a 3–5-year plan to address school or district technology integration issues and was aimed at being used at Annapolis Middle School to help educators.

The Professional Learning Facilitator Plan and Presentation also met the ISTE Coaching Standard 2a for Connected Learner. The plan met the indicator for this standard because it was completely based off the ISTE standards for educators. After the needs assessment was given to gauge educators and their understanding of how AI can be used to enrich the classroom, the areas of need were addressed through the plan using the standards. The development of professional learning using the standards helped to deepen the understanding of the standards for educators and provided a professional learning experience throughout the project.

Again, this plan has not been implemented, however I do feel that it would be effective and could help educators in trying to integrate AI in the classroom.

The above artifacts together have met all the indicators for the Connected Learner Standard for Coaches. Going forward, I hope to continue to identify and find ways to help improve my coaching practice and lead in my profession as an educator by incorporating technology.

**Standard #3: Collaborator**

The ISTE Coaching Standard 3 is Collaborator. This standard involves coaches establishing productive relationships with educators to improve instructional practice and learning outcomes. There are three artifacts that I have described, connected and analyzed covering all the indicators of this standard. These artifacts include a Tool Review, Experimental Technology, and the Change Agent Project.

**Artifact: Tool Review**

The Tool Review assignment was an assignment that was completed individually in the Summer of 2022 in the course Developing Digital Multimedia with Professor Cai.  In this course, we were able to develop and design digital multimedia learning materials for various environments and learn basic principles of visual design. Through this course, we were able to learn about different digital tools in the multimedia world, explore them, and evaluate them. This assignment was an evaluation of a review game called "Balloon Pop Subtraction" on ABCya.com. This game has been used as an extension to our learning for an audience of beginning of the year first graders of various learning abilities in Harford County Public Schools.

This assignment used Mayer's Multimedia Design Principles as a checklist to evaluate the effectiveness of the game. A reflection of the game regarding each principle is given along with examples in the game and how it meets that principle. The principles used for reflection include the principles of coherence, redundancy, and multimedia. Areas of improvement according to these principles are also given along with a reflection on the game has examples of intrinsic and extrinsic motivation and has strategies to meet diversity or cultural perspectives. These multimedia tools that were evaluated based on our learning, were shared to other educators in our cohort and feedback was given based on our overall learning and perspectives.

This assignment addressed many of the ISTE collaborator standards including indicators a, b and c.  It met these indicators by allowing for the ability of exploration of new instructional strategies relating to digital tools and allowed us to learn and build trusting relationships with other educators in this program. It also allowed us to work together to identify and evaluate content that is culturally relevant, developmentally appropriate and effective in terms of the Mayer's Multimedia Design Principles and learning based around motivation and diversity.

According to the review that was given based on these principles, the game was overall effective in supporting and helping young learners with subtraction. The digital tool review completed was shared to other educators in this program for learning and feedback. Other educators agreed on its effectiveness and were able to relate to its usefulness in the classroom to reinforce skills being taught. This game has been used as an extension to support student learning and the students are very engaged while playing it. This will continue to be used in the classroom to support the learning of students.

**Artifact: Experimental Technology**

This project was completed individually for the course ISTC 731 Theory and Practice for Integrating Digital Resources into Learning and Teaching with professor Sadera in the Summer of 2023. This course focused on theoretical perspectives on learning involving technology integration in diverse settings. For this project, we were to explore two new technology tools that could be used for instruction and explain how they could be implemented based on different technology integration models. The models chosen for integration were the SAMR integration model and the Thomas and Boysen Taxonomy for integration.

The tools that I chose for this assignment were *Thinglink* and *Storybird*. A presentation was created for each to provide information on the tool, how it could be used based on the technology integration model chosen, and an example of its use with students. The examples provided for these technologies were intended for a first-grade class of about 20 students of various learning abilities in Harford County Public Schools. The experimental technologies researched and used for this assignment were posted on websites that were created for this course, allowing other educators and students in the program to view examples of different types of technology that could be used for instruction.

The Experimental Technology project aligns with the ISTC standard collaborator meeting the indicators of 3a and 3d. These indicators were met because this project allowed me to collaborate with other educators to learn and teach about different kinds of technology tools that exist for teaching and learning. It was motivating to try to use the new technology with lessons and to see how others were trying to use different technologies in their classrooms. The examples provided based on the integration models provided support on how different types of technologies could be used effectively to improve student learning.

Since the research completed on this assignment, I have been able to use *Thinglink* in the classroom to teach about maps in social studies and it was very effective. I still intend on using *Storybird* but have not used this yet with my students.  The knowledge gained on SAMR and the Thomas and Boysen Taxonomy will continue to be useful when developing lessons with technology.

**Artifact: Change Agent**

This artifact was already described above but was a big project that represents all of the indicators for the ISTE Coaching Standard Collaborator. This project involved reviewing research related to technology integration and becoming a change agent by redesigning an instructional unit to reflect change in appropriate technology use in the learning environment and allowed for collaboration in many ways.

All the ISTE for Coaches Collaborator indicators were met because the lessons being shared provided educators with an opportunity to explore new instructional strategies that incorporate digital tools and technology. It addresses the need of the young learners that we teach that live in a very digital world and provides them with a culturally relevant experience where they can explore and be engaged. Other educators that have used the lessons, were able to provide feedback and reported positive experiences with the usage of the additional visuals and opportunities for exploration. The lessons have provided a good model to other educators on how digital tools can be incorporated in lessons in the classroom to deepen overall understanding of the concepts being taught.

Again, these lessons were effective in the classroom to help boost the student engagement related to the content and overall learning. Students really enjoyed the lessons with the only challenge being managing time. I have enjoyed the collaboration components involved with this project.

**Standard #4: Learning Designer**

The ISTE Coaching Standard 4 is Learning Designer. This standard involves modeling and supporting educators to design learning experiences and environments to meet the needs and interests of all students. There are three artifacts that I have described, connected and analyzed covering all the indicators of this standard. These artifacts are Applying Learning Theories in Elementary Math, the Maker Project, and Change Agent Project.

**Artifact: Applying Learning Theories in Elementary Math**

The Assignment "Applying Learning Theories in Elementary Math" was an assignment that was completed individually for the course Intro to Learning Sciences in Spring 2022 with Professor Kenton. This course allowed us to look at approaches by scientists to study and design new learning environments. This assignment used different learning theories that were taught including behaviorist, cognitive, constructivists and constructionist theories to develop and reflect upon lessons or a unit used for instruction.

The lessons chosen for this assignment consisted of 5 math lessons with the overall learning objective of being able to add 2-digit numbers using tens and ones. The lessons were developed using techniques that reflect concepts from cognitive, behaviorist and constructivist theories. Throughout the paper, the lessons are described, and components of the lesson are described and identified based on their correlation to the different learning theories. The lessons identified have been taught to students in first grade in Harford County Public Schools since Spring 2022 using the components of the lessons described throughout the paper. They have also been shared with other first grade teachers at Magnolia Elementary in Harford County. As described in the paper, the audience includes about 20 first grade students of various ability levels and including students with IEP, 504 plans, and English language learning needs.

The assignment "Applying Learning Theories in Elementary Math" aligns with the ISTE standard learning designer and the indicator 4d of using design principles with educators to create effective digital learning environments. Some of the strategies in the design of these lessons incorporate various digital tools and games and are based upon the learning theories to help make instruction more effective. Examples of some of the digital components of the lessons are videos, songs, games and online programs for intervention.

I have taught these math lessons with my first-grade students since Spring 2022 and I can tell that the students are engaged based on the variation of strategies being used. It is developmentally appropriate for them according to Piaget's stages of development and it is shown through their understanding of assessments. Overall, this has been very effective, and I plan on to continue using this with students.

**Artifact: Maker Project**

The Maker Project was developed individually in the Summer of 2023 for the course Theory and Practice for Integrating Digital Resources into Learning and Teaching with Professor Sadera. For this project we were required to select a maker challenge that we could develop a solution to based on a design or project-based learning framework. Then we created the project, documented the project and shared with other educators on my website that I created. Reflection questions were answered based on the process and the experience.

For my maker project, I created a sand table to solve the problem of my children digging holes in the yard. I used the 4 C's of 21st Century Learning as my framework throughout the development of this project. The 4 C's consist of critical thinking, creative thinking, communicating and collaborating. All components of the framework were referenced throughout the creation of this project. Papert's perspective on personal thinking and Courous' work on growth mindset was applied to my actions throughout the activity. My kids still have this sand table, and it continues to solve our problem of them digging in the yard.

The Maker Project can connect to the ISTE Learning Designer standard with the indicator 4a of collaborating with educators to develop authentic, active learning experiences that foster student agency, deepen content mastery and allow students to demonstrate their competency. Through the sharing of projects and frameworks used to solve our problems, we were able to reflect on the process and inspire each other to develop these types of learning experiences for our students in the classroom.

This maker project was effective. It allowed me to learn about and experience using a design or project-based learning framework for instruction. I hope I can provide this experience to my students in the classroom when possible.

**Artifact: Change Agent**

This artifact was already described above meeting the Change Agent, Collaborator and now Learning Designer Standard for Coaches. As mentioned above, this project involved reviewing research related to technology integration and becoming a change agent by redesigning an instructional unit to reflect change in appropriate technology use in the learning environment. The revised lessons have been used and shared for instruction in my first-grade classrooms at Red Pump Elementary and Magnolia Elementary in Harford County Public Schools including a classroom of about 20 students with varying learning abilities. This project additionally allowed for learning designer indicators to be met.

The Change Agent Project meets many of the indicators for the ISTE standard of Learning Designer including indicators 4a, 4b, and 4c. It has met these indicators because the revised lessons that were shared with other educators in my schools in Harford County has allowed me to collaborate and provide active and authentic learning experiences to deepen the understanding of the concepts being taught. It has also allowed me to quickly assess students using the digital tool "Kahoot" which was very engaging to the learners. In addition, this collaboration has allowed me to better meet the needs of the learners in the classroom and their diverse needs by incorporating more elements of UDL in my instruction.

These lessons were effective in the classroom in terms of learning designer. I will continue to use them with my classes and share them with others while looking at my only challenge of having enough time by finding ways for us to have more time with the computer components that were incorporated. I strive to continue to use the instructional design components involved with these lessons in other lessons and content areas.

**Standard #5: Professional Learning Facilitator**

The ISTE Coaching Standard 5 is Professional Learning Facilitator. This standard includes coaches planning, providing and evaluating the impact of professional learning for educators and leaders to use technology to advance teaching and learning. There are three artifacts that I have described, connected and analyzed covering the three indicators for this standard. These artifacts are the Professional Learning Facilitator Plan and Presentation, the 4 Shifts Protocol Analysis, and the Digital Citizen Advocacy Project.

**Artifact: Professional Learning Facilitator Plan and Presentation**

As mentioned again, this artifact was already described as meeting many of the ISTE Standards for Coaches. The Professional Learning Facilitator Plan and Presentation involved creating a 3–5-year plan to address school or district technology integration issues and was aimed at being used at Annapolis Middle School to help educators. This project was developed with the collaboration of Drake Stockett (6th grade social studies) and Jeffrey Kirkpatrick (middle school band) educators in this instructional technology program.

This project meets all the indicators associated with the Professional Learning Facilitator Coaching Standard. The plan and presentation meet all the indicators for this standard because the design of the plan is based around the needs assessment that is given out to staff in the form of a survey. The ISTE standards for educators are used to address the needs of the staff and put into practice through the facilitation of the plan allowing for active learning. Then, feedback is given through follow-up trainings and an evaluation is given in the form of a post assessment survey.

As mentioned previously, this plan has not been implemented but could be shared with school leaders going forward to help educators gain a better general understanding of AI and how it could be used. I am sure it would be effective in just allowing time to explore new tools associated and would make a great PDP for teachers who are looking for helpful ways to incorporate differentiated materials to their students.

**Artifact: 4 Shifts Protocol Analysis**

This assignment was completed individually in fall 2024 with Professor Li for the Educational Leadership and Technology course. For this assignment, the 4 shifts protocol was used to redesign a lesson. The 4 shifts protocol is a discussion protocol used to assist educators when planning, redesigning or integrating technology into the classroom consisting of 4 categories including higher order thinking, authentic work, student agency, and technology infusion. The purpose is so that technology is not just being used for technology's sake and is being integrated with purpose.

This assignment looks at a social studies lesson that was recently redesigned through Harford County Public Schools and updated with technology components that I included to better meet the needs of learners with various learning styles.  The lesson has been used and is intended for a classroom of about 20 first grade students of various ability levels including IEPs, 504s, and English language learning needs. The lesson objective is that students will be able to analyze celebrations that are shared by a school community. Through the analysis of each of the 4 categories of the protocol, the lesson and the way that it was redesigned to incorporate technology is considered appropriate and meaningful for students. The lesson gave experiences in each category of the protocol and there were many strengths.

The 4 Shifts Protocol Analysis addresses the ISTE professional learning facilitator standard through the indicator of 5c involving the evaluation of impact of professional learning and making improvement to meet a schoolwide vision for using technology for high impact teaching and learning. This analysis connects to this indicator because it involves the evaluation of a lesson based around professional learning and uses the 4 shifts protocol to determine that it is appropriate and meaningful. This protocol allowed me to make improvements if needed and provided me with a way to further evaluate the technology that is being integrated within lessons to help create a schoolwide vision of appropriate technology usage.

The 4 Shifts Protocol Analysis was effective in evaluating the lesson and this protocol will further be used to determine whether the integrated technologies are meaningful and appropriate.

**Artifact: Digital Citizen Advocacy Project**

The Digital Citizen Advocacy Project was completed individually in the Fall of 2024 with Professor Li. This project models digital citizenship according to the ISTE standards addressing problems in the school community and how these problems can be solved. This project was designed with the intention of being presented to my school community at Red Pump Elementary in Harford County Public Schools.  This school has a diverse community consisting of students of different races, 20% FARMS, 25% multilingual learners and about 16% of students with disabilities.

Students in this school community all have devices that they are bringing to and from school daily. In our school nightly homework is assigned online. With students working online daily, teaching digital citizenship is very important to ensure the safety of our students.

This project meets the ISTE professional learning facilitator standard indicator 5b. This project presents digital citizenship breaking it down by the ISTE standard indicators. Problems that are faced through the usage of technology are presented and solutions on how we can address them as educators are given with examples. This can create an active learning experience for school communities that are using technology with their students.

With this project, I can advocate for the importance of digital citizenship and how we can provide lessons and examples to our communities regarding the ISTE standards. I have not shared this project with educators outside of this program, but it could be used, and I believe it will be effective in the future to advocate for teaching digital citizenship and to help other leaders address challenges through the usage of technology.

**Standard #6: Data Driven Decision Maker**

The ISTE Coaching Standard 6 is Data Driven Decision Maker. This standard involves coaches modeling and supporting the use of qualitative and quantitative data to inform their own instruction and professional learning. There are three artifacts that I have described, connected and analyzed covering all the indicators for this standard. These artifacts are a Research Proposal, Research Paper and Applying Learning Theories in Elementary Math.

**Artifact: Research Proposal**

My research proposal was developed in Spring 2024 for the course Research in Instruction with Professor McNary. For this assignment, a research proposal was written applying accepted procedures in qualitative and quantitative inquiry in the field of instructional technology.

My research proposal suggested a mixed-method research design that will answer the research question: *How does using digital game-based learning in the primary grades impact student achievement, classroom climate, and student engagement?*My literature review includes information on many studies that support the effectiveness of digital game-based learning (DGBL) and additional findings could be critical to how instruction is taking place. My study proposes research in my school at the time, Magnolia Elementary in Harford County Public Schools, with two classes of about 20 students with varying needs that are divided into 2 groups of similar ability levels and diversity. The proposed study is an experimental design study where one group will participate in DGBL 3 times a week for 20 minutes and the other group will act as a control group with traditional curriculum and no DGBL. The anticipated outcome of the study is that students who participated in DGBL will have greater gains academically, as well as being more engaged and having a more positive classroom learning experience. All the components are laid out in this proposal including a literature review, hypothesis, method, measures, procedure, design, data analysis, timeline, anticipated outcomes, and references.

The research proposal developed for this assignment aligns with the ISTE data driven decision maker standard meeting indicators 6a and 6b. The research proposal could be used to help educators and leaders in securely collecting and analyzing student data by laying out a plan and research design to conduct this research related to DGBL. The findings could be critical to how instruction is taking place to support the wide range of needs, learning styles and class sizes that are occurring in schools today. Also, this proposal could support educators to interpret qualitative and quantitative data to inform their decisions and support individual student learning. The proposal provides the researcher with a procedure on how data collection will occur and then could be analyzed in terms of the qualitative and quantitative data that is collected. The timeline and components for the measure are outlined in the proposed research design.

This research proposal has not been used for a research study yet, but I do believe that it could be beneficial for educators and leaders if it is ever conducted. I know the data gained from the study would be valuable in terms of planning lessons and designing curriculum for the future.

**Artifact: Research Paper**

This Research Paper was developed individually for the Informing Educational Practice course with Professor Shargel in the Fall of 2023. This course introduced the fundamentals of doing research and introduced different research approaches. For this assignment, scholarly articles were used to support the answer to a research question of my interest related to instructional technology.

This Research Paper is based around the research question: *How can using digital game-based learning in the primary grades be beneficial in the mathematics classroom?* The student context of this research was primary elementary students in mathematics and based off of my experiences with my class at Magnolia Elementary School in Harford County Public Schools while teaching 1st grade with a wide range of learners including students with IEP's, 504 plans and English language services. Using digital game-based learning (DGBL) in mathematics was helpful in being able to provide differentiation and immediate feedback to students and with this experience, I was brought to looking at this further through research and if using DGBL has been a proven effective strategy in increasing student achievement, developing a more positive classroom climate, and increasing student engagement in the classroom. Through my research, I was able to find that there are a lot of studies that support incorporating DGBL in the classroom involving benefits in all three of these areas. After gaining an understanding of the benefits, a vision for change was proposed in this assignment involving getting school districts and teachers on board for integrating more DGBL into the classroom, especially in the area of mathematics. A letter was drafted to get principals on board and in support of this change and a proposed implementation of how the change can occur through the mathematics curriculum in Harford County Public School in 1st grade was laid out for one math unit including an example lesson plan.

This research paper addresses the ISTE data driven decision maker standard by meeting indicators 6b and 6c. It meets these indicators by providing an analysis and interpretation of qualitative and quantitative data from research studies that are supportive of DGBL in the primary mathematics classroom. This analysis and interpretation regarding these studies can help to inform educators and their decisions to support individual learning. The research paper also helps to partner with other educators through the findings and the vision for change including the curriculum reform plan that is included. This plan outlines a math unit in first grade using the curriculum and resources provided through Harford County Public Schools. With examples of how DGBL can be incorporated into lessons regularly, educators can use this DGBL to empower students in their classrooms to use learning data to set their own goals and measure progress.

Overall, the research involved in this research paper is very valuable and has changed the way that I view my students and how they are learning in a more technologically advanced world. As a result of the findings, I do plan on continuing to use DGBL in my first-grade classroom, along with encouraging other educators to do the same. Sharing this research could be an effective way of encouraging others to use DGBL and technology with their students.

**Artifact: Applying Learning Theories in Elementary Math**

This artifact was already described above but additionally meets the ISTC Coaching Standard of Data Driven Decision Maker. As mentioned, this assignment was completed individually for the course Intro to Learning Sciences in Spring 2022 with Professor Kenton. This assignment was developed to better teach a group of about 20 first grade math students of varying ability levels including student with IEP, 504, and English learning needs. These lessons have been taught at Magnolia Elementary in Harford County Public Schools and incorporate many instructional strategies based upon the different learning theories.

This assignment also meets the ISTE standard data driven decision maker indicator 6c. It meets this indicator because the revised lessons have technology components where students can play games to reinforce the math skills being learned in class. By playing the computer-based games, students can receive immediate feedback on their answers. This allows educators who are using these revised lessons to be able to empower their students to set goals to beat their scores and measure their own progress.

As stated, I have taught these math lessons with my first-grade students since Spring 2022 and I can tell that the students are engaged based on the variation of strategies being used. It has been an effective way of empowering students to set goals and beat their own scores, along as being a way for students to measure their own progress. I will continue to use these lessons and similar computer-based activities to empower the learners in my classroom.

**Standard #7: Digital Citizen Advocate**

The ISTE Coaching Standard 7 is Digital Citizen Advocate. This standard involves coaches modeling digital citizenship and supporting educators and students in recognizing the responsibilities and opportunities inherent in living in a digital world. There are three artifacts that I have described, connected and analyzed covering the indicators for this standard. These artifacts are The Artificial Intelligence Integration Case Study, Digital Citizen Advocacy Project, and The Professional Learning and Facilitator Plan and Presentation.

**Artifact: The Artificial Intelligence Integration Case Study**

As stated previously, The Artificial Intelligence Case Study was a case study that looked at my current position in Harford County Public Schools as a first-grade teacher at Red Pump Elementary. This case study included an overview of my school, its population and the usage of technology. The population being diverse and consisting of students of different races, 20% FARMS, 25% multilingual learners and about 16% of students with disabilities. It further studied how the AI integration process is occurring, how leaders were involved and the effectiveness of the plan along with the challenges that are being faced.

This study additionally met the ISTE digital citizen advocate standard by meeting the first two indicators 7a and 7b. The study sheds light on the overall knowledge of AI in the school community through survey results. These results may inspire and encourage educators to look into using AI technology further by seeking out potential training to address risks and challenges. The study also stresses the importance of partnering with all members involved with the educational system in making decisions regarding AI including the risks that may be associated. This open communication between all members can help with fostering a culture of respectful online interactions and healthy balance of technology use going forward.

I do believe that sharing this case study could be an effective way of bringing AI and challenges associated with the integration of AI to our attention. This has not been presented to other educators in my school, however it could bring together all members in creating and ensuring a safe digital world for our students and teachers.

**Artifact: Digital Citizen Advocacy Project**

As mentioned above, The Digital Citizen Advocacy Project models digital citizenship and its importance based on all of the ISTE digital citizen advocate indicators. This project was designed with the intention of being presented to my school community at Red Pump Elementary in Harford County Public Schools.  This school has a diverse community consisting of students of different races, 20% FARMS, 25% multilingual learners and about 16% of students with disabilities. Students are using their laptop devices daily for instructional purposes and homework assignments.

The project addresses all indicators for ISTE digital citizen advocate because it shares examples of how educators can address civic engagement, respectful online interactions and healthy balance, examining online media resources, and protecting personal data and digital profile with users. Civic engagement is addressed through developing online flyers and meetings. Respectful online interactions and healthy balance can be taught and monitored with timers. It is shared that students should be given the opportunity to read through material found on the web to determine the credibility and beginning of the year lessons can be taught regarding personal data and digital profile.

As stated previously, this project has not been shared with my school, but it could be used to advocate for the importance of digital citizenship and how we can provide lessons and examples to our communities regarding the ISTE standards. I believe it will be effective in the future to advocate for teaching digital citizenship and to help other leaders address challenges through the usage of technology.

**Artifact: Professional Learning Facilitator Plan and Presentation**

With this project covering many of the ISTE Standards and indicators, it also meets one of the indicators for the Digital Citizen Advocate. As stated, this plan was aimed to be implemented in Annapolis Middle School which is part of Anne Arundel County Public Schools with students of varying backgrounds and most students coming from families of lower income including 95% of students who are eligible for Title 1 status. Additionally, this school has targeted groups of students who are English Language Learners, have IEPs and 504s. This plan provides educators with general knowledge on AI and tools like ChatGPT to generate content for lessons. Participants in the plan will be coached on using the tool to create community messages, authentic lesson materials, setting professional goals, collaboration, etc. and will save time by doing so. This plan and presentation was developed with the collaboration of Drake Stockett (6th grade social studies) and Jeffrey Kirkpatrick (middle school band).

The plan connects with the ISTE digital citizen advocate standard meeting indicator 7a. It meets this indicator because the professional learning plan encourages the training of educators to learn AI tools to help them with setting professional goals, advancing a shared vision, collaborating with colleagues, and designing authentic learning activities. Learning how to use AI for these tasks can help educators to address challenges to improve their communities.

As stated, this plan has not been implemented but could be shared with school leaders and I do believe it would be very effective in encouraging educators and students to use technology for civic engagement and to address challenges to improve their communities**.**

**Conclusion**

In conclusion, the collection of these artifacts through my coursework in the Instructional Technology Program at Towson University has helped me meet and address all ISTE Coaching Standards and Indicators. The description, relevance in connection to the standards, and analysis of the artifacts showcase my knowledge, practice and understanding involving instructional design and the integration of technology into the classroom. Technology has opened the door to many different possibilities when it comes to how we are teaching our students. Students have access to far more resources than they have had in the past. As an educator I will strive to continue to advocate for the usage of varying technology in classrooms, along with coaching and encouraging others. We can meet the needs of our students, motivate them and open so many new doors for teaching and learning.

References

ISTE. (2024). *Standards*. <https://iste.org/standards/>