![Nevada Future of Learning Network logo]

CASE STUDY

The ARTEMIS Project

Goldfarb Elementary:

Tresha Medina, Technology Specialist
Kimberly Tyler, Gifted and Talented Teacher

Digital Team:

Christia Osborn-Preston, Technology Specialist, **Roundy Elementary**
Jason Smith, Fifth Grade Teacher, **Ries Elementary**

What is your Design Challenge?

"The future belongs to a different kind of person with a different kind of mind: artists, inventors, **storytellers**- creative **holistic** 'right brain' thinkers."
-Dan Pink

Fundamental to the spirit of the Nevada Portrait of a Learner is that designers in a system have a right and a duty to produce stories which are authentic to their experiences. An indication of an **empowered** designer who is **connecting** with themselves and others, **thriving** in life, and **impacting** their communities, is one that is able to articulate their own ideas, perspectives, and opinions confidently. However, it isn't enough to simply tell stories. Designers must still be able to apply their storytelling prowess to find solutions and explore careers.

The use of digital tools and strategies in collaboration with durable skills is increasingly important given the rise of artificial intelligence. Designers will be called to analyze and evaluate their work in ways which differ from previous generations. As the economy of our state evolves, these **storytellers** will need to conceive stories using different mediums and archive their narrative processes to **share with their contemporaries**, **their teachers**, **post-secondary institutions**, and **potential employers**.

The state of [Nevada is currently investing resources](#) in esports. Many schools in our state boast esports teams or clubs and [this industry has a seemingly bright future in the state](#). In fact, [the esports industry has immense potential for careers worldwide](#). However, esports initiatives in our state tend to be concentrated in secondary schools. They also tend to be focused on the act of gaming, but what if we focused on game development in elementary schools? Instead of only playing games, what if we concentrated on expressing our storytelling through game development, a field with [few women creators and creators of color](#). Furthermore, can game development creation co-exist with curricular expectations presented by school districts?

Often absent from the data collected in schools are the authentic voices of designers. The "numbers" are devoid of the stories that produced them. Data is often presented with little or no demonstration of strategies that produced them or the rationale from the designers themselves. What if the processes, ideas, and artifacts that are created were organized and explained using the prism of the Portrait of a Nevasa Learner? What if these portfolios were presented in tandem with the results of traditional assessments and [standardized tests](#)? Would this present a more well rounded picture of what a designer might be capable of?

This endeavor sought to grapple with the following questions:

1. **How might we** encourage authentic storytelling which aligns with market trends and future forecasts for college and career readiness?
2. **How might we** embrace current curricular expectations in order to facilitate authentic storytelling?
3. **How might we** encourage designers to reflect on their processes and products using the Portrait of a Nevada Learner?

We designed the ARTEMIS Project to experiment with solutions to these questions. ***[View our artifacts here](#)***.

What did you do?

"**Storytelling** reveals meaning without committing the error of defining it."
-Hannah Arendt

The **A**uthentically **R**evealing **T**alents by **E**mpowering **M**indsets, **I**magination, and **S**torytelling Project (**ARTEMIS**) pilot involved two teams working at three sites. One, the team at [Goldfarb Elementary School](#), composed of Tresha Medina, a fifth grade teacher, and Kimberly Tyler, a Gate Specialist, explored storytelling through a video game development pilot. The second, coordinated by Christia Osborn-Preston at [Roundy Elementary](#) and Jason Smith at [Ries Elementary](#), focused on storytelling

through a portfolio process inspired by the Nevada Portrait of a Learner.

Goldfarb

The video game development pilot involved third grade and fifth grade designers producing their own video games inspired by their current ELA curriculum. These designers met every third day (C Day) of a five day specials rotation during their technology course. Classes lasted approximately 50 minutes. The course was co-designed by Medina, Tyler, and [Mike Lang](), Chief Innovation Program Officer at ed.Xtraordinary.

Initially, designers were led through activities which encouraged them to write and design creatively. They generated [emojis](), explored [prompt engineering]() using generative ai and [multimedia creation](). These activities primed designers to embrace the ambiguity of video game creation by building up their resilience and intellectual agility (thriving). These lessons also integrated the [ISTE Standards for Students]().

Designers were then given the task of creating an original game inspired by a story which appears in their ELA curricula. The story, [Octopus Escapes Again](), features science themes which reinforces [Next Generation Science Standards]() as well. Designers identified prey and predators in the story, prompted engineered alternative versions of the prey and predators, and presented their work.

Next, designers thought about what stories they might tell about the characters they conjured. These proto-stories became the first step in their video games. These stories were intentionally kept simple so that designers had the freedom to modify them or depart from the ideas totally. The goal was to make writing accessible and attractive to reluctant writers.

Using the proto-stories as a guide, designers began to explore [Bloxels](), an 8 Bit game development platform. In order to facilitate critical thinking and creative problem solving opportunities (impacting), direct instruction was limited to suggestions. [YouTube videos]() and collaboration with others was encouraged when obstacles to progress appeared. The presence of three senior designers in the classroom also positively impacted the project. This allowed many questions to be answered efficiently and for quick targeted mini-lessons to happen when necessary.

Once designers completed games, they were published and [available for play by the public](). An arcade day and public presentation of learning were arranged. During the arcade day, other learners from Goldfarb and their teachers were invited to play games and offer feedback. Designers also recorded a live podcast in front of classmates and community members explaining their products and processes. Community members were then encouraged to play games and question designers.

Digital Team

The Digital team was empowered to integrate digital portfolio strategies into their course in an attempt to ascertain the feasibility of these strategies with our youngest learners. The work at Roundy involved second grade designers in a technology course conducted by Osborn-Preston. The work at Ries conducted by Smith involved fifth grade designers. Both classes used [Spaces Edu]() as the digital portfolio tool.

Portfolio strategies were added to existing curricular expectations. It was important to investigate if these strategies were compatible with current pedagogical realities. The

technology course taught by Osborn-Preston used iPads and the iPadOS app of Spaces Edu. The fifth grade course taught by Smith used the web version of Spaces Edu.

In collaboration with Spaces Edu, the domains for the NV Portrait were added to the portfolio tool in the product. This tool was used to allow learners to reflect on their learning and to tag their artifacts to specific domains in the Portrait.

What was the biggest surprise/barrier in implementation? What was the impact?
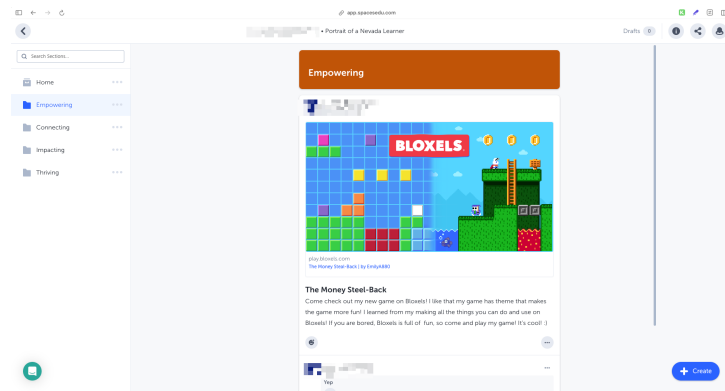
"The nature of **storytelling**, since the dawn of man, has a beginning, a middle, and an end."
-Matthew Gray Gubler

Goldfarb

1. **Experience didn't matter.** This inexperience advantage might have benefited designers as they seemed more apt to experiment with different processes and they were more open to collaboration. In fact, the senior designers had no previous experience with game development, but they were able to facilitate this project effectively.

2. **Collaboration as a feature**. Opportunities were scaffolded, most collaborative instances during this process were designer initiated. Whether a native speaker or English learner, regardless of gender or "academic performance," designers shared insights, beta tested games, and exchanged ideas whether prompted to or not.

3. **Hootie and the Blowfish didn't lie**… "Tomorrow's just another day and I don't believe in time." Despite being impacted by holidays, assemblies, and a 50 minute time limit to work per session, each designer was able to complete and publish their games.

Digital Team

1. **The Novelty Challenge**. The integration of digital portfolio strategies, at least initially, was challenging in that the process had to be scaffolded. Many designers had to overcome this feeling of novelty.

2. **The Technology Challenge.** At times, the Spaces app/website would become challenging to access. This could have been attributed to firewalls/restrictions at the school site, defaulting to the Canadian version of the product, and failure to login entirely.

3. **Fear of a Blank Page.** The portfolio tool included in Spaces was equipped with the domains (Empowering, Connecting, Impacting, Thriving), but no language which would encourage learners to reflect on how they might code their artifacts for inclusion in their portfolios. Both senior designers developed strategies to help with this reflection. In addition, the Portrait Mirror was created as the first step toward sparking reflection. It was inelegant and complicated. Feedback sessions were conducted with Spaces in order to improve this process in the future.

What was the greatest success? How did this success impact young people or how might it impact young people on your campus? What are their perceptions?

"Inside each of us is a natural-born **storyteller,** waiting to be released."
— Robin Moore

Goldfarb

The Arcade
On May 13th, 2024, designers presented their games to their peers and community members. Learners in each grade level as well as their teachers were invited to play the games in fifteen minute increments. Designers were available to answer questions and offer assistance. Furthermore, third grade designers recorded a live podcast presenting their experiences, ideas, and hopes for the future in game development. Community members and fellow designers were invited to ask questions and give commentary during this portion of the event as well.

Feedback from the designers indicated that the pilot allowed them to see themselves as creators, encouraged them to problem solve and collaborate, as well as gave them agency to be authentic in how they present their stories.

The Digital Team

It's Possible
Often concerns arise when exploring how compatible new initiatives are with current curricular expectations. Care was taken during the pilot to work within parameters of the existing programs in use. The portfolio process was integrated into a fifth grade classroom which utilized the HMH ELA program, Amplify Science curriculum, and the Saavas math curriculum as is required. Designers published and reflected on artifacts created within the specifications of the coursework.

At Roundy, the senior designer worked with second grade designers to create their portfolios. Though modifications were made to ensure ease of use, these designers were ultimately able to successfully contribute artifacts and reflections.

What's next? How does your team plan to evolve this work? What are the most significant pieces of learning you see impacting adult work and young people's experiences? What school level, district level, state level policy may need to be addressed?

"Great **stories** happen to t**hose who can tell them**."
— Ira Glas

Goldfarb

1. **STEM school.** Goldfarb has aspirations of achieving STEM school status in 3-5 years. A game development track in their technology special will support this effort.

2. **Medina Studios**. The technology special will focus on storytelling and video game development K-5. K-1 designers will utilize Bloxels as an application on iPads while designers in 2-5 will use the web version of the tool.
3. **Collaboration as a feature**. Using a design thinking process, designers will team in order to craft their stories. This will allow a greater focus on the cultivation of multimedia creation skills, project management processes, and implementation of financial literacy/ entrepreneurship skills.
4. **Archiving Artifacts.** The more systematic use of portfolios will be employed to allow designers greater time to reflect on their artifacts.
5. **Arcades.** Designers will present their games and rationale to other designers as well as a group of community members.

Digital Team

1. **Greater Pilot**. Given the success of implementation, a greater pilot using portfolio tools and strategies with a greater number of classrooms is warranted. This will allow greater variability and insight into how processes might be improved.
2. **Public Portfolios**. During this pilot, the viewing of a portfolio is only accessible to those in a classroom. How might designers publish artifacts so that they could be shared with community members and potentially employers?
3. **Guiding Questions.** Using the language of the Portrait and with inspiration from the competencies, senior designers will develop questions which will allow designers to reflect as they add artifacts to their portfolios. This will allow designers to take more control over their work and work processes.

Research + Resources that inspired and informed our thinking

"The engineers of the future will be poets."
— Terence McKenna

Goldfarb

1. [The Value in Storytelling in Learning](#)
2. [James Paul Gee on Video Games in Education](#)
3. [Jane McGonigal on Gaming](#)
4. [Insights into Gaming Demographics](#)

Digital Team

1. [Spaces EDU blog](#)
2. [11 Essentials for Digital Portfolios](#)
3. [Telling a Story Through Portfolios](#)
4. [The Importance of Portfolios](#)
5.