UDC 811.111-13
DOI: https://doi.org/10.31861/gph2024.848.149-161

STORYTELLING TO IGNITE LEARNING

СТОРІТЕЛІНГ ЯК ЕФЕКТИВНИЙ ЗАСІБ НАВЧАННЯ

Cecily TYLER[1], Sarah MOORE[2]

cecilyt@docutribe.org
https://orcid.org/0009-0009-9920-0638

sarahm@docutribe.org
https://orcid.org/0000-0003-2203-6568

Storytelling is as old as human communication. It is how communities kept and passed down their histories before the written word. For as long as there have been classrooms, teachers who wanted to connect with students have incorporated stories into their lessons. Today, teachers are navigating the complex realities of trying to keep students' attention in the digital age. They are competing with the influence of social media and ubiquitous use of smartphones.

In addition to these struggles, the effects of the worldwide pandemic and the realities of countries like Ukraine living through wartime on the state of global education, make it even more challenging to engage students. Teachers need additional tools to help students achieve critical outcomes and life skills.

There is significant qualitative confirmation regarding the efficacy of storytelling in learning. The article presents research findings of educators in various fields who have studied the efficacy of storytelling as a pedagogy. This article also details observed outcomes and advantages of digital filmmaking as a type of storytelling that is an effective teaching framework.

Digital storytelling is a dynamic and immersive tool that can help teachers foster lifelong learning skills in students. These include problem-solving, critical thinking, empathy and active listening, accountability, ethics, and integrity. Once learned, these skills and behaviors create the capacity to achieve further learning engagement,

Сторітелінг (розповідь) такий же давній, як і людське спілкування. Це спосіб, у який спільноти зберігали і передавали свою історію до появи писемності. З початку існування класів, вчителі, які хотіли налагодити зв'язок з учнями, використовували сторітелінг на своїх уроках. Сьогодні вчителі орієнтуються в складних реаліях, намагаючись втримати увагу учнів у цифрову епоху. Вони змагаються з впливом соціальних мереж і повсякчасним використанням смартфонів.

На додачу до цієї боротьби, наслідки світової пандемії та реалії таких країн, як Україна, що живуть у воєнний час, впливають на стан глобальної освіти, що робить залучення учнів ще більш складним завданням. Вчителі потребують додаткових інструментів, щоб допомогти учням досягти критично важливих результатів і набути життєвих навичок.

Існує чимало якісних підтверджень ефективності сторітелінгу в навчанні. У статті представлені результати досліджень педагогів у різних галузях, які вивчали ефективність сторітелінгу як педагогічного методу. У статті також детально описані результати та переваги створення цифрового кіно як різновиду сторітелінгу, що є ефективною основою для навчання.

Цифровий сторітелінг – це динамічний і захоплюючий інструмент, який може допомогти вчителям розвивати в учнів навички навчання впродовж життя. До них належать

Tyler C., Moore S. Storytelling to Ignite Learning. *Науковий вісник Чернівецького національного університету імені Юрія Федьковича. Германська філологія*. Чернівці: Чернівец. нац. ун-т ім. Ю. Федьковича, 2024. Вип. 848. С. 149-161. DOI: https://doi.org/10.31861/gph2024.848.149-161.

outcomes, such as leadership, community and innovation. Further, a consideration of how digital storytelling can help overcome recent challenges to the education system, such as COVID-19, is also included.
Keywords: *storytelling, digital storytelling, learning, classrooms, critical thinking, problem-solving, filmmaking, video essay.*

вирішення проблем, критичне мислення, емпатія та активне слухання, відповідальність, етика та доброчесність. Засвоєння цих навичок і моделей поведінки створює потенціал для досягнення подальших результатів навчання, таких як лідерство, участь у житті громади та інновації. Крім того, у статті розглядається, як цифровий сторітелінг може допомогти подолати нещодавні виклики для системи освіти, такі як COVID-19.
Ключові слова: *сторітелінг, цифровий сторітелінг, навчання, класи, критичне мислення, розв'язання проблем, створення кіно, відеоесе.*

I. INTRODUCTION

My career is as a filmmaker and storyteller. It has encompassed a range of subjects and types of collateral, from academic pedagogies to television episodes and investigative scientific documentary programming. I produced documentary series in high-maximum security prisons, on beaches in Mexico, and in haunted houses. I worked with government departments that address human trafficking in the United States (US) and The Netherlands to effectively document and report back on these harsh realities to help prevent them going forward. Most recently, I began working with students to teach them how to become filmmakers and storytellers. This paper is an examination of how I leveraged my experiences to eventually support effective teaching through storytelling and filmmaking with students, how others can do the same, and how today's educational systems can benefit from this type of framework for critical learning outcomes.

Through a serendipitous chain of events, I transitioned from being a well-paid TV producer to working for a small government agency in Boston that funded special schools supporting young adults ("youths") aged 16-24. These youths were representatives of varying backgrounds and nationalities who were out of school but also out of work. Most of the youths were navigating challenges like homelessness, drug rehabilitation, court involvement, and intimate and community violence. My assignment was to create instructional videos around "best practices" for teachers to leverage to better support these youths. However, I needed help due to the lack of funding for the project, so I turned to the youths themselves. What began as an endeavor to create tools to help advance learning became the tool itself. The youths enrolled in this agency started creating videos that helped the teachers help them and, in turn, helped themselves, as well.

Through this program, these youths became film "apprentices" who learned about empathy and self-determination through our work. For example, some of these apprentices were in gangs but now found themselves working with other students who had previously been their enemies. Other apprentices were young, single mothers who discovered they could balance working on a film crew, going to school, and taking care of their children. These situations manifested compassion for others and renewed self-esteem and empowerment throughout the process of completing our storytelling and film work.

While observing the positive effects of storytelling on the film apprentices, I continued to work on my first full-length documentary that was being filmed in Brazil. When finished, it would tell the story of a group of instructors (*mestres*) of *capoeira* (the Brazilian mixed martial art form) who were working with children and teens in the *favelas* of Sao Paolo to engage them in *capoeira* schools and away from gang life. The *capoeira* students deliberately became my crew because they were curious about the film equipment, and I wanted them to gain a sense of responsibility, agency, and engagement. Unfortunately, the project ran out of funding; however, after reconnecting with the

capoeira mestres and some of the students on social media, I discovered the project was far from over. The *capoeira* students seized the initiative and became the storytellers, incorporating what they had learned through our initial work and producing a few short films. They then shared their work with community organizations and government agencies and secured funding to help support the *capoeira mestres* and their program going forward. Through making their films, the *capoeira* students learned how to ideate and iterate until they got the desired results. While learning filmmaking, they learned to engage with others, make connections, and advocate for themselves and their programs.

It became apparent that in the making of these film projects, we were ultimately raising the voices of entire communities. The *capoeira* students and apprentices from the earlier program were not only learning how to tell stories about their communities and the systematic challenges within their lives but also how to improve their lives and their communities through the skills they developed along the way. This was the power of storytelling in shaping critical learning outcomes.

Storytelling has a long history of evoking both individual and societal learning and innovation (*Hughes, Oliviera & Bickford*, 2022; *Snyder, Hedland, Ingelsson and Backstrom*, 2017; *Tassinari, Piredda and Bertolotti,* 2017). Employed in the digital era, it opens new pathways for connection and learning thanks to technological advances and applying insights learned along the way about how powerful storytelling is in creating lasting learning experiences.

Yet storytelling remains underutilized and overlooked as a powerful tool that, when implemented, guides learners toward critical thinking and skill acquisition (*Smeda Dakich and Sharda*, 2014; *Bilici and Yilmaz,* 2024). Challenges our societies face in modern times, such as declining educational standards and outcomes, and the impact of global disruptions, such as the recent COVID-19 pandemic, can be better met through more widespread adoption of storytelling as a means of learning-specifically filmmaking. Traditional media, the kind that we see in spaces like Netflix, has a rightful place and is wonderful to watch. However, not every project needs an outsized budget to have an extraordinary, sustainable impact as a type of effective social innovation. Those who learn through storytelling find hope, agency, curiosity, courage, humor, and lessons that permeate their lives and others and that last a lifetime. Before exploring these outcomes and how we achieved them further, this paper explores the evidence that supports a long history of learning through storytelling through various media.

II. RESULTS AND DISCUSSION

History of Storytelling

The earliest physical evidence of human communication is visual depictions of stories. The drawings found in Chauvet Cave, France, dating back approximately 30,000 years, are some of the oldest visual representations of storytelling (*Mendoza*, 2015; *Landrum, Brakke, McCarthy*, 2019). The same is true of the hieroglyphs of ancient Egypt. These artifacts tell us stories about what life was like for these ancient people and what mattered most to them.

The oral storytelling tradition, however, perhaps dates back much further, possibly hundreds of thousands of years, evolving with the use of fire and people seated around their home fires discussing their lives (*Lauer*, 2022, p 5). Until the invention of written forms of language, storytelling was the device used to pass down histories from one generation to the next. Ancient storytellers intuitively understood what we are still learning today–stories are the best way to convey information. It is likely a capacity encoded somewhere in our DNA and reflected in our biology (*Bayer and Hettinger*, 2019).

The modes of storytelling since oral storytelling have evolved from the written word to the printing press to the creation of photography and film. Filmmaking has arguably been the most popular form of storytelling since its inception, possibly due to its constant transformation and flexibility of form. Films have evolved from the silent era to talkies and black and white to color and

encompassed genres from art films to blockbusters and scripted films to documentaries. With the advent of digital video in the late 20th century and the proliferation of smartphones with cameras in the 21st, the possibilities for the medium of storytelling seem infinite and open to all. Now, social media has taken people full circle to a new age of oral storytelling on a simultaneously personal level with the potential to be dispersed on a global scale—around a "digital campfire" that anyone in the world can join–created through a camera on their phones. Modern filmmaking can then be referred to as "digital storytelling."

The Science of Storytelling

The effectiveness of storytelling in learning begins with the science behind it. To begin with, all of the information we encounter during the day and how we communicate—facts, figures, instructions, conversations, emotions—is processed by language centers of the brain, known as Broca's and Wernicke's areas (*Peterson*, 2017). These areas take in information like a list or scrolling data and then reorganize it into a context resembling a story that the brain can better process and comprehend (*Peterson*, 2017). The more context the incoming information has, the more it is retained. This is an old but highly-evolved system that enables us to be effective communicators.

Then, when we hear a story, the sensory cortices and the emotional centers in the human brain become engaged (*Peterson, 2017; Stephens, Silbert, and Hasson,* 2021). We are not just hearing the words, we are experiencing them. We feel that soft sand beneath our feet, smell the fresh bread baking, and hear a violin as the bow moves gently across the strings, beautifully piercing silent air. Some neuroscientists call this sensory connection "neural coupling" (*Stephens, Silbert, and Hasson,* 2021). As technology and science continue to advance, more theories and answers will emerge regarding the science of storytelling. This emotional resonance helps people retain information better and recall it more easily when needed.

How Storytelling Influences Learning

Stories have always been with us. Stories are how we form connections with others and share information we want others to remember. The art of storytelling, therefore, can be a powerful tool in the modern classroom toward critical learning outcomes.

Think back to those lessons that have stood the test of time. Undoubtedly, the teacher conveyed those lessons in the form of stories. One of the goals of education is that information learned in the classroom is retained and carried forward throughout students' lives. When teachers use storytelling to relay information, students become engaged with the material in a way that does not happen in the traditional classroom format of memorizing facts and figures. Stories are an effective learning tool because they create interest, generate enthusiasm for problem-solving, and make those "facts and figures" more memorable (*Green*, 2004; *Smeda, Dakich and Sharda*, 2014; *Hughes, Peterson, 2017; Oliveria and Bickford,* 2022; *Bilici and Yilmaz*, 2024).

An ultimate educational goal is for students to leave the classroom with the desire and understanding of how to continue learning independently. Storytelling, when used as a pedagogical tool, can help develop deeper levels of learning and the behaviors that promote learning. The engagement and connections created by storytelling can ignite a desire to learn, which is observed within students who display curiosity and the proactive engagement of critical thinking, evaluative skills, and research abilities that support curiosity, especially as students enter new chapters of their lives (*Blue*, 2022; *Hernandez,* 2023; *Hwang, Zu and Wu,* 2023).

Stories are a vehicle for engaging students in more profound learning and encourage critical thinking and problem solving. Presenting students with circumstances, such as a body of research, and having them build a narrative that tests different outcomes until they uncover the answer. This manifests innovative thinking wherein the students discover what they most want to see "play out" and how to achieve it. This, in turn, creates even more excitement around learning as students learn critical thinking and decision-making.

Digital storytelling in the classroom. There are multiple ways of leveraging storytelling in the classroom. Though a full review of the research around generalized storytelling is beyond the

scope of this specific paper, some of that research explicitly supports a focus on digital storytelling. In addition, what constitutes digital storytelling often needs to be defined. For this paper, digital storytelling refers to any story in a digitally created format, such as short films, feature-length films, documentary or fiction-based filmmaking, videography, and video essays.

Advantages of video learning. We live in a digital age, immersed in continuously evolving technology. For today's students, smartphones allow them to access a world of entertainment at their fingertips: friends, gaming, TV and movies, and social media, where people are constantly sharing their stories with the world. How, then, can traditional teaching formats begin to compete? The simple answer is that it cannot in many ways. Many educators are incorporating digital learning, including digital storytelling, to recapture students' attention and interest (*Robin*, 2006; *Smeda, et al.,* 2014; *Robin*, 2016). Instead of trying to get students to put their phones away in class, some teachers create lessons that utilize smartphone apps and social media (*Abe and Jordan*, 2013; *Rutledge*, 2024). This strategy also provides the opportunity to teach students how to critically approach social media and its content.

Using social media in the classroom is still an emerging practice. While some educators embrace it, others are still skeptical. As it evolves, more information will emerge about efficacy and best practices. Thus, the practice will continue to evolve, especially in the modern classroom.

The Underutilized Potential for Storytelling in Classrooms

Storytelling is well-documented as an effective lecturing tool to capture students' attention and keep them engaged (*Green*, 2004; *Robin*, 2006; *Smeda, Dakich and Sharda.,* 2014; *Robin*, 2016). Nevertheless, there is further potential in these often-unrealized techniques: bringing students into the narrative, encouraging them to create their own stories, and creating opportunities for cooperation and collaboration among students when they create stories together. In these circumstances, storytelling supports teaching critical thinking, problem-solving, active listening, and building empathy, as described below. It can inspire and assist self-directed learning (*Kim*, 2014; *Baim*, 2015). Stories can help teach and support accountability, ethics, and integrity. These skills and behaviors, fostered by storytelling, are the foundations of learning that often stay with students beyond the classroom and act as life-long tools.

Self-directed learning. Much of the research in this area has concentrated on second language and online learning applications. Practicing language skills using digital storytelling allows students to monitor their progress, self-assess where they need improvement, and increase motivation as they track their improvement (*Kim*, 2014, p 26-27). When moving from traditional classroom settings to online and remote settings, self-directed learning skills often need to be rebuilt for new environments and methods of information delivery (*Chu and Tsai*, 2009; *Chu, Chu, Weng, Tsai, and Lin*, 2012 as cited in *Baim*, 2015, p 50). The familiarity of context in personal digital stories can help students make that transition. Digital storytelling can help all learners create personally defined (self-directed) learning spaces, which empower them to assess and redirect their learning toward the elements that need attention (*Baim*, 2015, p 50).

Problem-solving. Storytelling and problem-solving have always been intrinsically linked. Lectures use stories to illustrate how to reach solutions to complex problems. The storytelling framework can help students navigate complex issues or situations and reach their own conclusions. Project-based learning does teach problem-solving, so what is the specific significance of storytelling? Researchers sought to answer that question in a qualitative study comparing project-based learning with project-based assignments overlaid with digital storytelling (Hung, 2012). The results showed that the students who combined their projects with storytelling improved their "learning motivation, attitude, problem-solving capability, and learning achievements." (p 376). The students in the experimental group also enjoyed the assignment more and thought it was more helpful because of the storytelling aspect.

Critical thinking as both a skill and a behavior. American philosopher and educator John Dewey is credited with coining the term "critical thinking" in 1910, to describe how humankind reasons and decides. As we are plunged headfirst into the digital age, the ability to think critically is more important than ever in our history. Adults and children alike require the skills to question and evaluate the overabundance of information, the realities of misinformation and disinformation, and the popularization of generative artificial intelligence (AI). To ensure students have the skills needed to navigate the 21st century, a curriculum focused on core subjects, critical thinking, learning motivation, and information literacy was advised over a decade ago *(Partnership for 21st Century Skills, 2004; Crane et al., 2003, Eisler, 2006;* and *Robin, 2008* as cited in *Yang*, 2012, p. 349). Those skills are needed to navigate modern challenges students may face now or in the future. Storytelling, in particular digital storytelling, may be an optimal vehicle to achieve these learning goals.

Deeper learning as both a skill and behavior. Storytelling provides opportunities for students to engage with subject matter on a deeper level (*Smeda, Dakich and Sharda.,* 2014). Stories motivate students to engage with subject matter directly, engage with each other, participate in peer learning, and provide a greater sense of control over their learning.

Empathy through "active listening" as both a skill and behavior. Stories create empathy (*How to Use Stories to Help Kids Develop Empathy*, 2021; *Kitterman,* 2023). This is at the core of what makes stories so effective. When we hear a story and connect with the storyteller's experience, and that action elicits empathy. The more the details are relatable, the more we tend to empathize.

Before we can empathize, we have to listen. Even more, students must engage in "active listening," which is defined as blocking out distractions, quieting the mind, and giving full attention to the speaker–or storyteller–in a given situation. Active listening often entails repeating essential points back to the speaker or paraphrasing and asking pertinent questions that show how well they were listening.

Active listening is also a pivotal component to building compassion and trust. Sharing digital stories in a classroom provides opportunities to practice and build active listening and empathy skills, as well as how to create more relatable stories to connect people toward common goals.

Ethics and integrity. Storytelling is the ultimate catalyst for teaching lessons that stand the test of time–this was true of oral histories, such as Aesop's Fables (1484), and it is true today. Teachers can use stories to illustrate ethical and unethical behavior and the merits of integrity. Students can also learn these lessons independently as they navigate the creation of stories, or in a group setting, as they discuss points of agreement and not. Students learn how to decide what information to share, when to protect it, and how to be transparent in their process.

Accountability. Accountability is vital when you tell a story, especially when you have the privilege of telling someone else's story. For example, if a story is told about the trials and tribulations of a young person's life, if the story ends on a sad and despairing note (as is in the case of many exposés) it may leave people feeling unempowered and defeated. However, sharing an ending where the person finds a resolution to the trials they experience will more than likely encourage them to overcome obstacles.

Caring. This is the next progressive step from empathy. It develops as students engage on deeper levels with the subjects of their stories and become more emotionally involved. For example, students may empathize with a story about homelessness. If empathy leads them to create a volunteer project to help a local homeless shelter, that exhibits caring. Further through the project, they may hear stories directly from people experiencing homelessness, and caring grows. It also leads to "serving through supporting," which is described next.

Serving through supporting. Storytelling in the form of documentary filmmaking and video essays will often bring storytellers to community engagement. Those stories can progress to become tools to support those communities by bringing attention to needs, inequities, and other issues. It is a powerful form of service that often has the outcome of supporting the community.

Trust. The idea of creating and building trust through storytelling can mean multiple things in filmmaking; for example, it is creating trust between a film crew and director or creating trust within the community involved in helping to give access to spaces and people for the film. Finally, creating trust is an interaction with the audience. If the audience believes in the speaker's intentions and can see transparency and vulnerability in their work, the speaker will garner their trust. The same is also true in the classroom. Sharing stories, particularly personal stories, is about being vulnerable and trusting that the audience will accept and respect what is shared. Trust is created by embracing all the above facets of storytelling. One way to instill these behaviors in today's students at all levels of learning is to utilize storytelling, particularly digital storytelling, as a pedagogical tool.

Storytelling to Ignite Learning

The past several years have been a uniquely challenging time on a global scale, affecting every aspect of life, including education. The pandemic caused educational disruption worldwide, and schools are still struggling to recoup learning losses, which are explored further below. While trying to bring students back to their grade level of studies, schools are also navigating the emotional impacts left in the pandemic's wake.

A Brief Look at the State of Education Globally Before COVID

In the years leading up to the COVID-19 pandemic, there was predominantly positive movement in the state of education globally. According to the OECD's Education at a Glance (2019), in 2018, an average of 44% of 25-34-year-olds, globally, attained a tertiary (bachelor's level) degree, compared to 35% in 2008. These increases were not only in higher education, but also in secondary levels. Graduation rates in upper-secondary education (high school) increased from 80% in 2005 to 86% in 2017. A compilation of data from OECD, UNESCO, the World Bank, and academia, shows sustained progress from basic literacy to formal education over the last century through the pandemic's beginning (*Ritchie, Samborska, Anuja, Ortiz-Ospina and Roser, 2023*). There were some areas of educational disparities, but the collective direction was toward improvement. Then came COVID-19.

A Brief Look at the State of Education in the Post-Pandemic Era

The state of education globally in the wake of COVID-19 could potentially be named as "a new human crisis" (*Asadullah, Bouhila, Chan, Draxler, Heyneman, and Yemini*, 2023) mostly due to the quick shift to virtual learning or cessation of school altogether. According to UNESCO, 1.5 billion students across the world were impacted, with the most vulnerable learners experiencing the most adverse impacts (*UNESCO*,2023). The collective concern is not just about the schools that continued to stay closed throughout most of the pandemic but also the schools that reopened without sufficient assessment or policies to address preparedness to deal with the learning loss or "learning poverty" that had taken place during the shutdowns (*Asadullah*, 2023, as cited in *Asadullah, Bouhila, Chan, Draxler, Heyneman, and Yemini*, 2023). Many countries and districts that stayed closed the longest were already behind due to poverty levels and other obstacles, meaning their state of learning poverty is even more dire.

In the US, new statistics show continued and growing absences from school, which may further hinder educational gains post-pandemic. According to a report published in The New York Times (2024), chronic absenteeism grew from 15% in 2019 to 26% in 2023 (*Mervosh and Paris*, 2024). Those numbers increase to 32% in the poorest districts and 30% in the majority non-white districts. The explanation for this trend is the changes in habits during the pandemic. Higher rates of anxiety among school-aged students are also a primary factor, with students choosing and being allowed to stay home more often in this new relationship to attendance created by COVID.

There are also concerns about continuing student absenteeism post-pandemic in other areas of the world. New Zealand reports that only 53.6% of students regularly attended class in the last portion of 2023, and 40% of Norwegian principals are concerned about school absenteeism (*Kerr-Laurie*, 2024). The UK is reporting a 50% increase in absences post-COVID, and many countries,

including Peru, Mexico, Bulgaria, and France, reported that 10-13% of students were absent for three consecutive months during the pandemic, per the OECD's 2022 Programme for International Student Assessment (*Kerr-Laurie*, 2024). Canada is also reporting increased absenteeism in different regions of the country (*Carman and Wesley*, 2024).

This overview is a broad look at the impacts of COVID-19 on learning that only skims the surface. The introduction of storytelling into curriculums would serve to help alleviate the effects of this disruption on multiple levels, including navigating individual well-being, grief and loss, and more profound mental health realities that have increased due to the pandemic.

In some areas of the world, such as Ukraine, the pandemic was not the only disruption to daily life and education. Ukrainian students—both at home and forced to seek safety abroad– struggle to navigate life and learning in wartime. Theirs is a collective trauma experienced on a national and individual level which storytelling can help navigate. (*Rosenthal*, 2003; *Aho*, 2014; *Brewster*, 2022).

Digital Storytelling as a Pedagogical Tool to Support Learning

The concept of using digital storytelling as a pedagogical tool is not new. Its utilization until recently, however, was prohibitive due to its expense: it required video equipment, sound equipment, and costly editing software that often could only be utilized on even more expensive platforms, rendering it unfeasible in most teaching environments as the digital age evolved (*Smeda, Dakich, and Sharda* 2004; *McLellan*, 2006). Therefore, leveraging video and filmmaking creation as a teaching tool was, until recently, a luxury available only to highly funded film classes. While the evolution of the digital age has brought many complex problems, including the increasing struggle to engage and teach each new generation of students, it has also provided a solution. Every computer, not to mention every smartphone, can now be used to create digital stories.

Using digital storytelling in the classroom as a pedagogical tool creates layers of learning. Students learn technical skills at the first level (*Hernandez*, 2023). They learn how to use camera skills specific to a video-based project, for example, how to frame a shot, audio recording skills, and editing. Working with this technology and these digital platforms helps motivate them to learn and creates opportunities for collaboration.

Digital storytelling is also one of the best ways to develop the learning skills and behaviors listed above (*Smeda, Dakich, and Sharda,* 2004; *Landrum, Brakke, and McCarthy*, 2019). No matter what the learning environment requires, storytelling consistently can enhance the opportunities for students to learn those behaviors and skill sets and utilize them to advance to other critical outcomes, such as leadership, community engagement, and innovation.

Pedagogical Outcomes of Digital Storytelling: Leadership, Community Engagement, and Innovation

Utilizing digital storytelling in the classroom can lead to many pedagogical outcomes. Leadership, community engagement, and innovation emerge as universal to storytelling, filmmaking, creating social change/impact, and being an engaged participant in the world.

Leadership skills and behaviors are the same as those for learning list above: active listening, problem-solving, critical thinking, ethics and integrity, accountability, empathy, caring, and serving through supporting. A true leader never stops learning and growing. True leadership is not a position; it is a behavior.

Community Engagement is often synonymous with community organizing, which is, according to Harvard Kennedy School professor and grassroots organizer Marshall Ganz (2014), "leadership that enables people to turn the resources they have into the power they need to make the change they want" (*Ganz,* 2014, p.4). However, community engagement is often less "organized" and more broadly applicable. Modifying Ganz's definition accordingly, a definition for community engagement that the authors are using for this paper is: using leadership skills to build trust and opportunities for collaboration to help people turn their resources or capabilities into the abilities they need to make the changes they want.

Community engagement combined with digital storytelling will often immediately evoke the image of a documentary film or video essay about community organizing, but this is not its only application. Community involvement can occur in a village, neighborhood, school, classroom, or online. Students interact daily with their "communities," including their class, family, friends, sports teams, after-school job co-workers, and social media connections. The intent is that the skills and behaviors they refine through storytelling may serve to improve all of their interactions and outcomes.

When people think of innovation, they think of tremendous breakthroughs in business or science that contain lots of bells and whistles. Innovation is also a creative solution to an existing problem that does not require bells, whistles, and large amounts of funding. This type of innovation often uses storytelling in its ideation process (*Beckman and Barry*, 2009). When used as an iterative framework, storytelling is a vehicle for creative problem-solving and innovation that is both inexpensive and can support systemic and behavioral change. Storytelling supports a change of heart, which motivates a change in mindset and compels motivated action, as is demonstrated in the Ugandan social innovation project described below.

Storytelling and social innovation. A video essay project developed to help facilitate social impact and support innovation in impoverished Ugandan communities is an example of all these learning outcomes utilized together to create more stories and continue the learning cycle. A non-government organization (NGO) based in Uganda wanted to empower residents in impoverished villages to become self-sufficient, more collaborative, and collectively self-sustaining. Making inroads into working with the locals and governments, however, was difficult. The head of the NGO learned about the author's work on creating social change through storytelling, specifically filmmaking. They requested help to launch a pilot program based on storytelling to introduce the new practices. Through this partnership, the NGO supplied the villagers with smartphones and began teaching them storytelling and digital filmmaking. Simultaneously, the NGO slowly introduced new farming methods, sustainable crops, and ways to sell goods. The villagers-as-filmmakers documented this process. Seeing the techniques and progress on film as the story developed encouraged the farming community to keep learning new ways to support themselves and improve their skills. Once completed, the NGO shared the video essays with other villages and local governments. New participants joined the program as a result and created their own video essays. The project grew from one pilot farming community of 20 families (100 villagers) in its first-year nascent stages to reaching over 200,000 Ugandans in three years. Below expounds upon how this project developed leadership, community organization, and innovation outcomes.

Leadership. The NGO exhibited true leadership in its efforts to help these communities. It was caring and accountable to the farmers' needs on all levels. The NGO problem-solved not only the solutions for creating self-sufficiency but also exhibited empathy and active listening to understand that an innovative approach to integrating its solution would be required.

In a classroom that utilizes digital storytelling, learning leadership skills in a conventional sense is essential because most projects are conducted in groups and, just like on a film set, someone needs to act in a leadership role. Leadership, and all the skills and behaviors it embodies, are also applicable on an individual level. Everyone can guide themselves with the same learning skills and behaviors, whether as a storyteller working alone in a creative space or pursuing any course of study or profession. They are crucial in every classroom, workplace, and our everyday lives. In the digital age, everyone can strive for these learning outcomes to lead ourselves through the haze of information, misinformation, and disinformation we are required to navigate on a daily basis.

Community Engagement. To find the correct way to support sustainability, the NGO had to learn to engage correctly with villages, churches, and surrounding government organizations. Exercising the leadership outcomes helped to build trust and collaboration.

Through community engagement, individuals and teams can continue to develop all the behaviors and skills learned through storytelling and nurtures trust and collaboration in all of their interactions. This helps to sustain positive social impact.

Innovation. The NGO knew they had to be innovative to bring the communities on board with new farming methods, sustainable crops, and ways to collaborate. They were looking for something to capture their attention and pique their interest. Introducing digital filmmaking, giving the farmers both a way to observe and have a narrative voice in their own journey, became the solution.

The outcome of the Uganda project is an example of how digital storytelling can meet communities where help is needed (and wanted) and use the learning outcomes to lead, engage, and innovate change. Digital storytelling can also do the same for students on an individual level in the classroom.

Table 1

A summary of skills and behaviors acquired through digital storytelling

Super Ordinal Outcomes and their Respective Skills and Behaviors			
Outcomes of learning skills and behavior	**Leadership**	**Community Engagement**	**Innovation**
Key skills and behavior for those outcomes	*Trust, which stems from:* *Active Listening* *Critical Thinking* *Problem-Solving* *Ethics and Integrity* *Accountability* *Serving through Supporting* *Caring / Empathy*	*Trust* *Collaboration* *Active Listening* *Critical Thinking* *Problem-Solving* *Ethics and Integrity* *Accountability* *Serving through Supporting* *Caring / Empathy*	*Creative Critical Thinking* *Utilizing:* *Active listening* *Problem-Solving* *Empathy* *Ideation*

Digital Storytelling to Help Meet Students Where They Are "At"

Students are often in different places in their lives and learning processes but may not be able to express what help they need, or even be consciously aware. Utilizing digital storytelling in the classroom provides students with a familiar space in which they want to engage and in turn provides teachers with the means to meet students where they are "at." Where a student is "at" can refer to their academic confidence, learning abilities or emotional state, or other factors.

For every student, meeting them where they are means they know that they are safe in their classroom and with their teachers. This happens when they know that teachers truly see them and are actively listening. By using digital storytelling as a form of self-expression to communicate their own stories, students can help ensure that their teachers can empathize and understand who they are as individuals. This is the science of storytelling on its most basic level.

Digital storytelling can also help students who are experiencing disruption, trauma, or bereavement communicate how they are feeling on a given day. The safety of the digital storytelling space–as discussed, its familiarity and a place where students want to express themselves–can be more effective than direct communication. In the wake of COVID-19, many students could be currently navigating one or all of these realities.

One of the classes that inspired this article was a filmmaking class taught remotely in Ukraine in 2023. Learning during a time of war was an experience shared by all the students. One common struggle specific to this class was that due to the war and the subsequent compulsory shift to remote learning, the students had to source all of the necessary filmmaking equipment and software independently (whereas under normal circumstances, classrooms supply equipment). The project

groups were also scattered in their homes and needed to find ways to meet in person that an in-classroom course would traditionally support.

For the final project, the students created films reflecting their homeland. The topic was shared, but the stories told varied in content and format. The short films created ranged from scripted podcasts about Ukraine culture to casted dramas about university friendships strained by the realities of war to dramatic retellings of Ukrainian folklore. These choices and the finished films helped the teacher and fellow students better understand how they were all navigating the realities of living through wartime.

How to Introduce Digital Storytelling into the Classroom

Teachers and professors will need to be thoughtful about how they introduce digital storytelling into a classroom. For formalized filmmaking classes, they will want to start with scoping details of the project. The first tasks would also include: allowing for a short training time, choosing a short versus long film subject, working within a small budget, and choosing film locations (see appendix).

In classrooms, remote or in person, not traditionally focused on filmmaking but looking to incorporate digital storytelling as part of its curriculum, teachers first want it to be leveraged as a tool, not create a disruption. Start simple. Before the class commences, ensure everyone can access a smartphone or other video recording devices. Leave enough time to find creative solutions and additional resources, if needed.

The first class would focus on skills with the equipment. Learning how to use the technology is a part of fostering those behaviors and skills. The assignment can be to take a series of photos or a short film. The second class can discuss the choices made and then focus on learning to choose and frame shots for the story they want to tell.

Brainstorming could be the focus of the next class, including how to brainstorm ideas. It would also be a good point to ask students to consider whether they want to work in groups or create projects individually. Some students will be more comfortable collaborating, while others will choose to work alone.

The following class would discuss the viability of the ideas produced from brainstorming. Some of the topics of that conversation would be: what format is best for the story idea (documentary, video essay, photo essay, scripted film, or other vehicles); what the needs are for creating this story (for example, crew, cast, script, interview questions, interview subjects, locations, props, and permissions); and, what would be the next steps. These discussions are opportunities that link back to those essential learning skills and behaviors.

These classes could progress to cover topics such as storyboarding, scripting, casting, props and costuming, how to conduct an interview and community engagement (for documentaries), setting up cameras for different formats, audio, and editing. Designate several separate classes for shooting days and editing time (see appendix).

Research and resources exist for teachers who want to learn digital storytelling and filmmaking for classrooms (see appendix). When planning the curriculum, consider integrating flexible time for group learning, and guest lecturers and teachers into the schedule.

III. CONCLUSION

Incorporating digital storytelling into the classroom can help capture students' attention and get them excited about learning in the digital age. Appropriately utilized, storytelling can foster skills and behaviors that students will carry into their classrooms and their personal and professional lives. Learning outcomes from digital storytelling can foster curiosity and the learning skills and behaviors that follow support deeper continuous learning. Digital storytelling can help nurture better leaders, citizens, and social innovators for tomorrow. As the digital age continues to evolve, the world needs storytellers, leaders, and learners who can successfully manage what comes next.

REFERENCES

Abe, P., & Jordan, N. A. (2013). Integrating social media into the classroom curriculum. *AboutCampus*, *18*(1), 16-20. Retrieved from https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.787203/full

Aho, Keri Lawson-Te. "The healing is in the pain: Revisiting and re-narrating trauma histories as a starting point for healing." *Psychology and Developing Societies* 26.2 (2014): 181-212. Retrieved from https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d386aca4795f44c2adae062e1dfdbc0da417d8df

Asadullah, M. N., Bouhlila, D. S., Chan, S. J., Draxler, A., Ha, W., Heyneman, S. P., ... & Yemini, M. (2023). A year of missed opportunity: Post-COVID learning loss–A renewed call to action. *International Journal of Educational Development*, *99*, 102770. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10036080/

Baim, S. A. (2015). Digital Storytelling: Conveying the Essence of a Face-to-Face Lecture in an Online Learning Environment. *Journal of Effective Teaching*, *15*(1), 47-58. Retrieved from https://files.eric.ed.gov/fulltext/EJ1060431.pdf

Bayer, S., & Hettinger, A. (2019). Storytelling. *Bulletin of the Ecological Society of America*, *100*(2), 1-6. Retrieved from https://esajournals.onlinelibrary.wiley.com/doi/pdfdirect/10.1002/bes2.1542

Beckman, S., & Barry, M. (2009). Design and innovation through storytelling. *International Journal of Innovation Science*, *1*(4), 151-160.

Bilici, S., & Yilmaz, R. M. (2024). The effects of using collaborative digital storytelling on academic achievement and skill development in biology education. *Education and Information Technologies*, 1-24. Retrieved from https://link.springer.com/article/10.1007/s10639-024-12638-7

Blue, J. (2022) "The Engine of Achievement: The Role of Curiousity in Learner Engagement." *Cambridge.org*. Retrieved from https://www.cambridge.org/elt/blog/2022/02/22/engine-achievement-role-curiosity-learner-engagement/

Carmen, T. and Wesley, A. (2024). "Kids missing more school since pandemic, CBC analysis finds." *CBC News*. Retrieved from https://www.cbc.ca/news/canada/school-absence-data-1.7156254

Dewar, J. "The Information Age and the Printing Press." Rand.org, 1998. Retrieved from https://www.rand.org/pubs/papers/P8014.html

Ganz, M. (2014) "Organizing: People, Power, Change." Retrieved from https://actionnetwork.org/user_files/user_files/000/041/455/original/organizing_people_power_changeadaptedfromMarshallGanz.pdf

Green, M. (2004) "Storytelling in teaching." *APS observer* 17 (2004). Retrieved from https://www.psychologicalscience.org/observer/storytelling-in-teaching

Hernandez, M. (2023) "The Power of Digital Storytelling." *Association for Supervision and Curriculum Development.* Retrieved from https://www.ascd.org/elu/articles/the-power-of-digital-storytelling

How to Use Stories to Help Kids Develop Empathy — Making Caring Common. (2021). Making Caring Common. Retrieved from https://mcc.gse.harvard.edu/resources-for-families/develop-empathy

Hughes, J. M., Oliviera, J., & Bickford, C. (2022). *The Power of Storytelling to Facilitate Human Connection and Learning*. Retrieved from sites.bu.edu. https://sites.bu.edu/impact/previous-issues/impact-summer-2022/the-power-of-storytelling/

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A Project-based Digital Storytelling Approach for Improving Students' Learning Motivation, Problem-Solving Competence and Learning Achievement. Educational Technology & Society, 15 (4), 368–379.

Kerr-Laurie, B. (2024). "School Absenteeism as 'complex phenomenon' for many countries, not just NZ."

The Press. Retrieved from https://www.thepress.co.nz/nz-news/350259456/school-absenteeism-complex-phenomenon-many-countries-not-just-nz

Kim, S. Kim, S. H. (2014). Developing autonomous learning for oral proficiency using digital storytelling. *Language Learning & Technology* 18(2), 20–35. Retrieved from http://llt.msu.edu/issues/june2014/action1.pdf

Kitterman, T. (2023). *How Employee Storytelling Helps Build Empathy at Work*. Great Place To Work. Retrieved from https://www.greatplacetowork.com/resources/blog/how-employee-storytelling-helps-build-empathy-at-work

Landrum, R. E., Brakke, K., & McCarthy, M. A. (2019). The pedagogical power of storytelling. *Scholarship of Teaching and Learning in Psychology*, *5*(3), 247. Retrieved from http://dx.doi.org/10.1037/stl0000152

Lauer, G. (2022). Language, childhood, and fire: how we learned to love sharing stories. *Frontiers in Psychology*, *12*, 787203. Retrieved from https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.787203/full

McLellan, H. (2006). Digital storytelling: Bridging old and new. *Educational Technology*, *46*(5), 26-31.

Mendoza, M. (2015) "The Evolution of Storytelling." *RIT Reporter.* Retrieved from https://reporter.rit.edu/tech/evolution-storytelling

Mervosh, S. & Paris, F. (2024, March 29) "Why School Absences Have 'Exploded' Almost Everywhere." *The New York Times.* Retrieved from https://www.nytimes.com/interactive/2024/03/29/us/chronic-absences.html

OECD (2019), *Education at a Glance 2019: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/f8d7880d-en

Peterson, L. (2017) "The Science Behind the Art of Storytelling." *Harvard Business Review*. Retrieved from https://www.harvardbusiness.org/the-science-behind-the-art-of-storytelling

Ritchie, H., Samborska, V., Ahuja, N., Ortiz-Ospina, E., & Roser, M. (2023). *Global Education*. Our World In Data. Retrieved from https://ourworldindata.org/global-education

Robin, B. (2006, March). The educational uses of digital storytelling. In *Society for Information Technology & Teacher Education international conference* (pp. 709-716). Association for the Advancement of Computing in Education (AACE). Retrieved from https://www.learntechlib.org/p/22129/

Robin, B. R. (2016). The power of digital storytelling to support teaching and learning. *Digital Education Review*, (30), 17-29. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=5772440

Rosenthal, G. (2003). The healing effects of storytelling: On the conditions of curative storytelling in the context of research and counseling. *Qualitative Inquiry*, *9*(6), 915-933. Retrieved from https://publications.goettingen-research-online.de/bitstream/2/44902/1/10.1177_1077800403254888.pdf

Rutledge, P. (2024). *Beyond Bans: How Can Teachers Tackle Social Media at School?* Fielding Graduate University. Retrieved from https://www.fielding.edu/beyond-bans-how-can-teachers-tackle-social-media-at-school/

Smeda, N., Dakich, E., & Sharda, N. (2014). The effectiveness of digital storytelling in the classrooms: a comprehensive study. *Smart Learning Environments*, *1*, 1-21. Retrieved from https://link.springer.com/content/pdf/10.1186/s40561-014-0006-3.pdf

Snyder, K., Hedlund, C., Ingelsson, P., & Bäckström, I. (2017). Storytelling: a co-creative process to support value-based leadership. *International Journal of Quality and Service Sciences*, *9*(3/4), 484-497. Retrieved from https://www.diva-portal.org/smash/get/diva2:1140871/FULLTEXT01.pdf

Stephens, G. J., Silbert, L. J., & Hasson, U. (2021). *The Neuroscience of Storytelling*. NeuroLeadership Institute. Retrieved from https://neuroleadership.com/your-brain-at-work/the-neuroscience-of-storytelling/

Tassinari, V., Piredda, F., & Bertolotti, E. (2017). Storytelling in design for social innovation and politics: a reading through the lenses of Hannah Arendt. *The Design Journal*, *20*(sup1), S3486-S3495. Retrieved from https://www.tandfonline.com/doi/pdf/10.1080/14606925.2017.1352852

UNESCO's education response to COVID-19. (2023, June 21). UNESCO. Retrieved from https://www.unesco.org/en/covid-19/education-response/initiatives

Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & education*, *59*(2), 339-352. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0360131511003289.

Appendix
Filmmaking Resources for Teachers
Foundations in Filmmaking: https://www.docutribe.org/resources
The Video Essay: https://www.howtovideoessay.com/