

Arts-integration Teaching and Learning explored through Case Studies

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Abstract

Interdisciplinary collaborations are supported in preservice teachers' coursework through rigorous teaching and learning of arts-integration pedagogies. Based in theory and praxis, this article utilizes Meryll Goldberg's 2012 principles as a framework to initiate and develop preservice and new educators' arts-integration pedagogies to be efficacious and creative interdisciplinary forums. Critical inquiry is the process of gathering and assessing information and ideas from multiple perspectives to form new understandings that lead to innovative ideas and applications. Critical inquiry is therefore embedded into aesthetic multimodal pedagogies as indicated in the referenced case studies. Reflective preservice teachers' voices in the case studies articulate their experiences and new understandings when engaged in arts-integration practices for the elementary school classroom.

Introduction

Interdisciplinary collaborations are supported in preservice teachers' coursework through rigorous teaching and learning of arts-integration pedagogies. Based in theory and praxis, this article provides a framework to initiate and develop preservice and new educators' arts-integration pedagogies to be efficacious and creative interdisciplinary forums through case studies. Critical inquiry is the process of gathering and assessing information and ideas from multiple perspectives to form new understandings leading to innovative ideas and applications. Aligning aesthetic investigations with a conceptual layering of core content knowledge informs the multiple perspectives of critical inquiry. For preservice teachers and new educators, gaining confidence, content knowledge and effective pedagogies in one content area is often a challenge in itself. Reflective preservice teachers' voices, explicated in the referenced case studies, articulate their responses to the university arts-integration classroom experience and their thought processes when planning and implementing arts-integration lessons in the elementary school classroom.

Critical Inquiry

Critical inquiry gives students opportunities to discover knowledge for themselves. Students are asked to make inferences, create generalizations, and to formulate hypotheses. Generations of teachers have intuitively understood that active learning embraces various students' aptitudes and strengths (Cote, 2010). For new educators, the affinities between active inquiry learning pedagogies and not the differences are a way to propel positive risk-taking. Embedded in research on inquiry-based pedagogies are explorations into problems solving, critical thinking and creativity (Ulgar, 2018). Inquiry-based pedagogies often employ performative and authentic assessments inclusive of the arts. Longitudinal studies cite the development of critical thinking, analytical thinking, and problem-solving skills as integral components of interdisciplinary arts experiences (Longley, 1999; Stevenson & Deasy, 2005). Excerpts from arts-integrated preservice teachers' classroom experiences, cited case studies, explore arts-integrated academic teaching and learning.

Framing Arts-Integration Case Studies through Theory and Praxis

The following arts-integrated lessons/case studies are paired with Goldberg's (2012) research outlining eight principles that affirm the beneficial role of the arts in an equitable education.

The arts expand expressive outlets and provide a range of learning styles available to all children. When the penguin, owl, tortoise, rhinoceros, and elephant visit Amos McGee, in Philip and Erin Stead's book *A Sick Day for Amos McGee* (2010), one recognizes the tender empathy the animals disclosed absence of the zookeeper. After reading *A Sick Day for Amos McGee*, preservice teachers participated in a flow of established yoga movements to physically understand and portray the narrative sequence and emotional content of the story. The lessons of focus, perseverance, and harmony are intrinsic to yoga movement classes (Finnan, 2015). Academic and social achievement are intricately linked by modelling and practicing yoga building positive relationships between the other students and their teacher, thereby reducing stress in the school environment. Scientists have found that movement, part of dance or yoga, sparks new brain cells and their connections and these brain cells are responsible for acquiring knowledge and thinking (Hanna, 2015). When the preservice teachers working with diverse elementary-age students reflected on turn-keying the yoga lesson in their practicum classrooms, they noted the improved focus, palpable interest and enjoyment of the arts/movement-integrated language arts lesson. Creating a community of learners through the process of social and emotional learning originated from children's books is facilitated by arts-integration strategies.

Preservice teachers' reaction to their own classroom learning revealed that engaging in a yoga/language arts class allowed them 1) step outside of their comfort zone, 2) opened up a new perspective on teaching practices, and 3) broaden their thought processes.

The arts enable freedom of expression for second language learners

Expanding preservice bilingual pedagogies with arts-integration strategies addresses the national imperative for rigorous academic language production. A shadow puppet performance, constructed with cut foam core paper 5"x7" of exaggerated quotidian movements – walking, prancing, leaping, and twirling was based on the story of the woman who modernized dance, Isadora Duncan. Her story is told by the ballet dancer, Mikhail Baryshnikov in the book *Because* (2007). The preservice teachers carefully cut-off the arms, legs, wrists, and necks from the body of the puppet and then reattached the appendages with paper fasteners enabling the limbs to move, all supported by a wooden tongue depressor taped to the back of the puppet. Taken from the pictures and text of the book, the preservice teachers identified prepositions – on, above, below, across, behind, around as well as descriptive verbs-that would be part of the choreography of the shadow puppets' theatrical performance. Critical aesthetic inquiry occurred when rethinking human movement with the preservice teachers being puppeteers. The pairs of students kneeled behind a white curtain placed on top of a long tall table, turned on the flashlights on their cellphones and placed the light behind the puppets to create shadows of the moving figures for the audience. The academic outcome of the puppet show advanced the oral use and understanding of verbs and prepositions from more than one linguistic perspective.

In many bilingual classrooms students use translanguaging to express themselves. Translanguaging is both action and practice and not a simple system of structures and a discreet

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set of skills; it encourages verbal and written communication in a student's language of choice enhancing metalinguistic understanding (Garcia, 2009). Translanguaging can provide a humanized stage, a type of comfort zone that encourages creativity in bilingual or multilingual children. Focusing and highlighting the puppets physical gestures augmented language learning underscoring the meaning of words. Gestures can reflect knowledge in student learners (Goldin-Meadows, 2009). The puppets' gestures represented incremental learning in the human delivery of complex ideas. The puppet presentation advanced language production by speaking and listening in supportive pairs of students in front of peers; performance reinforces the idea that the arts have profound academic possibilities (Ragan, 2012).

Several of the preservice teachers come from homes where more than one language is spoken. They recognized how the aesthetics of movement could expressively augment colloquial and academic language for bilingual learners. The preservice teachers understood making puppets with moveable appendages that interact and perform reinforced vocabularies and provided an expressive performance platform.

The arts open venues for inclusive education and reaching out to exceptional learners

A scavenger hunt to find and measure acute, obtuse and right angles with protractors in the university classroom with small groups of preservice teachers exemplified an active student-centered classroom. The preservice teachers' learning environment of light switches, vertical blinds, chair stands, whiteboard ledges, and suspended speakers were potential sources of divergent angles. After measuring the angles of furniture and other parts of the classroom, the preservice learners returned with their groups to long wide tables to construct three dimensional sculptures with multicolored connectors based on the five angles that they found in the classroom. The preservice teachers' active engagement in identifying angles and then reconstructing them as parts of the sculptures was a precursor to planning a math lesson inspired by a public sculpture tour on campus. No longer limited to a search for angles in a classroom, the preservice teachers, who were placed in varying grade levels in their practicum, needed to create math lessons based on the visual attributes of the public sculptures focusing on patterns, partitions, repetitions, fractions, geometric and biomorphic shapes, negative and positive forms, and area and perimeter. The open-ended arts-integrated math experience was facilitated in small groups enabling preservice teachers to brainstorm together and provide critical feedback on their lessons. The incremental nature of the lesson provided scaffolding for exceptional learners moving between visual recognition, constructing, dialogue, and experiential envisioning of elements and functions of mathematical ideas.

The experiential nature of the math investigations the preservice teachers said put them in the driver's seat underscoring a way to facilitate inquiry-based student-centered learning by demonstrating the need to use non-traditional objects and/or prompts according to one participant. The preservice teachers commented that they had passed the large sculptures many times on campus without imagining the sculptures as a resource to understand mathematical concepts.

The arts provide a stage for self-esteem.

The emotional tone of the story of Erandi and her mother in *Erandi's Braids* (1999) speak to global economic inequity. The story describes a hardworking single mother who needs to provide food,

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and clothing for herself and her daughter in a rural area of Mexico. The mother catches fish to sell to support herself and her daughter. Since the fishing net has a large hole in it, the mother decides to sell her beautiful long hair to an itinerant hair buying peddler to earn extra money. The peddler prefers the long hair of the daughter as the climax of the story unfolds. Knowing that her hair would grow back, the young girl sells her hair so she could buy the doll with the pretty dress she wants for her birthday. Though sad, the young girl is resilient and flexible. Her self-esteem is not diminished by having to cut and sell her hair. This short story was turned into a theatrical script-writing lesson. The preservice teachers in advance of teaching a similar lesson in their practicum classroom gave emotional voice to existing and new characters in the story, elaborated on the description of the context of the fishing village, the tense interaction between the hair selling peddler and the mother, and the resolution of a simmering conflict between the mother and daughter. The torn fishing net directs the reader to the theme of global inequities. The preservice teachers reflected on ways to promote brainstorming to encourage students to create new dialogue in the script to engage an audience in this emotive story. The embedded component of critical inquiry's multiple perspectives – the daughter, the mother, the peddler and the other fisherman – heightened and developed a strong connection between the art form of scriptwriting and the components of the narrative in the language arts lesson. The self-esteem of the characters in the book is reinforced by their resilience and flexibility in difficult situations.

When reflecting on the story, the preservice teachers said they felt stuck meaning they were not creative enough to think of the net as more than just a tool for fishing but as a symbol of the larger picture of the disparity of wealth. Additional reflections by the preservice teachers noted how they did not realize the breadth of the arts and how aesthetic, emotive and academic language can create a new dialogue that transforms the narrative text into a spoken-word script.

The arts encourage collaboration and intergroup harmony

Map-making and map-reading, part of geography an essential component of the social studies standards is a complex unit for preservice teachers. In a social studies/science unit on bird migration the preservice teachers were to visually indicate the flight paths of select birds who migrate across more than one continent. The preservice teachers folded paper from origami patterns of birds; they sketched a world map by looking at an example on a large screen and cut out the six continents on different colored construction paper; the preservice teachers worked in pairs to expedite the need for numerous origami birds and the drawing and separating of the drawn continents that they taped and glued on circular white paper lanterns. The placement of the continents and ultimately the migration routes of the birds were best understood by partnering with another preservice teacher. This multi-day upper elementary age lesson asked the preservice teachers to study the migration route of a specific bird. The visual evidence of the route was noted by the origami birds taped onto one color wire or thin string indicating the path of the bird in one season and another color wire for the return path in another season. There was a self-sufficiency in each pair of learners since each group had different bird migration paths to chart. The preservice teachers found the sounds of their specific birds on a bird sound app. The effect of climate change was embedded in the discussion of food sources and energy used by the birds during their long migrations. The hands-on problem-based learning included an understanding of how climate change affects the food sources of migrating birds. The lesson required close cooperation between the pairs of preservice teachers due to the multiple steps in creating the birds and globes, depicting

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accurate bird migration routes based on research, and enlivening the three dimensional globes with hand-held bird sound apps heard from cellphones. The display of the globes with the origami birds' illustrating migration routes opened up the discussion on unique uses of space for exhibition.

The preservice teachers became self-directed learners, reasoning effectively, and feeling accountable for their partner's success. The multi-day lesson stimulated thinking outside of spoken and written language with construction of a three dimensional globe actualizing bird migration. Though the bird migration lesson was time-intensive, the preservice teachers gained first-hand experience how multimodal learning kept them focused and motivated to complete the social studies/science and visual art interdisciplinary project.

The arts empower students and teachers.

The preservice teachers often hear music in their practicum classrooms as a vehicle for marking transitions from one content area to another. They understand the use of music as an engagement strategy for class cooperation. Vocal music is a form of communication and an art form composed with the intonations of words, the cadence of language and the expression of rhythm. Music is a powerful aesthetic tool that can empower students to remember academic content.

Pete Seeger retells the South African folktale of *Abiyoyo* (1986) through song with banjo accompaniment. A young boy, who plays the ukulele, and his father, a magician, live in a village where the townspeople are annoyed by the unpredictable magic of the father and the music of the young boy's ukulele; the townsfolk banish the father and son from the town. One day a huge ogre appears looming over the horizon and the frightened townspeople do not know what to do. Ultimately the young boy plays his ukulele and the father zaps his magic wand and the ogre disappears; the townspeople forever grateful invite the father and son back to live in the town. Working with the themes of fear and forgiveness and the literary devices of simile and hyperbole, the preservice teachers created an empowering musical magic spell to augment the excitement of the folktale. The imaginative magic spell's four lines incorporating similes or hyperbole acts as a reprise to be sung intermittently during the re-reading of the story underscoring the message of magical empowerment over fear and human forgiveness. Combining music and stories helps children learn some of the different ways that ideas and emotions can be expressed creatively (Calogero, 2002).

Music is another way to interpret a story and another way to understand it according to the preservice teachers. The new educators stated that they needed to be open-minded in the rethinking of the theme and message of the story. The preservice teachers saw the climax of the story, the disappearing ogre, as an aesthetic moment where music is empowered by magic. The musical connection to the multicultural language arts lesson clarified the utility of arts-integration pedagogies according to the preservice teachers.

The arts deepen teachers' awareness of children's abilities and provide alternative methods of assessment.

The Little Red Ant and the Great Big Crumb (1999) by Shirley Climo set in Mexico tells the story of a maturing young ant who perseveres past obstacles to build his physical and emotional strength.

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The book infuses Spanish words within a predominately English text. This scaffolding device for emergent bilingual learners and native English speakers allows children to infer meaning from both the illustrations and text in the book. The preservice teachers were divided into four groups and directed to create clay sculptures with details of select episodes of the story noting the texture, colors, size, and shapes of the characters and landscape. The interpersonal dialogue amongst the preservice teachers involved a division of labor of who was to sculpt the landscape components and the different animals and how many versions of the animals should be made since the animals reappear many times in the story. Critical inquiry is evident in the attention to detail in the drooping leaves of trees, the scaled skin of the lizard, the wobbly legs of the ants, the prickly spikes of the cactus, and the spikey straw of the farmer's hat. The differentiated lesson for each learner working at his/her own pace culminated in a collective exhibition of the four groups' detailed clay renderings on a long wide table; the sculptural retelling of the maturing little red ant was an example of an authentic assessment of the comprehension of the story. The national arts standards four essential components – creating, presenting, responding, and connecting- are addressed in this visual arts/language arts lesson.

The preservice teachers discussed potential opposition by a principal to showcase the sculptural exhibition in the hallway of the school. Though the arts-integration language arts lesson is developmentally appropriate for third graders and aligns with the common core standards, there was a hesitancy by the preservice students to approach administrators in the practicum school or when they will be classroom teachers to showcase the student work in a public place. The preservice teachers' reserve can be overcome through interdisciplinary and grade level support of other teachers and the understanding that multimodal student-centered learning advances academic success.

The arts provide authentic cultural voices and add complexity to teaching and learning

Trombone Shorty (2015) by Troy Andrews, illustrated by Bryan Collier is a biography of the author as a young boy from New Orleans determined to be a musician. Borrowing the format of an author study, the preservice teachers designed an illustrator study where student-to-student and student-to-teacher interactions explored the book's theme of overcoming poverty, support of family, the excitement of music festivals, and the determination by the author to have an audience for his music. Bryan Collier's amber, grey and olive green fractured background illustrations resonate with the syncopated sound of jazz played on the protagonist's trombone. The swirl of lines and the irregular depictions of the imagery's textures, colors and shapes imbue the illustrations with a sense of the pitch, dynamics, timbre, and rhythm of jazz. The preservice teachers enhanced their visual literacy abilities by employing analytical language to synthesize the pairing of the personal striving and dedication of the young trombonist with the musical and visual aesthetics embedded in the book. Multi-variant perspectives, a type of critical inquiry, inform the life story of the African-American musician Trombone Shorty.

The preservice teachers interpreted stories by the same author through the instructional strategy of author studies; they had not delved into the possibilities of an illustrator study. The preservice teachers commented that structuring a lesson on a children's book illustrator allowed them to come out of their shell. Comparative illustrator studies can be part open-ended multimodal learning in the choice of illustrators and in the type of authentic and/or performative assessment practices.

Conclusion

The arts-movement, theater, visual arts, and music-provide a transformational multimodal language to enhance interdisciplinary teaching and learning in the core curricula content areas of math, language arts, social studies, and science. Academic and aesthetic alignments are made possible through the multiple perspectives of critical inquiry inherent in interdisciplinary classroom constructions.

The urgency to educate all students with academic skills inclusive of the arts is at the center of a vibrant educational imperative. Case studies reflecting Goldberg's eight arts-integration pedagogical frames indicate learning that:

- Build expressive outlets with a community of learners through movement
- Enhance freedom of expression for English language learners through puppets
- Open unique venues such as indoor and outdoor environments to understand space
- Develop self-esteem through affective script-writing for social justice
- Advance collaborative partnerships on essential skills such as map-making/reading
- Empower individual strengths through composing and singing lyrics
- Provide alternative modes of assessment through public art exhibitions
- Augment cultural voices through diverse illustrator studies
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For preservice and new educators, it is a challenging instructional agenda to recognize students' understanding and use of elaboration, exaggeration, empathy, collaboration, and exploratory energy as creative components of individual and group interactions. The new educators' self-reflections on arts-integration strategies revealed:

- Broadening thought processes
- Use of performance as an instructional tool
- Utilizing non-traditional pedagogical resources
- Diversifying and expanding character dialogue(s)
- Paired learning enhances critical inquiry
- Surmounting trepidation and finding forgiveness through music
- Authentic assessments can be public statements
- Cultural voices are communicative agents

Implications

The requisite arts-integration course(s) for preservice teacher education preparation can be empowered by the interdisciplinary example of STEAM (science, technology, engineering, art and math) teaching and learning, where core content learning in science and math is collaboratively implemented with arts pedagogies and technology. Kuhn (2015) says that we seem to be more creative when we plan together. The development of another collaborative curricula format with the arts and social studies and language arts can advance rich aesthetic explorations of creating, presenting, responding and connecting, components of the national arts standards.

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The deliberative outcome of multimodal arts-integrated facilitation is the enhancement of educators' application of differentiation for all learners. To date, however, the inclusion of courses on differentiation through arts pedagogies has not been part of bilingual endorsement programs (Lucas & Villegas, 2013), even though this instructional approach can advance academic language fluency. Framing arts-integration teaching and learning 'releases the imagination' to embolden constructive inquiry with collaborative feedback. New educators recently completing their arts-integration methodology courses can take a leadership role in their schools to provide Professional Development workshops to elucidate and inspire aesthetic extensions to advance students' core content achievement.

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