



Digital Art, Design, & Media in the Classroom

Competency

Educator uses digital art, design, and media in the classroom to engage students and support twenty-first-century learning.

Key Method

Educator uses a range of tools and pedagogical strategies to teach students to create digital art, design, and media projects.

Method Components

What is digital art, design, and media?

Art, design, and media, while unique and individual fields on their own, represent the confluence of creativity and communication. Art, design, and media are not just pleasing aesthetics but ways that we communicate with one another, and are extremely important in a technology-driven, communication-focused world.

Digital art is, quite simply, artistic work that uses digital technologies in either its creation or presentation (or both). Digital design can be thought of as the process of imagining, planning, and creating using digital technologies. Digital media is focused on digital communication outlets and tools.

All three of these interrelated areas provide students with the opportunity to find new ways to create and to express themselves in both digital and real-world settings.



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STEM vs STEAM

Over the last several years, a focus on STEM education has become mainstream across the world. With an understanding that jobs in STEM fields are growing at a rate of close to 8%, compared to just 3.7% for non-STEM jobs, workers skilled in STEM are required to meet the needs of the 21st century.

Stated simply, STEAM is STEM plus the arts (including visual art, music, drama, dance, language, and more). This emphasizes the fact that there is no scientific discovery without creativity, that there is no engineering without design, and that creativity is fundamental to the innovation and success of technology.

When we focus too intensely on the technical skills in STEM, we do our students and our societies a disservice. For students to simultaneously find fulfilment and build the skills they need for success in the 21st century, they must also explore and hone their creativity.

This is where digital art, design, and media come into play. Through the combination of digital technologies and a range of means for creative expression, students are able to explore the true embodiment of STEAM. From exploring the role of 3D design in health, architecture, and manufacturing to investigating the mathematics of animated films, these opportunities are what allow learners to build and apply their skills in authentic contexts.

Foundations of Effective Digital Art, Design, and Media Instruction

Understanding how to effectively integrate digital art, design, and media instruction in the classroom can be challenging, especially in teaching environments where separate time and resources are not carved out to support such endeavors.

The 5 foundations of effective digital art, design, and media instruction are:

1. Demonstrating knowledge and skills thorough digital art, design, and media

No, you do not need to be an expert to integrate digital art, design, and media in the classroom. However, educators do need to experience digital art, design, and media tools and build their skills in order to teach effectively.

By taking this time to familiarize themselves with the foundations of digital art, design, and media, educators will be both better equipped and more confident in their abilities to bring high-quality instruction into their classroom.

2. Implementing evidence-based practices as responsive classroom practitioners

Every classroom is unique, but there are general principles and evidence-based practices that should guide all educators in bringing high-quality digital art, design, and media instruction to their students, including:



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1. *Hands-on learning.* While fundamental theoretical concepts underpin digital art, design, and media, students need hands-on experience to truly understand and develop the skills they need.
2. *Multiple pathways.* There is always more than one way to achieve a given outcome and demonstrate learning in the field of digital art, design, and media. Effective educators account for this inherent flexibility when assessing student work while still encouraging students to employ best practices and technical skills in their work.
3. *Process vs product.* Effective educators recognize that it is the process of designing and refining projects rather than the final project itself that carries the greatest weight in assessing and evaluating student learning.
4. *Authentic contexts.* Beyond merely learning technical skills, especially software-specific skills, students need to be able to apply those skills in authentic contexts. Effective educators design and/or select contexts to guide student projects based on the composition of their students.

3. Advocating for equity and inclusion in the classroom

Educators must recognize that the world of STEM and STEAM has not been equitable in the past and remains so. Women/girls, racialized people, people with disabilities, and other marginalized groups remain deeply underrepresented in the world of STEM/STEAM, and these problems will not fix themselves.

Cultural biases about who belongs in the world of STEM/STEAM and what “counts” as “real” STEM/STEAM learning exist in us all, even at a subconscious level. Beyond merely teaching digital art, design, and media, educators must take an active role in promoting equity and inclusion in their instruction and overall classroom environment in order for all students to succeed and recognize their potential.

Supporting Rationale and Research

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Resources

Lesson Plan Template

https://dl.dropbox.com/s/peim6vboe1fmskk/Lesson%20Plan%20Template_DADM.docx?dl=0

Inside California Education: Digital Media in the Classroom, KVIE & PBS

<https://www.youtube.com/watch?v=1ODAvwH6U4I>

Submission Guidelines & Evaluation Criteria

To earn the micro-credential, you must receive a passing evaluation for Parts 1 and 3, and a “Yes” for Part 2.

Part 1. Overview Questions

Please write your responses below (1000-word limit for the 5 questions in total).

1. Describe your role in education. What grade and subject or content area do you teach? What should we know about you and your classroom?
2. What is your current level of experience and confidence with teaching digital art and media?
3. Identify at least one asset and one barrier you anticipate to integrating digital art and media into your classroom.
4. Why do you believe it is important to teach students about digital art and media?
5. What are you hoping to gain through this micro-credential?

Passing: Response provides reasonable and accurate information that outlines the prior experience of the educator and the context of their classroom/teaching. Educator specifies a learning goal that describes what they hope to gain from this experience. Educator outlines their current mindset and experience when it comes to teaching digital art and media in sufficient detail.

Part 2. Work Examples/Artifacts/Evidence

To earn this micro-credential, submit the following three artifacts.

Artifact 1: Certificates of Completion

1. Certificate of completion for a STEM Minds Teacher Professional Development Workshop related to your STEAM Hub course (see Artifact 2, below)
2. Certificate of completion for ONE of the following STEAM Hub courses:
 - a. 3D Design with Tinkercad



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- b. Storytelling with Minecraft
- c. Computer Music
- d. 2D Design
- e. Animation

Artifact 2: STEAM Hub Course Final Project

For the STEAM Hub course you selected above, please submit a copy of your final project. It must include:

- the full project file (please do not submit screenshots)
- any relevant share settings appropriately set to allow anyone to view the project

Artifact 3: Lesson Plan

Submit a lesson plan showing how you will bring this digital art and media experience to your classroom. This lesson may be a “stand alone” lesson or may be one in a larger unit. Please indicate this context for the lesson somewhere in the lesson plan. You may use your own lesson plan template or the suggested template in the Resources section. Your lesson plan must include the following information:

1. What core concepts you plan to introduce to students and how you plan to do so
2. What project(s) students will be asked to create, and how they will have the opportunity to test and refine them
3. How you intend to foster an inclusive and collaborative culture in your classroom, with a focus on historically underrepresented groups (including girls/women, students with disabilities, ELL students, etc.)
4. How you plan to address common student misconceptions/areas of difficulty
5. What troubleshooting strategies you intend to introduce to students (please also include *how* and *when* you plan to introduce these strategies)
6. What opportunities students will have to communicate about digital art and media
7. How you intend to assess and evaluate student work, with a focus on process over product

Part 2. Scoring Guide

Artifact	“Yes”	“Almost”	“Not Yet”
Artifact 1: Certificates of Completion	The certificate of completion for both the course and the professional development workshop were provided.	N/A	One or both of the certificates are missing.
Artifact 2: STEAM Hub Course Final Project	The project provided meets the expectations as outlined in the project rubric within the STEAM Hub course at a level of 80% or higher.	The project provided meets the expectations as outlined in the project rubric within the STEAM Hub course at a level of less than 80%.	The project was not provided.
Artifact 3: Lesson Plan	The lesson plan includes all of the following:	The lesson plan includes some of the following:	The lesson plan includes only one or two of the following:



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	<ol style="list-style-type: none"> 1. Core concepts to be addressed 2. Project description 3. Inclusion and collaboration strategies 4. Anticipated student misconceptions/ areas of difficulty 5. Troubleshooting strategies to be taught 6. Opportunities for student communication 7. Assessment and evaluation plan 	<ol style="list-style-type: none"> 1. Core concepts to be addressed 2. Project description 3. Inclusion and collaboration strategies 4. Anticipated student misconceptions/ areas of difficulty 5. Troubleshooting strategies to be taught 6. Opportunities for student communication 7. Assessment and evaluation plan 	<ol style="list-style-type: none"> 1. Core concepts to be addressed 2. Project description 3. Inclusion and collaboration strategies 4. Anticipated student misconceptions/ areas of difficulty 5. Troubleshooting strategies to be taught 6. Opportunities for student communication 7. Assessment and evaluation plan
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Part 3. Reflection

Please write your responses below (1000-word limit for the 5 questions in total).

1. Throughout this experience, what steps did you take to foster an inclusive and collaborative culture in your classroom? What impact did this have on you and your students?
2. How did this micro-credential process influence how you teach digital art and media and/or other subjects?
3. What were the shared challenges your students faced in their learning? How did you address these challenges?
4. In what ways did your students engage with collaboration, communication, critical thinking, and creative problem-solving through this experience?
5. How would you describe your students' overall experience with digital art and media? If you had to do it again, what would you do differently? What would you do the same?
6. What are your next steps for growth as an educator in this area?

Passing: Response provides reasonable and accurate information that outlines their approach to inclusivity in teaching digital art and media. Educator explores how the experience influenced their teaching and their next steps for growth. The response outlines the impact on the students and their experience in sufficient detail.



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