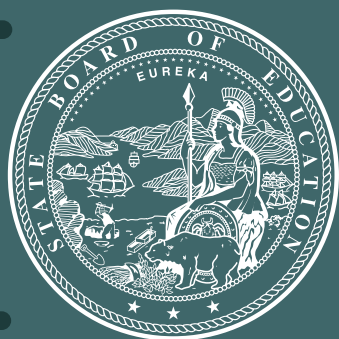# CALIFORNIA
Arts Education
FRAMEWORK

FOR CALIFORNIA PUBLIC SCHOOLS
TRANSITIONAL KINDERGARTEN
THROUGH GRADE TWELVE

Dance ▪ Media Arts ▪ Music ▪ Theatre ▪ Visual Arts

Chapter 4
Media Arts

Chapter 4: Media Arts

"Media arts is coming to define
the arts of our time."

—Steven Lavine, President Emeritus, California Institute of the Arts

Introduction to Media Arts

What Is Media Arts?

The media arts discipline is defined as technology-based creative production and design. The media arts standards convey competencies for artistic literacy in media arts. Media arts functions as a discrete arts discipline for all students as they develop capacities they need to thrive in the modern digitally centered environment. As technology continually evolves, the creative tools of media arts have become increasingly powerful, versatile, and easier to use.

The basic categories in media arts include imaging, sound, animation, video, interface design, virtual design, and interactive design. The various forms of media arts include: photography, video, filmmaking, graphic design, motion graphics, visual effects, stop-motion, sound production, web design, game design, creative code, app design, 3D design, holography, transmedia, and others, as well as their combinations; there are also new, emerging forms, such as virtual, augmented, and mixed reality.

Media arts has existed for decades in California schools, primarily as visual arts courses in digital imaging and film. Depending on the intent and arts standards addressed, some courses such as photography or graphic design may continue to be visual arts courses and, if addressing media arts standards, have similar courses labeled media arts. Career Technical Education (CTE) in Arts, Media, and Entertainment (AME) is a secondary, career-focused program that also includes media arts but is primarily supported by the California Career Technical Education Model Curriculum Standards. The new media arts standards can be used alongside existing Career Technical Education standards for the Arts, Media,

and Entertainment Pathways to strengthen the quality and relevance of academic preparation within the industry sector.

Regarding Boundaries—Toward a New Synthesis

Overlapping domains may challenge long-held beliefs about the need for boundaries between subject areas; yet, these divisions must be considered with a larger understanding of the emerging digitally interconnected experiences of students. This intersecting whole has far greater benefits for students, schools, and communities than the sum of its parts.

Photography is considered a media arts form due to its technology or machine-based nature and its contemporary virtual extensions in digital capturing, processing, sharing, animation, interactive, and screen presentations. However, this would not preclude photography from being taught as a visual arts class that would emphasize its iconographic, visual, and physical presentation. It is not uncommon for arts classes in the other disciplines to include media arts, such as "Acting for Television," "Dance and Media," "Music Technology," or science and social studies classes that include documentary photography or some form of digital design. However, these courses should not be considered a substitute for specific media arts instruction in courses taught by well-prepared media arts teachers.

With this foundation for creative potential and with robust implementation, media arts education provides unique possibilities for individual and collaborative creative inquiry. The student fluent in media arts is ultimately engaged in self-directed creative inquiry and cultural development, which incorporates capacities for multimedia communication, design thinking, technical production, interdisciplinary integration, project management, and broad cultural and digital literacies.

Effective media arts instruction develops students' abilities to rapidly engage in original content production and produce works that are sophisticated in technique and expression and can reach global audiences. These factors offer tremendous potential for students' creative expression and learning, limited only by students' and educators' imaginations. The diversity of media arts forms, tools, and genres offers open-ended potential for student creativity and experimentation. As media arts forms morph and emerge with technology over time, students' creative possibilities are endless as they develop as artistic literate individuals through *Creating, Producing, Responding, and Connecting* in media arts.

The following list illustrates some of the broad and growing range of possible student created media arts products:

- Documentaries, news stories, and informational animations about topics chosen by students
- Narrative films and animations of all genres
- Artistic videos, remixes, video art, and abstract visuals
- Websites, blogs, vlogs, zines of student work, ideas, interests

- Online multimedia posting of original music, artworks, images, videos, choreography, memes, and GIF animations
- Artistic photographs
- Original podcasts
- Digital puppetry
- Interactive sculptures and installations
- Augmented reality productions

Why Media Arts?

Students in the twenty-first century are growing up in a media arts world where internet-connected devices are ever-present and enable access to information and virtual, multimodal, and interactive experiences. As media arts interfaces and production platforms, these internet-connected devices expand capacity for people to access, create, and share media experiences. They have become the basis of modern communication, social connectivity, design, and culture. This pervasive and interconnected environment is immersive, and younger generations are increasingly interacting with the virtualized world. As students' screen time steadily increases, two-thirds of students that are online have produced and posted some form of content (Lenhart et al. 2010).

To navigate this modern and interconnected culture where students are both consumers and creators of media, it is necessary for students to develop critical autonomy to analyze and discern the value, intent, and veracity of their media arts experiences. They should be proficient in the production, design, placement, and analysis of media artworks that assert their own perspectives and shape their worlds. All students therefore require media arts competencies and literacies to effectively participate in their twenty-first century digital culture and to thrive in college, career, and civic life.

To meet this challenge and lead in innovation, California established media arts as a distinct fifth arts discipline in the 2019 *California Arts Standards for Public Schools, Prekindergarten Through Grade Twelve*. In the revised national arts standards, on which California's media arts standards are based, the National Coalition for Core Arts Standards distinguished media arts due to its continuously evolving sophistication, unique characteristics, and aesthetics, and creative and educational potentials:

- Ultimately plastic; media arts can be reorganized infinitely;
- Inter-dimensional; media arts is immersive, virtual, and interactive and addresses merging and emerging dimensions;
- An integrative synthesizer; media arts brings together expansive varieties of content and forms for tailored and enhanced presentation across platforms ("transmedia") and experiences (e.g., "augmented reality"). (2014)

The *California Arts Standards* for media arts set learning expectations that support development of artistic literacy through media arts production and design processes. The arts standards articulate the lifelong goals for all students in all the arts disciplines. These lifelong goals are identified in the following categories:

- The Arts as Communication
- The Arts as a Creative Personal Realization
- The Arts as Culture, History, and Connectors
- The Arts as Means to Well-Being
- The Arts as Community Engagement
- The Arts as Profession

Media Arts as Communication

Media arts literate citizens use a variety of production and design processes to independently produce and share works that express and communicate their own ideas. They analyze and interpret the media arts works of others.

Media Arts as Creative Personal Realization

Media arts literate citizens develop sufficient competence to continue lifelong active involvement in creating, producing, and responding to media arts works.

Media Arts as Culture, History, and Connectors

Media arts literate citizens recognize and understand media art works from varied cultures and historical periods, and actively seek out and appreciate diverse and challenging media arts works. They seek to understand and utilize the relationships between media arts, other arts and academic disciplines, and the culture at large. They cultivate personal lines of inquiry and innovative solutions through producing and critically examining media artworks.

Media Arts as Means to Well-Being

Media arts literate citizens can negotiate the virtual, multimodal, and interactive experiences that shape their world and find inspiration, intellectual stimulation, meaning, and other life-enhancing qualities. They engage with others in connected environments in creative, positive, and collaborative ways.

Media Arts as Community Engagement

Media arts literate citizens use their skills for social and civic engagement in their local, state, national, and global communities. Media arts-driven engagements can bring communities together to interact with each other in new and different ways.

Media Arts as Profession

Media arts literate citizens appreciate the value of media arts as a profession by supporting and funding media arts education. Students may use their media arts skills to pursue a career in California's creative economy.

This chapter describes the discipline of media arts and its potential and provides guidance for teachers of media arts in their design of standards-based sequential learning and assessment. Many of the topics, such as approaches to Universal Design for Learning (UDL), have related support and guidance in other chapters within the *Arts Framework*.

Contents

Media Arts Standards TK–12

The outcomes of media arts instruction are global in nature, as media arts unites communication, experience, and knowledge across cultures and times.

—National Coalition for Core Arts Standards, *The Inclusion of Media Arts in Next Generation Arts Standards* (2012)

The media arts standards provide a holistic matrix of creative inquiry based in the student-centered processes of production and design. They are designed to create a progression of student learning in media arts. They are intended to address the diverse forms and categories of media arts as a distinct, stand-alone arts discipline, and designed to enable students to achieve media arts artistic literacy. They are designed to be accessible and applicable to the broad range of educators, students, and situations that would use or enact media arts, or some aspect of its tools, concepts, or processes, such as video production or digital design. Considering the breadth and diversity of these digital forms, artistic literacy in media arts is defined through the standards' nonspecific (yet aspirational) terms and are intended to be more specifically detailed by the teacher within their situation.

The standards for media arts provide guidelines for student achievement by grade level that reflects creative multifaceted production and connecting processes. They highlight the cognitive aspects of these processes, articulated into developmentally appropriate sequences. It is important to understand that specific products, tools, techniques, and forms are not prescribed or referenced in the standards and the standards are not the curriculum and instruction.

Note: The media arts standards are structured for all students to attain comprehensive competencies necessary to meaningfully participate in and contribute to our media arts-based society, which include:

- Multimedia Communications
- Technical Production
- Imaginative Envisioning
- Creative Problem-Solving
- Interdisciplinary Integration
- Transdisciplinary Coordination
- Design Thinking
- Innovation, Invention, and Adaptation

- Multimodal Orchestration
- Holistic Aesthetics
- Collaboration/Leadership
- Project Management
- Inquiry/Research/Journalism
- Organization/Development/Publication
- Media/Tech/Digital Literacies
- Critical Autonomy/Ethics/Law
- Civic Engagement/Entrepreneurial
- Contexts/Markets/Systems
- Synthesis/Metacognition
- Learning About Learning
- Self-direction
- Cultural Agency

Source: Media Arts Education Coalition (2016, 2)

The Structure of the Media Arts Standards

The media arts standards are comprised of four artistic processes, overarching anchor standards, related enduring understandings and essential questions, process components, and student performance standards. The artistic processes and anchor standards are common to all arts disciplines, while the enduring understandings, essential questions, process components, and student performance standards are distinct to media arts.

Using the elements of the media arts standards to design instruction helps students achieve the performance standards. Teachers use essential questions to guide students through process components, which lead to enduring understandings, which are connected to anchor standards that are shared across five disciplines. Throughout the process media arts students are *Creating*, *Producing*, *Responding*, and *Connecting*—these are the four artistic processes. Teachers can begin to design their instruction from any entry point within the artistic processes to facilitate students' development as media arts literate individuals.

Anchor Standards

The media arts standards include two types of standards: The anchor standards, which are the same for all arts disciplines and for all grade levels; and the student performance standards, which are specific to media arts and to each grade level or proficiency level.

The anchor standards articulate the generalized outcomes of students' TK–12 learning, shared by all five arts disciplines. The anchor standards are not the discipline-specific student performance standards, but they serve to provide the overarching outcomes within media arts each year.
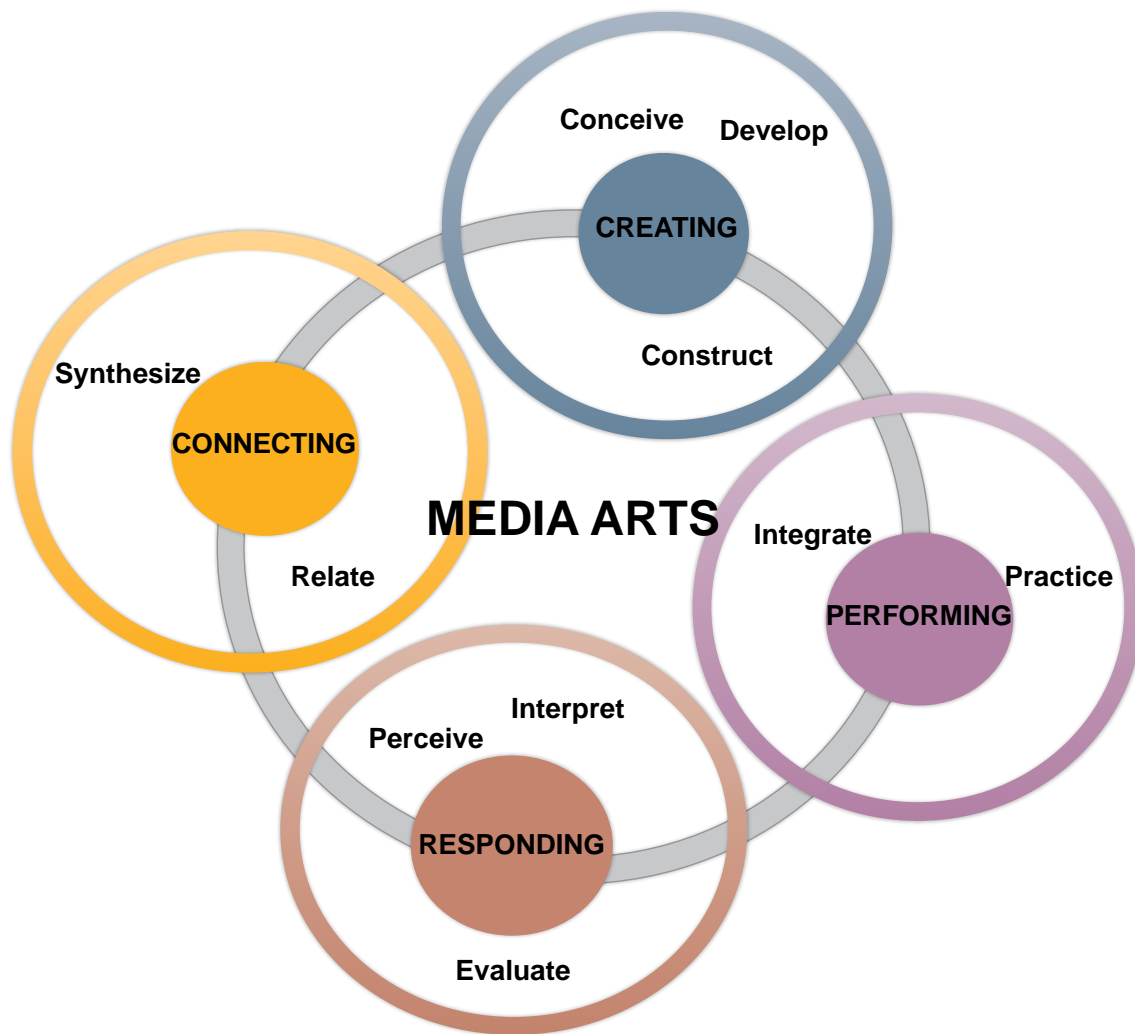
Artistic Processes in Media Arts

The media arts standards identify four artistic processes: *Creating*, *Producing*, *Responding*, and *Connecting*. In the *Creating* process, students conceive and develop new media arts ideas and work. Students learn and gain the ability to communicate and create using the unique academic and technical languages of media arts. In the *Producing* process, students realize media arts ideas and work through interpretation and presentation. This process requires students to share their work with others—to make their learning public—as an intrinsic element of media arts. In the *Responding* process, students understand and evaluate how media arts conveys meaning to themselves as a media artist and to the viewer or audience throughout time. In the *Connecting* process, students relate media arts ideas and work with personal meaning and external context.

It is vital to understand that the four artistic processes and their related process components within the standards offer students multiple entry points into all aspects of media arts (figure 4.1). Instructional design that begins with and flows through one or more of the artistic processes within a unit of study can promote student development, deepen student understanding, and facilitate student engagement.

The structure of the media arts standards enables students to demonstrate their media arts knowledge and critical thinking and develop the depth of their understanding as they grow in the artistic processes. Teachers can create a balanced instructional approach by engaging students first in an artistic process, then build in one or more of the remaining processes. Teachers can also engage students in multiple processes simultaneously to support learning through working and creating authentically in media arts. The combination and delivery of the processes is guided by the teacher's intended learning outcomes. Well-designed instruction, including assessment, supports students in progressing through the grade and proficiency levels and in demonstrating, in multiple ways, what they know and are able to do. Throughout a grade level span or proficiency level, instruction should provide a balanced approach to address all artistic processes over time.

Figure 4.1: Artistic Processes and Process Components for Media Arts

Process Components in Media Arts

Another structural element of the media arts standards is the process components. They are aligned to the four artistic processes. The process components are operational verbs that define the behaviors and artistic practices that students engage in as they work through the artistic processes. The process components are not linear or prescriptive actions. They are fluid and dynamic guideposts throughout the media arts making process. They provide a path for students to engage through *Creating*, *Producing*, *Responding*, and *Connecting* within media arts. A student can and should enter and reenter the process at varying points depending on the circumstance(s) or purpose(s). Similarly, all process components do not require completion each time the student engages in them. Students' ability to carry out the process components enables them to work in and through the process independently. The process components for media arts are as follows:

Table 4.1: Process Components for Media Arts

Creating	Producing	Responding	Connecting
Conceive	Integrate	Perceive	Synthesize
Develop	Practice	Interpret	Relate
Construct		Evaluate	

The process components combined with the enduring understandings and essential questions of the media arts standards promote student discovery and development of their sensibilities and abilities as they mature in media arts. When planning instruction, teachers can use the process components to direct student-based inquiries. Instruction that fosters student inquiry in media arts requires design that builds students' creative capacities as well as their academic media arts knowledge and technical skills. Effective instruction provides students with opportunities to actualize the process component verbs, such as conceive, develop, integrate, practice, and evaluate.

Student Performance Standards in Media Arts

The student performance standards for media arts translate the anchor standards into explicit, measurable learning goals in media arts for each grade level, proficiency level, or for high school course level. They identify the action, behavior, thinking, understanding, and skill that a student must do to demonstrate achievement.

Performance standards are end-of-the-year or end-of-course expectations for learning and development. They describe what a student will demonstrate as an outcome of learning specific content and developing skills, rather than identifying the specific content and skills for instruction. Teachers determine media arts content and pedagogy when designing instruction to prepare students to demonstrate proficiency in the standards. Teachers must also ensure students have substantial opportunities to practice throughout the year as they move toward mastery of the performance standards.

Student Performance Standards Grade Levels and Proficiency Levels

The student performance standards are written by grade level for prekindergarten through eighth grade in media arts (PK–8). The standards articulate, for PK–8, the grade level-by-grade level student achievement in media arts.

Secondary education identifies three proficiency levels of standards that articulate student achievement in media arts and build upon the foundations of a PK–8 media arts education. As students work through and develop in media arts during the high school years, they progress through the proficiency levels. The *Proficient* level generally applies to the year one and two high school student. The *Accomplished* level generally applies to the year three and four high school student. The *Advanced* level is an additional proficiency level

for students working at a level beyond the typical four-year high school student. Advanced students may study media arts outside of the school and engage in media arts as an amateur, semi-professional, or professional.

The table below describes the media arts proficiency levels.

Table 4.2: Media Arts Student Performance Standards Proficiency Levels

High School Proficient	High School Accomplished	High School Advanced
A level of achievement attainable by most students who complete a high-school level course in media arts (or equivalent) beyond the foundation of quality PK–8 instruction.	A level of achievement attainable by most students who complete a rigorous sequence of high-school level courses (or equivalent) beyond the Proficient level.	A level and scope of achievement that significantly exceeds the Accomplished level. Achievement at this level is indisputably rigorous and substantially expands students' knowledge, skills, and understandings beyond the expectations articulated for Accomplished achievement.

Table 4.2: Media Arts Student Performance Standards Proficiency Levels *(continued)*

High School Proficient	High School Accomplished	High School Advanced
Students at the Proficient level are able to: ■ use foundational technical and expressive skills and understandings in media arts necessary to solve assigned problems or prepare assigned repertoire for presentation; ■ make appropriate choices with some support; ■ be prepared for active engagement in their community; ■ understand media arts as important form of personal realization and well-being; and ■ make connections between media arts, history, culture, and other learning.	Students at the Accomplished level are—with minimal assistance—able to: ■ identify or solve media arts problems based on their interests or for a particular purpose; ■ conduct research to inform artistic decisions; ■ create and refine media arts productions that demonstrate technical proficiency, personal communication, and expression; ■ use media arts for personal realization and well-being; and ■ participate in media arts beyond the school environment.	Students at the Advanced level are able to: ■ independently identify challenging media arts problems based on their interests or for specific purposes and bring creativity and insight to finding artistic solutions; ■ use media arts as an effective avenue for personal communication, demonstrating a higher level of technical and expressive proficiency characteristic of honors or college level work; ■ exploit their personal strengths and apply strategies to overcome personal challenges as media arts learners; and ■ take a leadership role in media arts within and beyond the school environment.

Enduring Understanding and Essential Questions in Media Arts

"Media art can make the viewer an active participant.
It can upend the roles of artist and spectator."

—Rudolf Frieling, SFMOMA curator of media arts

The media arts standards include enduring understandings and essential questions to help teachers and students organize the information, skills, and experiences within artistic processes and allow students full exploration of the dimensions of media arts learning. Enduring understandings and essential questions address big ideas central to the discipline of media arts. Organizing learning and thinking around big ideas enables greater transfer of information and skills. It also promotes the activation of prior knowledge and student ability to grasp new information and skills, and builds student capacity to transfer the information and skills to other contexts. When teachers implement and maintain strategies to build metacognition, students can construct their own meaning and understanding.

The enduring understandings and essential questions in the standards provide guidance in the potential types of understandings and questions teachers may develop when designing units and lessons. They are examples of the types of open-ended inquiries teachers may pose and the lasting understanding students may reach in response. The enduring understandings and essential questions are not the only aspects students may explore, nor are they prescriptive mandates for teachers. As examples, they are designed to clarify the intentions and goals of the standards.

Examples of enduring understandings and essential questions for media arts can be seen in the following tables. For the complete set of all enduring understandings and essential questions, see the *Arts Standards*.

Table 4.3: Artistic Process—Creating

Enduring Understanding	Essential Question
Media artists plan, organize, and develop creative ideas and models into process structures that can effectively realize the artistic idea (from Anchor Standard 2).	How do media arts organize and develop ideas and models into process structures to achieve the desired end product?

Table 4.4: Artistic Process—Producing

Enduring Understanding	Essential Question
Media artists integrate various forms and contents do develop complex, unified artworks (from Anchor Standard 4).	How are complex media arts experiences constructed?

Table 4.5: Artistic Process—Responding

Enduring Understanding	Essential Question
Interpretation and appreciation require consideration of the intent, form, and context of the media and artwork (from Anchor Standard 8).	How do people relate to and interpret media artworks?

Table 4.6: Artistic Process—Connecting

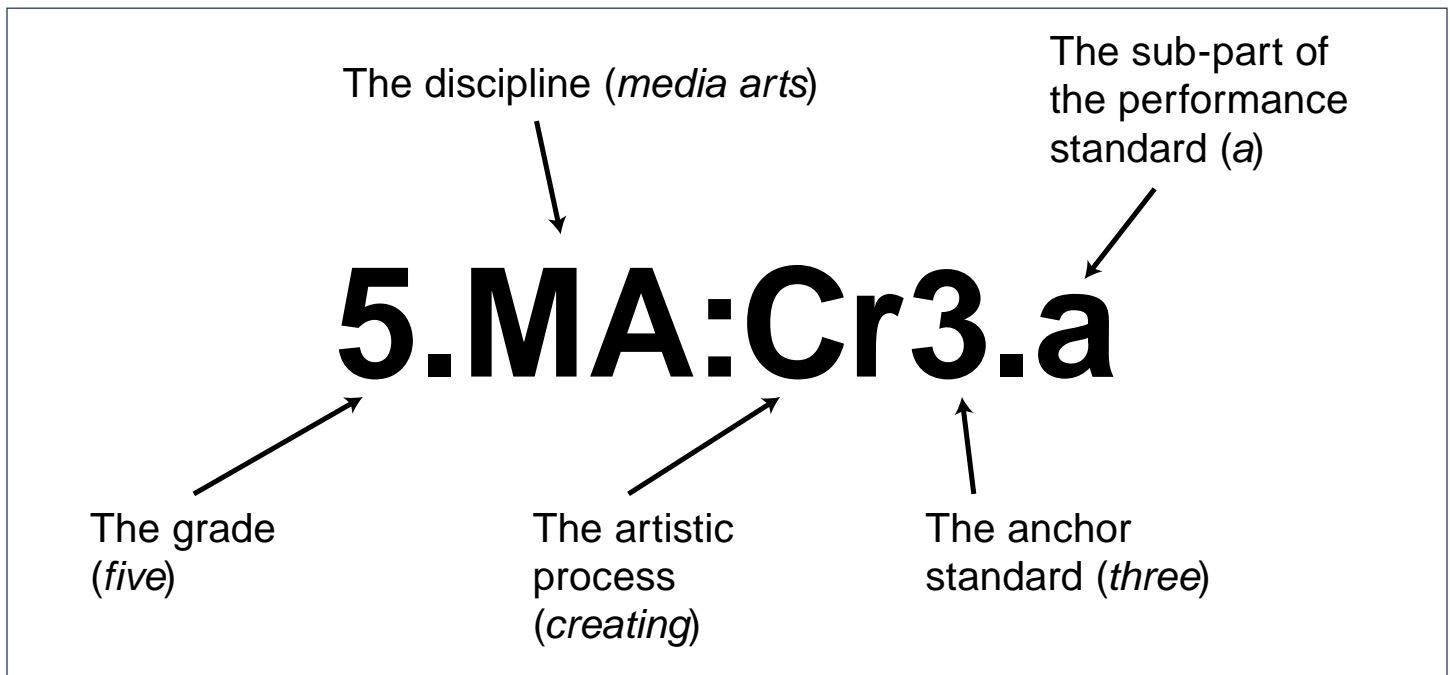| Enduring Understanding	Essential Question
Media artworks synthesize meaning and form cultural experience (from Anchor Standards 10).	How do we relate knowledge and experiences to understanding and making media artworks?

Additional discussion of the enduring understandings and essential questions is found in chapter two, "The Instructional Cycle."

Coding of the Standards

An agreed-upon system for coding allows educators to reference the performance standards more efficiently when planning lessons and units of study. The coding system of the performance standards is illustrated in figure 4.2 and described below. The full code is located at the top of each column of the performance standards.

Figure 4.2: Coding of the Standards

The discipline (*media arts*)

The sub-part of the performance standard (*a*)

5.MA:Cr3.a

The grade (*five*)

The artistic process (*creating*)

The anchor standard (*three*)

The order of coding for the standards is provided below with the codes indicated in parentheses:

1. The **grade level** appears first and is divided into these categories: pre-K (PK); kindergarten (K); grade levels 1–8 (1, 2, 3, 4, 5, 6, 7, 8); and the three proficiency levels for high school, which are Proficient (Prof), Accomplished (Acc), and Advanced (Adv).

2. The **artistic disciplines** appear second: Media Arts (MA).

3. The **artistic processes** appear third: Creating (Cr), Producing (Pr), Responding (Re), and Connecting (Cn).

4. The **anchor standards** appear fourth.

5. The **sub-part of the performance standard** appears last. These sub-parts describe different aspects of the same standard.

The Flexibility of Media Arts Standards

The standards may appear rigid, linear, and restricted in their static written format, but they are flexible by design to meet the varied conditions of media arts instruction. Students will come to the media arts classroom with different amounts of prior knowledge and experience in different forms of the discipline. A fifth-grade elementary classroom, for example, may have students who have had a variety of media arts experiences in multimedia production, such as digital photography and game design. They may have had the privilege of experiencing or producing digital music or virtual reality. Other students may not have had access to these experiences or the technology to facilitate them. Furthermore, the teacher may have limited experience in media arts production.

Because of this, it is useful to view the standards as a flexible "sliding scale" that can accommodate wide-ranging variables. The standards are intended to facilitate student learning rather than to highlight "deficiencies" or situational limitations. The teacher should examine the standards up and down the progression or "scale" of grade levels, as a way of assessing and beginning where the students actually are, always toward the possibility of achieving and exceeding the grade level standard. No matter the students' grade level, the teacher may consider PK and first grade as a starting point for media arts skill instruction (with developmentally appropriate content) to help identify where the student is and target more sophisticated levels. The teacher should determine what sequence of instruction, projects, and problems students will undertake to progress in their media arts learning. The more experiences the teacher can provide in the breadth of media arts production processes, and the more sophisticated the projects, the higher proficiency levels students will attain.

Grade Level Band TK–2

At this developmental level, students can be expected to

- document or record activities;
- combine content into multimedia works (e.g., image with narration and/or music);
- identify and use media arts tools, follow steps in a process, and complete media arts tasks;
- discuss media arts presentations, experiences, and messages;
- discern the components (image, sound, motion, screen, story) of media artworks; and
- discuss media artworks in everyday life.

In the very early grade levels, educators can guide and support students beginning to access digital tools and exploring the technical processes of media arts. Elementary generalists can design instruction based on tools and technical support available at their school site. They can remain within their own comfort level when first teaching media arts

while still designing engaging experiences where students can discover and explore media arts production. Educators can accommodate this basic exploration because the standards are student-centered.

The early grade level standards such as PK.MA:Cr3a, "Make and capture media arts content, freely and in guided practice, in media arts productions," are accessible and useful for elementary teachers as they introduce students to media arts. Students can begin with these very basic processes, no matter their prior experience or grade level.

Potential instructional approaches include

- photo portfolios—focus on elements, themes (e.g., color, people, living things);
- various apps for drawing/painting, musical instruments, recording; and
- documenting through photo or video—daily life, presentations, events.

Teachers can create lessons with simple criteria that students can readily complete in the classroom and outside areas such as, "take pictures of shapes, lines and colors," or "take action shots of classmates at play." The digital camera is an accessible choice and a means for students in the earliest grades to engage in early Creating standards such as PK.MA:Cr3b, "Attempt and share expressive effects, freely and in guided practice, in creating media artworks," and K.MA:Cr3a, "Form and capture media arts content for expression and meaning in media arts productions." While simple, these opportunities to learn in media arts initiate the cognitive process of media production, which then can unfold in an organic and comprehensive way.

Through collaborative approaches, students can take on different roles such as camera person, talent, director, or location scout. They will look at photos as they use the camera and naturally start the Responding process through its various aspects of analysis and evaluation: "Oooh, look at this one!" "I like the way you're jumping here!" "This one is blurry." This can feed the Creating processes of improvisation, play and experimentation, and the generation of ideas and solutions: "Let's try this one again, but she'll stand there, and I'll take the picture from here." "Keep doing that!" "That gives me another idea: what if …," and so on.

This type of media arts experience also provides opportunities to learn and practice a variety of technology-related tasks based on the processes of media arts in other standards, such as California K–12 Computer Science Standard K-2.CS.1: "Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences." Students can benefit from practicing fine motor skills, especially working with a computer mouse, keyboard, stylus, and other technology, while also exploring modes to communicate information (visual images, video, and sound) and their use to produce creative products. In this example teachers could also build in a formal component of the media arts Responding process and integrate English language arts standards such as ELA PK SL.K.6 "Speak audibly and express thoughts, feelings, and ideas clearly."

When planning instruction for the early grade levels, teachers should provide ample opportunities for students to share, discover, and surface their personal ideas and capacities for media production through play and exploration. The standards articulate the development of student independence as students also grow in critical conceptualizing and artistic approaches and skills. The set of Creating standards shown in Table 4.7 provides an example of the scaffolding found within the standards from the earliest grade level through second grade.

Table 4.7: PK–2 Performance Standards for Creating Anchor Standard 1

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Process Component: Conceive.

PK	Kindergarten	First Grade	Second Grade
Share ideas from media artworks through guided exploration of tools, methods, and imagining.	Discover and share ideas for media artworks using play and/or experimentation.	Express and share ideas for media artworks through sketching and modeling.	Explore multiple ideas for media artworks through brainstorming and improvising.

As described, the "pre-production" process component of Conceive is generative and open-ended, where students are free and encouraged to invent their own original ideas for media artworks. Student-driven processes to create original works of their own design and production is a characteristic of the standards across all grade levels. This emphasis on student invention requires that even from early ages they have opportunities to practice taking the lead in determining the intent and purpose of their media arts works.

While the standards can be used to design instruction where students launch their own ideas through media arts works, teachers may want to narrow student choices. Teachers should consider existing constraints such as the classroom situation, the instructional focus, the media arts tools available, and the processes to be emphasized. As in the photography example, there may be only one prompt, where students have a set time limit to take their photographs and select a specified number of photos. Such constraints can build capacity for greater creative and analytic agility.

A first-grade teacher should first notice in the standards the developmental difference between the kindergarten stage of basic discovering and idea sharing, and the more formal first-grade stage of drafting ideas through sketching and modeling. For example, in the case where students are in the process of developing character journeys within a story they are reading, if there is access to digital drawing software or perhaps modeling clay and cameras, the teacher could have students sketch and/or model their own personal variations of the character based on teacher-provided criteria. To support this process, the teacher could have students work in groups that finally select the one model or create a

collaborative version to work with as they develop their character journeys. In this example, after students have used the teacher's criteria, students may want to offer their own ideas for the subject or method of photographing.

Grade Level Band 3–5

In third through fifth grade, teachers may expect students to have had more experiences with media arts including exposure to social media, movies, animations, and virtual and interactive apps. It is possible students have spent time talking about various media artworks, perhaps discussing with friends what they are interested in and staying in touch with the latest updates and trends. However, students may lack experience with the formal production or design underpinning the content of their conversations. Opportunities to motivate engagement are ample through prompts such as, "Create a video that shows us how to do something," or "Show us what [an item or topic] is (e.g., math, an emotion, art, an idea, or subject)," or "Create a short picture story with a beginning, middle, and end."

Table 4.8: Selected Grade 3–5 Creating and Producing Standards

Third Grade	Fourth Grade	Fifth Grade
3.MA:Pr5b Exhibit basic creative skills, such as standard use of tools, to invent new content and solutions within and through media arts productions.	**4.MA:Pr5b** Practice foundational innovative abilities, such as design thinking and novel use of tools, in addressing problems within and through media arts productions.	**5.MA:Pr6** Compare qualities and purposes of presentation formats, associated processes, results, and improvements for presentation of media artworks.
3.MA:Pr6 Identify and describe the presentation conditions, audience, and results of presenting media artworks.	**4.MA:Cr1** Conceive of original artistic goals for media artworks using a variety of generative methods such as brainstorming and modeling.	**5.MA:Cr2** Develop, present, and test ideas, plans, models, and/ or proposals for media arts productions, considering the artistic goals and audience.

It might be assumed that media arts tools are the central aspect of media arts; however, there is little emphasis on tools other than their "standard use" at third grade, then at fourth grade their "novel use," and fifth grade their "experimental use." "Standard use" of media arts tools is then assumed through the Advanced high school level. For a teacher new to media arts, using the tools and navigating their complexity in a lively classroom may raise some anxiety. But in the full range of standards, the emphasis of the standards as a whole is on the creative, the original, the qualities of presentation, and the artistic goals and audience, whereby student media arts works and products are formed. It is possible to trace media arts production to its roots—beyond the use of the equipment altogether.

Video game designs, for example, are often initially sketched and tested through quick paper-based prototyping, and the various types of storytelling media will begin with concept, or rough idea sketching, and creative writing. Engagement in the creative process is the goal rather than a perfect, idealized product or the flawless use of a technology tool. Table 4.9 provides a range of the third- through fifth-grade performance standards to illustrate the expected growth in students' abilities in Responding and Connecting.

Table 4.9: Selected Grade Levels 3–5 Responding and Connecting Standards

Third Grade	Fourth Grade	Fifth Grade
3.MA:Re8 Determine the purposes and **meanings** of media artworks while describing their context.	4.MA:Re9 Identify and apply basic criteria for evaluating and improving media artworks and **production processes**, considering **context**.	5.MA:Re9 Determine and apply criteria for evaluating media artworks and **production processes**, considering **context**, and practicing constructive feedback.
3.MA:Cn10a Use personal and external resources, such as interests, information, and models, to create media artworks.	4.MA:Cn11b Examine and interact appropriately with media arts tools and environments, considering ethics, rules, and fairness.	5.MA:Cn11a Research and show how media artworks and ideas relate to personal, social, and community life, such as exploring commercial and information purposes, history, and **ethics**.

Contextual awareness as related to media arts is a powerful competency for students that assists them when creating and understanding media artworks. Given the vast range of media artworks, each with its own complexities in construction and presentation, developing contextual awareness supports students' growth from basic to a higher-order cultural literacy. Students gain skills and abilities to understand many types of media arts works including the commercial and entrepreneurial understanding of products, markets, users, and audiences.

The disciplines of arts in general, and media arts specifically, implies some interpretation and ambiguity based on the work's organization and intention. Standard 3.MA:Re8 refers to "meanings" of a media artwork within the context they are found. Teachers should facilitate instruction that engages students in identifying multiple meanings and perspectives based on the artist's intent and situation, and the intended and actual situation for that work. For example, a chair design may be very practical and intended for sitting. Another chair design could be whimsical and intended as an object of art, not meant for sitting. Students explore questions such as in the case of considering and responding to the practical chair: Is this utilitarian chair appropriate for the lobby of the theater? Does it work for people with

disabilities? What is the optimal placement for this well-designed, but somewhat ordinary chair? In grade levels three through five, students become more aware of the context in which artworks function.

Standards 4.MA:Re9 and 5.MA:Re9 require students to identify and develop their own evaluative criteria, an essential skill set that scales up over the remaining grade levels. In grade levels four and five, this is developed over the school year through multiple learning opportunities, support, and discussion. As students gain experience in the components and processes of media arts production, they are better able to identify, develop, and apply evaluative criteria. For example, in video production, the criteria may be generalized and simple such as "camera use," "sound quality," and "live action quality." As they progress and gain confidence, students may add additional criteria such as "in a new way." Or they may want to add criteria based on recurring problems they have identified such as, "without shaky camera," or "loud enough to hear clearly." Students are more engaged, thoughtful, and motivated to take command of the media arts process if they construct these criteria themselves. Teachers should continuously build student capacity for giving and receiving constructive feedback and in developing self-reflective practices. Teachers through modeling and providing guiding prompts, such as "One thing that is very successful about your media artwork is ..." can foster these powerful habits in their students. Additional guidance on feedback strategies can be found later in this chapter and chapter two, "The Instructional Cycle."

The grade level band 3–5 encompasses a broad range of emerging media arts literacies across digital environments, aesthetics, and culture. In standard 3.MA:Cn10, students in grade level three are beginning to access various personal and external resources to create their media arts works. This may include personal knowledge and interests, specific content information, and models, or accessing these resources from other sources. Students are immersed in a media arts-saturated world but may be unfamiliar with its formal organization and constructed intentions. They may not realize that various media is organized specifically to attract attention, entertain, and inform, or to persuade and influence behaviors. Through the Connecting standards such as 4.MA:Cn11, teachers design instruction to help students develop critical autonomy across a variety of media arts experiences, through media arts production, and through experiencing media artworks. Teachers guide students in developing abilities to identify the social purposes of various media, such as the categories of popular and social media. Students begin to categorize media by its genre and purpose in everyday life, such as websites for learning and websites for shopping. They also begin to critically analyze media, for example, through issues of fairness and realism.

While students are continually exposed to various media and messaging, they may not be consciously aware of the messaging. They may not understand how media and messaging may affect their thinking, behaviors, and their families, including people they are beginning to identify as part of their community or media and social media celebrities. In standard 5.MA:Cn11, fifth-grade students begin to describe and investigate how media artworks and

ideas relate to their personal lives and their social and community situations. They consider how these messages affect their idea of history and how media conveys information, including for commercial purposes. They continue to consider ethical issues surrounding media arts tools and environments. Teachers create learning opportunities that draw on authentic but developmentally appropriate materials and scenarios as students develop and grow artistically in this grade level band.

Grade Level Band 6–8

In the middle school years, teachers of media arts organize standards-based instruction to support students in developing greater sophistication and depth of knowledge in the entire process of media arts production and design. Teachers with specialized experience in media arts may offer courses on specific forms of media arts, such as animation, in addition to Introduction and Exploration of Multimedia courses. Teachers in other arts and subject areas may access and integrate media arts standards. Media arts standards at this level call for increased student originality and creativity in processes and sophistication in products. Sixth- through eighth-grade media arts standards require students of media arts to

- use "generative methods" to conceive original ideas and creative solutions, such as prototyping, divergent thinking, and experimenting;
- propose and evaluate ideas, plans, and production processes to carry out artistic intentions;
- implement processes that reflect intended purpose and audience, integrating content and aesthetic components, along with associated principles;
- refine works for audiences through intentional accentuation and expression;
- integrate multiple contents and forms into unified productions that convey specific themes or ideas, such as multimedia theatre or video games;
- demonstrate various skills and roles, and creative techniques in collaborative teams;
- demonstrate a defined range of artistic, design, technical, and soft skills, as well as creative abilities, such as adaptive tool use and "bending conventions";
- design presentations and distribution of media artworks through multiple formats and contexts;
- compare and contrast media artworks through the qualities and relationships of their components, contents, intentions, and styles to manage audience experience;
- develop criteria for and evaluate production process and products, considering context, artistic goals, and feedback;
- access, evaluate, and use personal and cultural resources to inform their creations;
- explain how media artworks form and expand meaning and knowledge through cultural experiences, such as online environments and global events;

- research and demonstrate how media artworks relate to various contexts, such as the community, vocations, and history; and

- analyze and responsibly interact with media arts tools, environments, and contexts considering copyright, ethics, and media literacy.

An example of the sequential nature of this complex range of processes, critical for students to achieve and build a foundation for high school, is articulated in the 6–8 sequence of standards in the Responding process component of Perceive.

Table 4.10: Selected Responding, Process Component "Perceive" Standards in 6–8

Sixth Grade	Seventh Grade	Eighth Grade
6.MA:Re7 b. Identify, describe, and analyze how various forms, methods, and styles in media artworks **manage audience experience**.	**7.MA:Re7** b. Describe, compare, and analyze how various forms, methods, and styles in media artworks interact with personal preferences in influencing audience experience.	**8.MA:Re7** b. Compare, contrast, and analyze how various forms, methods, and styles in media artworks **manage audience experience** and create intention.

The enduring understanding for the Responding process component Perceive is, "Identifying the qualities and characteristics of media artworks improves one's artistic appreciation and production." In the following snapshot, students in an animation class explore how to manage audience experience in an animation they are producing.

> **Snapshot:** *Animation Students Explore How to Manage Audience Experience*
>
> **Responding—Anchor Standard 7:** Perceive and analyze artistic work.
>
> **Enduring Understanding:** Identifying the qualities and characteristics of media artworks improves one's artistic appreciation and production.
>
> **Essential Questions:** How do we "read" media artworks and discern their relational components? How do media artworks function to convey meaning and manage audience experience?
>
> **Process Component:** Perceive
>
> **Performance Standard: 8.MA:Re7** b. Compare, contrast, and analyze how various forms, methods, and styles in media artworks **manage audience experience** and create intention.

Mr. O's animation students have reached the mid-year point. Throughout the year his students have acquired skills to construct and deconstruct media artworks to identify the qualities and relationships between the components and content that convey meaning and manage the audience experience. They have examined exemplary works and demonstrated in their own creations how the components of rapid frames, artistic continuity, compositional arrangement, and animation physics and story combine to make an effective scene. They are now ready to progress to the next level in understanding of how a story narrative arc requires anticipation and multimodal coordination to construct dramatic tension at a pivotal climax of action.

Related English Language Arts Standards:

- RL6.3—Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

- RL7.3—Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

- RL8.3—Analyze how particular lines of dialogue of incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

Although Mr. O's students have encountered countless movies and story books as viewers and readers, they do not yet fully realize that as creators they need to deliberately construct and manage the audience's "multimodal" experience of those critical moments of the animation. As an example, if the protagonist is overcoming the challenge of an adversary, the audience needs to be carried through a skilled orchestration of multimodal events in order to empathetically experience the hero's decisive victory. Elements may include timing, slowing, and zooming into emotional close-ups and detailed struggle points to build tension; emotional soundtracks; and rapid editing with angled shot sequences and explosive actions.

This becomes a critical area of learning for Mr. O's students. They, through Mr. O's thoughtfully crafted instructional sequences and effective teaching, are growing in their understanding that cinematic communication requires attention to detail, comprehensive articulation, and considerable effort to achieve. Once they obtain mastery of cinematic imagining, they will also have a deeper understanding of the power of media artworks. They then are viscerally aware of how media arts can manage the audience's attention and interest in multimedia.

Mr. O, through constructing instruction utilizing the Responding standards' essential questions, helps his students become specialists in media arts production and perception, and in the critical evaluation of multimodal management that is pervasive in modern media arts-centered society.

Competency Transfers to Other Genres

The model of developing competency described above transfers to other media arts genres whereby students are immersed in the media arts lenses of experiencing and manipulating aesthetic phenomena and cultural experience. Photography students begin to view the world through the lens of the camera with a new aesthetic sensibility and appreciation. News production students begin to view the world through factual story and social importance. Sound production students begin to hear an expanded world of aural and verbal meaning.

> "If you don't have anything to say, your photographs aren't going to say much."
>
> —Gordon Parks, American photographer

Middle school years are a critical period for students as they form lifelong habits and develop personal practices to balance the pressures of peers and societal conventions. In producing media artworks, students can respond with their own messaging and gain personal resilience. Students begin to realize they can be both participants and contributors to society and culture through their media artworks.

As students' understanding of their world develops, teachers can support them in creating media arts works that cross disciplines and subject areas moving toward more sophisticated productions. In the following vignette classes of combined grade levels of students focus on the media arts process component Integrate in order to grapple with how two arts content areas, dance and film, can be integrated into a unified whole.

Vignette: Collaboration on a Dance Film

PRODUCING—Anchor Standard 4: Select, analyze, and interpret artistic work for presentation.

Enduring Understanding: Media artists integrate various forms and contents to develop complex, unified artworks.

Essential Question: How are complex media arts experiences constructed?

Process Component: Integrate

Performance Standards:

6.MA:Pr4 Demonstrate and rationalize how integrating multiple contents and forms can support a central idea in a media artwork, such as media, narratives, and performance.

7.MA:Pr4 Integrate multiple contents and forms into unified media arts productions that convey consistent **perspectives** and narratives, such as an interactive video game.

8.MA:Pr4 Integrate multiple contents and forms into unified media arts productions that convey specific themes or ideas, such as interdisciplinary projects, or **multimedia theatre**.

Dance Standards:

7DA:Cr3b Investigate and use a recognized system to document dance sequences (e.g., writing, a form of notation symbols, or using media technologies).

8DA:Cr3b Experiment with aspects of a recognized system and use the system to document one or more sections of a dance (e.g., writing, a form of notation symbols, or using media technologies).

At a middle school, a media arts video production teacher collaborates with the dance teacher on designing a culminating project for their students. This will call for the video production students to work collaboratively with dance students on producing a dance film. Dance students are given a choreography assignment that includes the use of a prop for inspiration. The students use the assigned prop as the "jump-starter" to their artworks while considering the levels of literal and abstract representations as they begin to create. Students form self-selected teams to create their films. Students in both classes are given time to meet with each other and develop their ideas, storyboards, music/audio, choreography, props, costumes, lighting, and setting.

Throughout the process, as they work, the students take into consideration what they have learned in the areas of professional integrity as creatives and current laws and guidelines related to intellectual property, recording, and copyright rights. Together, they make artistic choices that consider aesthetics from two different disciplines. The goal is for the student collaboration to create an artwork that is more than a music video or simple recording of a dance performance. In both classes, students use journals to document the process of their creative work. They capture all potential scores, notes, sketches of the work, responses to feedback suggestions, and respond to reflective prompts provided by the teachers. Journals are shared with and read by the teachers throughout production, including immediately before production, and teachers provide constructive comments both in the journal and in student–teacher

conversations. The journals allow teachers to check on student progress, gain insight into their creative process, and provide formative feedback.

Throughout the production process, students are encouraged to post behind-the-scenes progress online to a class forum. As students share their work in this manner, they receive and consider feedback from other students and teachers that have access to the class forum and understand the guidelines for posting feedback. Each team works together during the post-production process to edit and finalize their dance film.

Final dance films are screened in the video production and dance classes. Students have the opportunity to present their work in both classes in a film festival-like setting. They celebrate their accomplishments, publicly reflect upon their process and learning, and receive final feedback from their peers.

Ready for High School

Through well-planned, standards-based, student-centered teaching and learning, middle school students are equipped with critical media arts knowledge, skills, and awareness. As students transition to high school, they are prepared to make choices which may include continuing to explore a range of aspects of media arts or following a specialized focus within media arts.

High School

As in middle school, teachers of media arts at the high school level conduct specialized and, possibly, advanced courses in video production, animation, sound production, graphic design, 3D design, or video game design. In all of these courses, teachers design comprehensive instruction that encompasses all the artistic processes, process components, and related standards, through the lens of the specific form or a combination of categories of media arts.

As in all grade levels, media arts teachers utilize media arts standards in accordance with the diverse abilities and backgrounds of their students. In arts courses it is rare for students to be uniform in their proficiency levels. A single class may consist of students with a variety of proficiency levels, experience, and abilities. The class may be mostly advanced learners, with a few intermediate and beginning students. The class may include a range of learners with linguistic diversity. Some students may require accommodations or additional support. Some students may be identified as gifted and have the potential to advance very quickly. To meet the needs of all learners, teachers must be proactive in their planning of instruction. Media arts production processes can be very flexible and adaptable for all students. A "sliding scale" approach to student proficiency in the standards allows media arts teachers great flexibility in tailoring instruction to these various levels while allowing for learner variability.

The range of student experience and ability is an important consideration of instructional design, alongside the essential aspects of authentic, rigorous, and engaging lessons, units, and projects. An example from a beginning digital imaging course for a project at the start of the year illustrates the complex act of balancing instruction. The teacher encounters a wide range of student ability, including many students with no prior media arts instruction, a significant number of English learners and students with disabilities, and a few experienced and gifted students. The teacher must consider this range of abilities as they design instruction to do the following:

- Plan learning opportunities that are engaging and understandable and leverage students' innate interest in production.
- Introduce a limited range of tools and technical processes.
- Accommodate the full range of students including new students that enter the class as schedules change.
- Challenge all students immediately while also targeting standards-based competency with the base problem of imaging content—how to construct and evaluate effective 2D visual meaning.
- Promote individual creativity by having students immediately engage in producing original work.
- Build capacity for self-directedness.
- Scaffold into a more constrained, focused, complex assignment.

Such instruction would involve assignments and tasks with very simple steps and procedures, easily available through a web interface and be open to wide variations in product. It would be somewhat intuitive in rendering shapes and colors and tap immediately into student's creative abilities to manipulate their images toward formal compositional effect. Students can sit in heterogeneous arrangements of ability and language proficiency so that the teacher, or other students, can quickly introduce new students to the program and steps, assist those who need it, and allow advanced students to proceed to their own levels and open-ended outcomes of creative production. This can help develop course norms where students are not just engaged in creative production, but also in peer assistance, collaboration, and academic talk.

High School Proficient Level

Students working toward proficiency in media arts standards at the high school level are becoming more self-directed and determining their own goals to achieve an original artistic result. Teachers plan learning experiences that emphasize intentionality, the act of making artistically deliberate choices in content, technique, and style. Intentionality should be observable throughout the production processes, including at creative decision points, and in end products.

In high school, students who attain the Proficient level are expected to perform the following:

- Generate multiple ideas and solutions
- Apply aesthetic criteria across processes
- Make artistically deliberate choices and refinements that demonstrate knowledge of aesthetic principles
- Create unified productions for specific audience reactions and interactions
- Demonstrate a range of technical skills and creative abilities with constraints
- Consider formats, contexts, and desired outcomes to produce and present media art works
- Analyze the construction of messages and management of audience experience
- Respond with varying interpretation and evaluations to contextualized media art works
- Identify the formation of cultural meanings, experiences, and influences of media art works on values and behavior

As students work to attain proficiency in media arts, and develop intentionality, they will learn more about their strengths, weaknesses, and personal preferences and interests. During this initial exploration, teachers structure learning experiences that support and guide students while also encouraging students to experiment and form a sense of personal direction as and develop confidence. Projects that are structured around open-ended creative decision-making and include different combinations of repeated project elements create a pathway for students to engage in creative exploration while honing their technical skills.

Teachers steadily develop student intentionality by scaffolding learning through small projects, rapidly implemented, with more achievable results, rather than having students invest time and energy in one or two major projects that require larger leaps in learning. This enables incremental and steady growth, with frequent opportunities to learn from smaller, less consequential errors. This approach is recommended across forms and genres, particularly for novice learners in media arts. The following vignette is an example of scaffolding learning through small projects.

CREATING—Anchor Standard 1: Generate and conceptualize artistic ideas and work

Enduring Understanding: Media arts ideas, works, and processes are shaped by the imagination, creative processes, and by experiences, both within and outside of the arts.

Essential Questions: How do media artists generate ideas? How can ideas for media arts productions be formed and developed to be effective and original?

Process Component: Conceive

Performance Standard: Prof.MA:Cr1 Use identified **generative methods** to formulate multiple ideas, develop artistic goals, and problem solve in media arts creation processes.

When teaching coding for interactive visuals the teacher sets up a series of mini projects where students can repeat several basic modules which can then be combined and varied. The students quickly gain confidence in repeating the basic code, and then explore ways of tweaking the variations to discover new and original iterations. Soon they are sharing their own and studying each other's works and finding surprising and exciting results. The coding lab has gained the feeling of a "hackathon" where students are motivated to push further and to be the first to find the next, most interesting, variation.

Beginning students may be able to experiment and generate creative variations but may not necessarily know that they have achieved a successful product in every instance, particularly if they have come up with an unusual solution. If students are rapidly iterating, they may also be discarding these strange and interesting solutions. To address this, the teacher can build into the assignment a requirement to save these works. This collection of student work can be a source for learning opportunities. Teachers can point out elements in the work where students may have unintentionally moved beyond proficiency. This is an opportunity to relate the work to advanced or professional examples.

This approach supports students in developing a growth mindset and learning to see mistakes as potential sources for innovative solutions. This is an important step toward developing creative proficiency in the intentional bending or breaking of assumed rules that might prevent students from trying something different. Understanding the creative and unusual also helps students become more aware of the ordinary or conventional, a difference that proficient students need to understand in order to demonstrate intentionality.

High School Accomplished Level

The Accomplished level standards build on the proficient level of intentionality and develop the student's capacity for independent, consistent, and varied artistic accomplishment. *Accomplished* student media art works and processes reflect the following:

- Strategic generation toward increased originality
- Personal aesthetic within authentic artistic parameters
- Artistic craft in stylistic conventions and impactful expressions
- Thematic integrity and stylistic consistency
- Effective, creative, and innovative practice within sophisticated challenges and various contexts
- Sophisticated analytical abilities that consider complex relationships and varying contexts
- Demonstrated cultural connections

Instruction aligned to the accomplished level media arts standards will begin to introduce increasingly sophisticated and realistic conditions for classroom problems that are both engaging and challenging. Students are beginning to understand their own strengths, interests, and goals with their growing artistic competency. Teachers design instruction to promote this interest-driven energy while continuing to scaffold increased and comprehensive competence and potential. For example, in the camera role in video production, a student with a great deal of confidence in their ability in this role may assume they can just repeat that narrow role or technical skill set again and again. The challenge for the teacher is to coach and balance instruction with diverse learning objectives and a variety of lessons, practice, projects, and experiences that are engaging and inclusive for all students, and that motivate students across a broad range of skill sets.

Students working at the Accomplished level in media arts begin to create highly effective, purposeful, and impactful works around real-world issues. They begin to see larger possibilities and realize their own potential as creative media arts producers. This creates a collective enthusiasm and inner motivation that can propel students to ever greater levels of proficiency and cultural enaction which fosters the self-directness that is an essential objective of Advanced media arts learning and creating.

Snapshot: *Media Arts as a Nexus for Authentic Learning*

In an intermediate or advanced level audio production course, students apply their skills in a real-world context to produce a youth radio podcast. A podcast provides opportunities to meet learning objectives in many other subject areas (depending on the content of the podcast) during the pre-production and production stages. Basic podcasting requires an audio recording device, a computer, and an internet connection, and can be done in a variety of different environments and communities. There are many roles for students to fill—from writer to engineer—allowing for each student to find an entry point into the project.

Research: A podcast that focuses on issues impacting a student's community through research and interviews allows teachers to design instruction that utilizes media arts standards such as Acc.MA:Cn10a, "Synthesize internal and external resources, such as cultural connections, introspection, independent research, and exemplary works, to enhance the creation of compelling media artworks," and Adv.MA:Cn11a, "Demonstrate the relationships of media arts ideas and works to personal and global contexts, purposes, and values, through relevant and impactful media artworks."

Music Composition: Produced for the podcast for use as interstitials, theme music, or a soundtrack provides opportunities for integration of the music standards such as Acc.MU:C.Cr2a, "Assemble and organize multiple sounds or musical ideas to create initial expressive statements of selected sonic events, memories, images, concepts, texts, or storylines."

Writing: The content development will require students to produce writing that is clear and coherent. Students gather information from multiple sources, potentially answering a research question or solving a problem. Through this process, teachers can authentically integrate many of the English language arts (ELA) writing standards for eleventh and twelfth grade, such as ELA W.11-12.3: "Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences .... Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters."

Media Arts Production and Distribution: Instruction leading to the production of this podcast, and its subsequent distribution on the internet, addresses the media arts standards in the artistic process Produce, such as Adv.MA:Pr6, "Curate, design, and promote the presentation of media artworks for intentional impacts, through a variety of contexts, such as markets and venues," and can provide the teacher the opportunity to integrate the ELA standards for eleventh and twelfth grade that require students to use technology to publish work, such as WHST.11–12.6, "Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information."

High School Advanced Level

As Accomplished level students transition into Advanced level students, they begin to become more independent cultural participants and producers. They are attaining a lifelong capacity for creative inquiry and the ability to

- formulate lines of inquiry and solutions within and through media arts productions;
- analyze and evaluate intent and meaning of diverse works considering context and bias;
- design presentations for intentional impacts across contexts, such as markets;
- demonstrate media arts' consummation of new meaning, knowledge, and cultural experience; and
- critically investigate and strategically interact with systemic and cultural contexts considering individual and community impacts.

They begin to see their abilities and roles expanding beyond teacher-assigned projects and the media arts classroom. They understand the potential for their cultural products to make a positive impact. They begin to demonstrate media arts fluency that extends beyond the classroom by producing works such as websites, documentaries, news segments, graphic design materials, or interactive applications for other classes, their school or district, and their communities.

The snapshot below provides an example of how a young media artist begins to formulate their own uniquely media arts expression. The student has developed media arts capabilities for intermodal and intermedia fluency in production tools, style, and technique that provides the foundation for creating their own creative inquiry.

Snapshot: *The Student as Media Artist*

A student artist, who through her classes, identifies as being a media artist explores her own personal line of inquiry. She has written a poem and begins to imagine the possibilities for expressing the various multimodal sensibilities of this poem. She says the lines aloud and in various tones and cadences, and begins to envision various accompanying sounds and tones, ambient and musical, ethereal and emotional. They begin to evoke an environment—an environment that evolves, changes, moves across spaces. She envisions multiple tracks of sound. Her voice is amplified and echoed. It reverberates and cascades to evoke images, memories, and then flashes of scenes and events. She begins to imagine video tracks and the placement of various screens and projections in this space. She imagines multiple tracks of video that are synchronized and asynchronous.

She considers her audience and their possible interaction or participation in the work. She imagines people walking within her poem, looking at various lines and words of the poem evoked in her narration and accompanied by sounds, images, objects and props, and even other actors and dancers that support that evocation. The audience can take pictures and recordings and comment and remix and share them. Those pictures and comments can be captured as the audience moves through and interacts with the work. The artist can add an augmented reality aspect and collaborate with other students.

She thinks across elements, forms, space, and time as variables. She plays with the multiplicity and the singular, the individual and collective, the unifying and the discordant. Her poem is becoming an experiential theatre, an interdimensional installation in various rooms and spaces. It is a kind of performance-installation-sculpture-poem. It is a "mixed reality."

Sample Purposes

Sample purposes that can drive instructional assignments for Accomplished or Advanced video production classes include:

- Create an original short narrative film or animation informed by individual cultural experiences.
- Examine a specific community issue, such as homelessness, racism, cultural identity, or the controversy around immunization, and determine how they would report on it in their own news-style investigations.
- Advocate school programs, courses, or a change in conditions, such as initiating a music program, expanding visual arts courses, gender-neutral bathrooms, or the need for healthier school food choices.
- Develop public relations materials for the school's recruitment or publicity campaign—brochures, flyers, presentations, promotional videos, or websites.
- Produce training videos for school and district staff in new methods or protocols.

The following list provides some possible examples of culminating multimedia products that Accomplished and Advanced students may create as outcomes of integrated authentic standards-based interdisciplinary instruction in media arts:

- Video "magazine" broadcast—a variety of video genres and segments across subject areas and arts disciplines, e.g. journalism, content presentations, arts events and advertisements, game show, quizzes, human interest, poetry, etc.
- Multimedia theatre—a variety of live, recorded, and "media augmented" presentations across subject areas and arts disciplines.
- Multimedia installation/performance—inter-arts environment in several spaces, based in literature and a student's personal experience.

- Multimedia yearbook—documenting and representing the variety of school activities and events across web and print publications.

- Virtual and industrial 3D design—objects, tools, products for various purposes (e.g., architecture, landscape, civic, furniture, tools, transportation).

- Interactive application design—for subject area content or a community purpose.

- Interactive video game—3D animation, computer science, and engineering.

- Video narrative—students write and produce a dramatic story or series.

- Radio/podcast—student-run radio and podcast channel in a variety of student-directed content.

Media art works produced by Advanced students reflect a sophisticated personal aesthetic and knowledge of systems processes; synthesis of compelling and unified media arts productions; and mastery across artistic, design, technical, and vocational skill sets. When planning instruction, teachers of advanced students consider authentic learning through the pursuit of independent lines of inquiry with possible future postsecondary study and/ or entry level careers in media arts in mind. This includes projects and learning sequences that encompass authentic conditions of aesthetic standards, operational and technical procedures, and defined timelines and presentation contexts as in the following snapshot.

Snapshot: Advanced STEAM Culminating Projects

Focus: CREATING—Anchor Standard 2: Organize and Develop Artistic Ideas and work (Process Component: Develop).

Key Performance Standards:

- **Adv.MA:Cr2** Integrate a sophisticated **personal aesthetic** and knowledge of **systems** processes in proposing, forming, and testing original artistic ideas, prototypes, and production frameworks, considering complex **constraints** of goals, time, resources, and personal limitations.

- **Adv.MA:Pr5** b. Fluently employ creativity and innovation in formulating lines of inquiry and solutions to address complex challenges within and through media arts productions.

- **Adv.MA:Pr6** Curate, design, and promote the **presentation** of media artworks for intentional impacts, through a variety of **contexts**, such as **markets** and venues.

- **Adv.MA:Cn10** a. Independently and proactively access relevant and qualitative resources to inform the creation of cogent media artworks. b. Demonstrate and expound on the use of media artworks to consummate new meaning, knowledge, and impactful cultural experiences.

Related NGSS Engineering Standards for High School: Students who demonstrate understanding can:

- HS-ETS1.1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

- HS-ETS1.2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

- HS-ETS1.3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

- HS-ETS1.4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

Students in the advanced Media Arts Design class in their school's STEAM program are nearing the completion of a three-year sequence in 3D and virtual media arts design courses. The purpose of the program is to develop fluency across media arts forms combined with engineering skill sets for effective designs within a student determined setting, such as industrial, social, educational, or environmental. The students have mastered a variety of virtual and 3D design and multimedia production tools and processes, as well as the design-based process of identifying problems and the research and development of effective solutions. They are also versed in engineering processes and technical manufacturing. The course is inherently interdisciplinary across areas that the students and their teachers have determined for student specializations in the final two years. The culminating project in the program is to identify and address a local community issue or problem and to develop a solution that is either presented or authentically represented.

Students have spent the second half of the course in teams identifying and researching their design problem, developing possible solutions, and preparing robust proposals and presentations to community specialists and representatives. The concepts, models and presentations are informative and meet a high level of achievement in technical accuracy, effectiveness, feasibility, scalability, creativity, and innovation. The community is eagerly anticipating this culminating work and some projects may receive community support for implementation.

Student presentations consist of combinations of media arts forms, and information, including

- PowerPoints, TED-style talks, 3D animations, informational videos, 3D printed models, interactive multimedia displays, mixed reality exhibits, websites, concept sketches, student journals, and project development artifacts;

- supporting research and documentation such as engineering specs and calculations, materials and technical manufacturing processes, budget costs and projections, pilot parameters and timelines possible challenges and solutions project benefits; and

- academic documentation of interdisciplinary standards-based achievements across content disciplines, holistic assessments of student learning, and student reflections.

A sample of the resulting student projects include the following:

- Sustainable Transportation Model—solar energy modular pods, for automated lanes within urban centers

- Learning Pathway Application—assists students in monitoring and determining their individual learning pathways across standards, courses, and achievements

- School Green Space Design—proposes the remodel of a dilapidated industrial arts space and open quad toward a mini-ecosystem for biology and green engineering research, and student edification and quiet space

- 3D Design Space—proposes the development of a self-sustaining 3D manufacturing space to meet the growing needs of the school's 3D design program toward an entrepreneurial outlet for projects and products to meet local community needs

- Vertical Farming Silo—proposes a sustainable, hydroponic, aesthetically designed greenhouse facility that produces a variety of organic vegetables and fruits with low water and energy usage

- Virtual Reality Global Warming Learning Experience—a virtual reality prototype that realistically mimics various geographic and ecological effects of global warming so that audiences can authentically experience its impacts

- Transmedia Literacy Project—proposes a student produced transmedia project across all media platforms to support community-wide attainment of robust media and digital literacies

Assessment of Student Learning in Media Arts

Assessment is a process of collecting and analyzing data to measure student growth and learning before, during, and after instruction. The assessment of student learning involves describing, collecting, recording, scoring, and interpreting information about what students know and are able to do. A complete assessment of student learning should include multiple measures through a variety of formats developmentally appropriate for the student.

Assessment must be both formative and summative to be effective. Assessment is most effective when it

- is provided on a regular, ongoing basis;

- is seen as an opportunity to promote learning rather than as a final judgment;

- shows learners their strengths; and

- provides information to redirect efforts, make plans, and establish future learning goals.

Media arts is made of diverse and ever-changing forms, genres, stylistic methods, tools, processes, objectives, and generational trends.

Authentic assessment measures understanding of concepts, skills, and the ability to engage in the artistic processes. Authentic assessment happens in real time, as the student demonstrates the knowledge, skill, and engagement in the process. This can include students working in artistic development and construction, preparing for a production, hypothesizing how media art influences perception and understanding of human experiences, and synthesizing knowledge of social, cultural, and personal life with multimodal artistic approaches. Authentic assessment provides students the opportunity to demonstrate their understanding through the genuine application of the knowledge and skills necessary to engage in each of the artistic processes: Creating, Producing, Responding, and Connecting. With the teacher's expert modeling and guidance, students enact these artistic processes as they create original media artworks. Students exhibit effective and deliberate effort in pursuit of meeting specific standards-based criteria in process and product. These standards-based student efforts are observable performance traits that guide teachers as they provide formative feedback and assess student achievement.

Tools for assessment can include selected response, open response, portfolios, open-ended prompts, performance criteria, criterion-referenced, performance/authentic assessment, and analytical and holistic scoring rubrics (all of which are outlined in chapter two, "The Instructional Cycle"). Assessment can be project based or designed as performance tasks to showcase student originality and creativity.

Effective assessment of media arts learning is specific and transparent. The students *and* the teacher engage in the process of assessing. Effective learning experiences provide multiple measures, both formative and summative, that assess the technical (media arts

skills and use of tools), the formal (production and composition), the personal (creative and expressive qualities and multimodal perceptions), and provide learners the opportunity to articulate understanding that their media artworks may not readily demonstrate. In media arts learning, it is important to view all assessment as a tool for learning. Media arts learning and assessment in a TK–12 setting is a fluid process, not a final goal with an end point. Media arts educators benefit from the view that learning is never complete. This lens provides students and teachers with opportunities to grow in their understanding of fundamental and more sophisticated concepts throughout the process.

In the media arts classroom, as teachers continuously assess student progress toward media arts literacy, creativity may seem to be an elusive quality that is impossible to teach. Despite the power and potential of many easy-to-use media arts tools that can provide great possibilities for invention and expression, the complex technology and technical processes of media arts may actually inhibit experimentation, spontaneity, and originality. To develop resilient and versatile "creative muscle," teachers can provide formative feedback specifically to support the practice risk-taking and divergent thinking across a range of experiences.

Snapshot: *Teaching Creativity as a Core Capacity for Media Arts Productions*

In a high school proficient-level 3D design course, students are learning to manipulate three-dimensional modeling tools through the program's complex interfaces. They design complete three-dimensional environments and characters on which to base their own original stories. Students can zoom in, zoom out, and rotate objects on X, Y, and Z axes. They can model 3D forms using geometric "primitives," and then perform increasingly detailed additive and subtractive sculpting and texturing toward organic realism. In the design-based process, they can save variations of their works as they proceed, resulting in many "iterations" or "prototypes" of their characters and environmental elements. Such iterative production and stretching conventions are the foundations for teaching creativity as a core capacity for media arts productions.

Many of the students in this class have had little prior media arts learning and experience. The teacher designs instruction considering the seventh-grade through Accomplished-level standards creating individual learning goals for each student based on their current level of proficiency. These become the learning objectives, and the basis of assessment criteria and rubric which is shared with students to clearly articulate the learning expectations and demonstration of achievement.

Learning Objectives
1. Students will demonstrate the basic ability to manipulate technical interfaces to create original objects, characters, and elements.

2. Students will shape individual forms into diverse, creative variations that are unusual and highly expressive.

The teacher is focused on four sequential from grade seven through Accomplished Creating standards.

Artistic Process: CREATING—Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Enduring Understanding: Media arts ideas, works, and processes are shaped by the imagination, creative processes, and by experiences, both within and outside of the arts.

Essential Questions: How do media artists generate ideas? How can ideas for media arts productions be formed and developed to be effective and original?

Process Component: Conceive

Performance Standards:

7.MA:Cr1 Produce a variety of ideas and solutions for media artworks through application of chosen **generative methods** such as **concept modeling** and prototyping.

8.MA:Cr1 Generate ideas, goals, and solutions for original media artworks through application of focused creative processes, such as **divergent thinking** and experimenting.

Prof.MA:Cr1 Use identified **generative methods** to formulate multiple ideas, develop artistic goals, and problem solve in media arts creation processes.

Acc.MA:Cr1 Strategically utilize **generative methods** to formulate multiple ideas, and refine artistic goals to increase originality in media arts creation processes.

Rubric

Criteria	Emerging	Developing	Proficient	Accomplished
Objective #1: Idea generative process	Produces and documents *3–5 ideas that show significant variations of original object.*	Produces and documents *4–6 ideas and outlines goals.*	Produces and documents *4–6 ideas, explains what generative methods were used, and outlines goals.*	Produces and documents *4–6 ideas, explains what generative methods were used, and refines goals.*

Rubric *(continued)*

Criteria	Emerging	Developing	Proficient	Accomplished
Objective #2: Manipulation of technical interfaces	Creates 3–5 prototypes using the modeling tools	Demonstrates divergent thinking and manipulation	n/a	Demonstrates increased originality
Objective #3: Individual forms	Engages in concept modeling and prototyping	n/a	n/a	n/a

The teacher demonstrates the ability to form variations of one object, selecting an animal's head as an example, which is simple, cartoonish, and cat-like. The teacher saves one version and then proceeds to create and save several more iterations with various exaggerations and alterations of the head's elements. In the demonstration, the teacher wants to ensure that students understand that they need to be creative and generate several different and original models. They also show work from student portfolios, which exhibit wide ranges of creative prototypes, along with the assessment rubric, including a student portfolio with a narrow, limited quality of variations. The students collaboratively and individually analyze the work from the portfolios based on the rubric. As a result, students are well-oriented in the criteria by which they are to be assessed.

As the students construct their own characters and variations during this phase of the unit, the teacher observes, assists, and guides students through the process, demonstrating techniques and encouraging experimentation and risk-taking. Students are coached to try unusual methods and use their imaginations to form new creations. Teacher feedback is positive, while also offering recommendations for more exacting and innovative techniques.

In this process, the teacher is assessing students as they engage in the Creating process component: Conceive. The teacher is observing and providing feedback on students' skills and use of the tools, also noting to what degree they have understood and are making efforts toward the goal of achieving unusual and varying results. Some students quickly generate a wide range of creative ideas in models, while others seem reluctant to experiment. *Are they having technical difficulties? Are they afraid of making "mistakes"?* For students with less prior instruction in media arts who are less familiar with such open-ended invention, the teacher sits at the student's workstation and models the process for them. Later, students use a peer-based assessment method where student groups collectively determine and note class members' success at achieving specific rubric criteria.

Encourage Discussion

Across the processes of Creating, Producing, Responding, and Connecting, students are encouraged to discuss their ideas and perceptions with their peers through verbal and visual languages. Students, learning in media arts, assess at multiple checkpoints and reflect often during practice. For example, students experiment with ideas, design, and tools while simultaneously self-assessing their progress and outcomes. One enduring understanding in the PK–12 media arts Creating standards states, "Media arts ideas, works, and processes are shaped by the imagination, creative processes, and by experiences," and the standards ask students to create artworks by engaging in various experimentations. In particular, MA:Cr1 encourages students to explore various ideas, materials, techniques, and methods. Assessment should guide the thinking, development, and production of creative endeavors for students and teachers in the media arts classroom. Throughout this learning, informal formative assessments provide teachers with insight on student progress and inform next steps (PK.MA:Re9–5.MA:Re9). Learners should observe, reflect, and self-assess based on learning criteria and/or expectation.

Table 4.11: Responding Standards PK–5

Standard	Performance Standard Language
PK.MA:Re9	With guidance, examine and share appealing qualities in media artworks.
K.MA:Re9	Share appealing qualities and possible changes in media artworks.
1.MA:Re9	Identify the effective **components** and possible changes to media artworks, considering viewers.
2.MA:Re9	Discuss the effectiveness of **components** and possible improvements for media artworks, considering their **context**.
3.MA:Re9	Identify basic criteria for and evaluate media artworks and **production processes**, considering possible improvements and their **context**.
4.MA:Re9	Identify and apply basic criteria for evaluating and improving media artworks and **production processes**, considering **context**.
5.MA:Re9	Determine and apply criteria for evaluating media artworks and **production processes**, considering **context**, and practicing constructive feedback.

Through the Cr3 standards, students build capacity to share, explain, and reflect on choices made while working on an artwork and formulate plans to better articulate intention in an artwork through revision. The process of reflection, self-assessment, and revision provides meaningful opportunities for evaluation as the students are expected to create with intention and set goals for their artmaking. For example, by fifth grade, students are asked to "Create content and combine **components** to convey expression, purpose, and **meaning** in a variety of media arts productions, utilizing sets of associated **aesthetic**

principles, such as **emphasis** and **exaggeration**," (5.MA:Cr3a) and to "Determine how elements and **components** can be altered for clear communication and intentional effects, and refine media artworks to improve clarity and purpose" (5.MA:Cr3b). This expectation of reflection and articulating intent is reinforced and expanded in middle and high school.

Table 4.12: Creating Standards Related to Artistic Intent and Refinement

5.MA:Cr3	8.MA:Cr3	Acc.MA:Cr3
a. Create content and combine **components** to convey expression, purpose, and **meaning** in a variety of media arts productions, utilizing sets of associated **aesthetic principles**, such as **emphasis** and **exaggeration**.	a. Implement **production processes** to integrate content and **stylistic conventions** for determined purpose and **meaning** in media arts productions, demonstrating understanding of associated **aesthetic principles**, such as theme and unity.	a. Effectively implement **production processes**, artistically crafting and integrating content, technique, and **stylistic conventions** in media arts productions, demonstrating understanding of associated **aesthetic principles**, such as consistency and **juxtaposition**.
b. Determine how elements and **components** can be altered for clear communication and intentional effects, and refine media artworks to improve clarity and purpose.	b. Refine media artworks, improving technical quality and intentionally accentuating stylistic elements, to reflect an understanding of purpose, audience, and place.	b. Refine and elaborate aesthetic elements and technical **components** to intentionally form impactful expressions in media artworks for specific purposes, audiences, and **contexts**.

Critical learning skills and a deeper comprehension of concepts takes place when a student critiques their own work. Metacognitive awareness takes place when a student self-evaluates to improve on a set of skills they are learning. Guided peer critiques throughout the creative production process, with the aid of a rubric, initiate investigation and challenge students to develop higher outcomes. Providing one-on-one feedback throughout the creation process, or using open-ended prompts to evoke deeper thought, can foster a deeper understanding of choices students make. Group critique encourages a media artist to consider choices they may not otherwise consider. Self-reflection that occurs at the end of a project, whether in verbal or written form, stimulates investigation resulting in focused goals for future projects. In addition, these kinds of critiques offer an opportunity to practice using critical media arts vocabulary for expression. The following snapshot is an example of one approach to a peer critique at the high school level.

Snapshot: *High School Peer Critique*

Every Monday in an advanced high school media arts photography course, for the first 10 minutes of class, students find a new partner to discuss their artwork that is currently in progress.

Students are asked to display their artwork standing upright (digitally on a computer or in print) so they and their partner can step back and look at it from a distance. While they are looking at the work, they are asked to address four prompts:

1. Tell the media artist something you like about the work.
2. Ask the media artist what they like about their work.
3. Suggest to the media artist an aspect that needs improvement.
4. Offer the media artist a suggestion they may not have thought about previously.

Once they are finished discussing the first work, they are asked to switch and critique their partner's work using the same four prompts.

Before the partners end their critique, they each share two areas they are going to concentrate on for the next few days of creating. This type of peer critique promotes self-inspection and goal setting for future outcomes.

Promoting Lifelong Learning

When a student learns how to self-assess and think through a cohesive creative process, they learn essential skills that promote lifelong learning. Students may explore a media arts field as their career or continue to create for pleasure. Evaluating students' performance builds self confidence in a student's artistic journey. When a media artist is curious, they can explore and investigate ideas, problem solve, practice to gain mastery of a concept, and self-evaluate for future growth. Conversations and questions make students think and rethink about notions and ideas.

Summative Assessment

Summative assessments in media arts are used to measure student learning, understanding, and skill acquisition at the conclusion of a specified instructional period. Summative assessments may happen at the end of an instructional unit, a lesson series, production, or post-production. Summative assessments should provide the opportunity for students to demonstrate that they have achieved the media arts learning objective(s). Summative assessments in media arts can be powerful motivators for student achievement. Performance-based summative assessments of student learning allow for authentic demonstrations of learning.

Written summative assessments provide rich opportunities to ensure that students have acquired media arts academic language and knowledge and can apply it in meaningful ways. With the emphasis on problem solving in many of California's standards, high school students, at all proficiency levels, should apply their knowledge of media arts to creatively solve a real-world problem. Using a prompt that will inform student creative problem-solving abilities, such as, "Design a presentation for a local park and recreation board to illustrate potential park improvements. The presentation should include the design plans for the improvement and how they connect to a local theme. The presentation should also provide a timeline for the improvements and related budget."

Assessment scoring tools such as rubrics can be helpful for reviewing skill development. A rubric can be used for assessment as a measure of growth over time. Use of rubrics can assist in identifying students who would benefit from additional support for skill development. A rubric identifies specific criteria and the degree to which the criteria are met. A rubric articulates the quality and/or quantity of specific criteria.

Creating rubrics and scoring tools for performance-based assessments is necessary to communicate the success criteria to students, parents, and educators. It is important that the success criteria be shared and clearly articulated for students throughout instruction and practice so that students have a clear understanding of the learning that will be assessed and expectations for achievement. For elementary students in the primary grade levels, a simple rubric with pictures can help students receive feedback on their creative choices, regardless of their reading abilities. Students' written work about media arts may include pictures instead of or in addition to writing. Rubrics and other scoring tools can also be a method by which teachers provide opportunity for students' metacognition and reflection. All students can be taught how to self-assess their learning based on the rubric. Teachers can review the student self-assessment and engage in a dialogue about similarities and differences between the teacher's evaluation and the student's evaluation of the assessment.

Rubrics and checklists are common assessment tools of media arts in the classroom. Rubrics and checklists should be designed to minimize subjectivity. The scoring tool used in an assessment should identify specific evidence that demonstrates the skill or concept being assessed, quantifying or qualifying that skill or concept explicitly. Debriefing discussions or further oral or written feedback should be provided to articulate specific evidence from the student work that demonstrates the criteria. Feedback that is specific and rooted in evidence minimizes subjectivity.

In general, summative assessments such as final media productions, research papers, or presentations require appropriate measurement tools (including rubrics). Incorporating a portfolio (which are discussed thoroughly in chapter two, "The Instructional Cycle") into curriculum as a summative assessment helps teachers evaluate a student's overall growth as a media artist.

Formative Assessment

Formative assessment is used to assess student comprehension during the learning process. In the early stages of teaching a concept or meeting a group of students, teachers use diagnostic assessment to measure student skills, gauge understanding, and identify learning needs, and find opportunities for growth. In media arts this takes place naturally when the teacher walks around the room and observes student work as evidence of comprehension. Immediate feedback and one-to-one guidance are important during this stage of learning a concept. This is also a time when assessing for any additional differentiations needed for individual students can be made to help support mastery of learning goals for all learners.

The media arts standards promote students' cognitive processes and assessment should be designed to elucidate how students are engaging in these processes. The artistic process Creating includes the cognitive processes of conceive, explore, discover, develop, envision, organize, integrate, construct, practice, and test. The Producing and Responding artistic processes include the cognitive processes of selecting, categorizing based on theme and content, investigating, developing criteria, analyzing, perceiving, and describing aesthetic characteristics, speculating, revisiting, interpreting, and classifying. Assessments should ask the question and provide evidence on "How and to what extent are students engaged in these cognitive processes?"

Critique and Feedback

Critique and feedback are part of the formative assessment process in media arts. Timely, ongoing feedback supports a growth mindset in students, reinforcing that learning and development take time and practice. The critique process and feedback provided should preserve student opportunity for inquiry and discovery while directing further investigation. Once critique processes are understood and practiced, providing constructive feedback through critiques becomes part of the natural process of the media arts classroom and a habit for young media artists.

In the media arts classroom, feedback through critique is provided in many ways including through informal and formal processes and one-on-one consultations. Conversations with peers can help students formulate their ideas about their work through discussion. Students might leave each other notes with questions, complements, wonderings, or suggestions. Students can ask each other to "tell me more" about their work. These types of questions can help the media artist see what aspects in their media artworks are clear to the viewer, and what parts might need reworking. Formal and informal critique and feedback need to be ongoing and become a habit within the media arts classroom.

Feedback is designed to help students revise or improve their work, rather than just providing a grade at the completion of the work. Feedback can come from the student's self or peer assessment and the teacher. Feedback can be provided to individuals, in small

or whole groups. Feedback in the media arts classroom should always focus on clear criteria to focus the comments, using protocols to ensure the feedback is constructive and engages all students so that it is useful to students and teachers. A protocol is a process by which a structure is used to frame observation, discussion, and questions. Incorporating protocols establishes agreed-upon behavior to guide and protect feedback conversations.

Feedback should be used to alter patterns of misunderstanding rather than prescribe "fixes" or "better ways of doing." Feedback should be nonjudgmental. When feedback is free from judgment, students have opportunities to create their own learning through inquiry and experimentation resulting in long-lasting personal growth and achievement. Judgment is easily recognizable when it is negative: "I don't like this," "This doesn't work because …," "This would be better if …." Negative criticism can deteriorate a student's motivation, promote a sense of finality in failure, and discourage growth mindset and habits of mind (Dweck 2016; Hetland et al. 2013). What is often overlooked is that a judgmental environment is created even with positive expressions: "I love how this …," "This is really good," "You are so creative …." These positive judgments still create a judgmental environment and can inadvertently discourage motivation, risk-taking, and self-expression. Young students often lack the maturity and the awareness to recognize how the environmental and interactive factors impact their learning, and when faced with negative judgment or a lack of positive judgment, they struggle and often disengage. Feedback is effective when it identifies what is evident in student work and what is not, when it observes without prescribing, allowing a student to discover what is needed, what can be improved upon, and aspects to consider, rather than telling a student what to do. Creating a classroom that is free from judgment is necessary to promote failure as a critical step in learning and an opportunity for growth, to permit and encourage risk-taking and experimentation, and to cultivate self-expression and self-discovery.

One way to support beginning students when responding and critiquing is to model responses that include one thing that a student did well and one thing that a student might consider reworking. The consideration can be specific, general, or formed as a question. Examples include, "You might want to consider adding more contrast to bottom right portion of the image," or, "Have you tried using another filter for a different effect to see how that changes the images?" Teaching students to say, "Thank you," when receiving feedback and explaining that feedback is meant to help a student grow and improve is valuable in creating a collaborative classroom learning culture. As students grow in their confidence, expanding the protocols surrounding feedback can build the supportive culture of the classroom. Teachers should anticipate their students' needs and provide multiple means for students to express and receive feedback.

Table 4.13: Selected Performance Standards from Artistic Process: Responding—Anchor Standard 9, Process Component: Evaluate

Kindergarten	Third Grade	Sixth Grade	Proficient High School	Accomplished High School
Share appealing qualities and possible changes in media artworks.	Identify basic criteria for and evaluate media artworks and **production processes**, considering possible improvements and their context.	Determine and apply specific criteria to evaluate various media artworks and **production processes**, considering **context**, and practicing constructive feedback.	Evaluate media artworks and **production processes** at decisive stages, using identified criteria, and considering **context** and artistic goals.	Form and apply defensible evaluations in the constructive and systematic critique of media artworks and **production processes**.

Using the performance standards as the foundation for developing feedback approaches the feedback serves not only to provide the student with information, but also models for the student acceptable feedback approaches, and students have opportunities to practice responding to media arts works.

Receiving teacher and peer feedback on skill development or works in progress provides students with information to consider when revising or refining their process and artwork. Performance-based formative assessments, such as an authentic task focusing on a specific technical skill, provide an opportunity for the teacher and peers to give in-the-moment feedback. As teachers and peers provide feedback, students make progress toward independently directing their creative work and reflective practices as they develop the ability to think like artists. This type of assessment supports their growth and confidence and leads toward greater autonomy and motivation.

> **Snapshot:** *Middle School Video Production Class*
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>
> Ms. T.'s students are working on honing their editing skills. She has explained and shared examples of continuity, the continuous action between multiple shot types and angles normally found in a narrative film. She has also demonstrated the process to the class multiple times while pointing out key and challenging aspects within the process. She has provided printed directions that provide step-by-step photos of the process. The students are familiar with the general technical aspects of editing, but this is a new layer of nuance in approach.

Her students use sample footage she has provided and begin to practice editing showing continuity. Ms. T. circulates around the room observing students as they work. She provides feedback on their work, reinforcing successful progress and offering guidance to those needing extra support. As needed, she provides additional demonstrations to address students' misconceptions or to correct technical skill. She encourages students to view each other's work, looking at the continuity achieved through editing and supporting each other by offering helpful tips. As students develop their editing skills, additional footage that becomes more challenging is provided.

Multiple Means of Feedback

Providing multiple means of giving and receiving feedback is important in meeting students' varying needs and in supporting a culture of reflection. Receiving feedback also helps the emerging media artist during the constructing process as they are creating work. Through feedback, they gain ideas to consider in refining or experimenting with approaches.

Teachers should vary their methods of providing feedback and vary the structure of feedback sessions. Once students have gained and are familiar with providing constructive, nonjudgmental feedback to peers, feedback or critique sessions in media arts might take the form of film and video screenings, gallery walks, or roundtable discussions. For example, by using a "gallery walk" approach to feedback, students can move around the classroom while providing quick and concise feedback to their peers. The "gallery" might contain photographs, designs, storyboards, or images on screens in a computer lab. Students walk through this pop-up gallery and provide feedback on a post-it note. Student media artists then collect their post-its and reflect on the feedback.

Methods of Assessment

There are many methods to assessing learning in media arts. The methods can range from the simple to complex and from low tech to high tech. Teachers in media arts have a wide range of methods that can provide insight on student learning for themselves, their students, and others. Whatever methods are used, teachers should ensure that the methods are free from bias, provide constructive feedback to promote learning, illustrate to learners their strengths, and establish future learning goals. The following provide some of the various assessment methods.

Check for Understanding

Teachers and students can develop multiple simple methods to check for understanding. One is establishing hand signals that students use to indicate their confidence in understanding aspects of concepts, skills, or understanding, which provides feedback to teachers and students alike. These signals provide a quick visual indication of student

confidence in learning before moving on in the instruction. Teachers can also give students a prompt to respond to on a small piece of paper to informally assess understanding.

Self-reflection

Self-reflections written in response to intentional or open-ended prompts can be an effective method of assessment. Self-reflection is a tenet of social and emotional learning and is a skill that can be taught and practiced. When started in early media arts instruction, self-reflection can improve students' ability to build a growth mindset when creating, producing, and responding to media arts. Self-reflection can provide important evidence and immediate feedback to the teacher and/or student regarding the progress toward the intended learning. Self-reflections do not have to take a lot of time and can be as simple as allowing students to reflect on their performance or engagement in a media arts activity by using a "fist to five" to show their own response to their presenting or a discussion with a neighbor of something new they learned or would do differently next time.

Reflections can be written in ongoing journals, on paper, or on digital platforms. Online reflections ensure that the students' ideas can be read with ease, but the reality of all students having access to computers or digital devices to complete such reflections depends on the school and school district resources that exist for every student. Access to digital devices should be available at school for those who cannot access them at home. Digital platforms can also be used to store individual and group work, ideas, and other evidence of media arts learning for assessment. Students can also store and access their work for personal and group reflection and assessment, and to maintain a portfolio to document their learning. These platforms can also be used to share their reflections with their peers, family, and if desired or appropriate, the world.

Creation of Rubrics

Students can create rubrics for their class that identify the levels to which they should achieve within the standards. If the teacher creates the rubrics, time should be given prior to any assignment to ensure that the students understand the levels and descriptors of the rubrics, with examples of each. Students should clearly know the expectations of every task or assessment and instruction should align to these intended outcomes, which in turn supports students to create, explore, analyze, present, or write toward the skill and knowledge levels and outcomes.

While assessing with a rubric, students and teachers alike can identify the levels to which they believe the student achieved. Students can justify their choices in a conversation or documenting through writing their perspective of why and how these levels were achieved. The teacher can do the same, either with a written response or a conversation with the student to share their thoughts, identifying evidence of achievement and how the student can improve or expand on their learning, skills, knowledge, and/or application of information.

Portfolios

Media art portfolios can be used as an effective evaluative measure of student growth and development over time. Examples of portfolios useful in providing summative assessment include the following:

- Project portfolios document the steps it took to accomplish the project and show evidence of having completed all the necessary steps to finish the project. The selected artifacts should be accompanied by explanations of the importance of that artifact toward the completed project and what was learned from that step.

- Growth portfolios show progress toward competence on one or more learning targets. Students select the evidence related to the target. The work selected should represent typical work or best work at given points in time. It must include a student reflection summarizing growth over time based on what they were unable to do at the start and where they are now in their learning.

- Competence portfolios, also called mastery or school-to-work portfolios, provide support of the student demonstrating mastery of a learning target or targets by the samples of evidence collected. The number of samples needed to show mastery should be determined prior as part of the criteria and it should be samples of high levels of achievement that have been sustained over time. This type of exhibition of mastery can be used as part of an exit exam at the end of course before moving on to the next level.

Portfolios are effective when they are integral to the instruction and overall assessment process in the media arts classrooms. The portfolio process must be well designed and executed, meaningful, and built into the course to inform and adjust instruction. Portfolios require time to develop throughout instruction for teachers and students to review and discuss them together. (See chapter two, "The Instructional Cycle," for additional guidance on the use of portfolios.)

Portfolios, whether in hard-bound or digital format, contain student-created media artwork along with written narratives, artist statements, designed to articulate the student's overall artistic process and journey. Artist statements for projects can demonstrate an understanding of content, technique, purpose, and self-reflection. Portfolios could contain related brainstorming, in-progress steps, and prototypes or models, and detailed images that lead to the final work. The portfolios may include pieces from the student's process journal, production logs, or sketchbooks that also support and demonstrate growth in artistic development. The portfolio becomes a preservation of the artistic process that can be used for reflection and future endeavors. Digital websites can be designed as a virtual portfolio of student work. The following snapshot provides an example at the high school level on how students can create and use digital websites as portfolios that document and preserve their artistic process.

Growth Model of Assessment

A growth model of grading continuously supports and encourages students to improve rather than relying on one summative assessment as the final or finite grade. In a growth model of grading, assessment should encourage improvement. Including students in the grading process can help develop internal motivation for improvement and reduce dependency on the external motivation created by the teacher or grade. Some considerations for implementing this approach include allowing students to repeat performance assessments, allowing students to resubmit their work with documentation of changes, or weighing earlier assignments with fewer points so the learning grows as the point totals of the assignments increase. A grading system that supports learning as a process is aligned with the process-oriented approach of the arts standards and supports the outcome of lifelong learners.

Supporting Learning for All Students in Media Arts

"Media arts tools and methods will creatively and socially empower the entire spectrum of students within an increasingly media-centered culture. These are important components of twenty-first century learning."

—National Coalition for Core Arts Standards, *The Inclusion of Media Arts in Next Generation Arts Standards* (2012)

The primary goals of the media arts standards are to help every California student develop artistic literacy in which they

- create and produce work that expresses and communicates their own ideas;

- continue active involvement in creating, producing, and responding to media arts;

- respond to the artistic communications of others;

- actively seek and appreciate diverse forms and genres of media arts of enduring quality and significance;

- seek to understand relationships among all of the arts, and cultivate habits of searching for and identifying patterns, relationships between media arts, and other knowledge;

- find joy, inspiration, peace, intellectual stimulation, meaning, and other life-enhancing qualities through participation in media arts; and

- support and appreciate the value of supporting media arts in their local, state, national, and global communities.

Achieving these goals requires that all teachers, professional learning staff, administrators, and district leaders share the responsibility of ensuring media arts education equity for each and every student, especially learner populations who are particularly vulnerable to academic inequities in media arts education. California's children and youth bring to school a wide variety of skills and abilities, interests and experiences, and vast cultural and linguistic resources from their homes and communities. California students live in a variety of familial and socioeconomic circumstances and represent diverse ethnic and religious backgrounds (United States Census Bureau 2016). Increased diversity in classrooms and schools increases the assets that teachers may draw from to enrich the media arts education experience for all. At the same time, the more diverse the classroom, the more complex the teacher's role becomes in providing high-quality instruction that is sensitive to the needs of individual students and leverages their assets. In such multifaceted settings, the notion of shared responsibility is critical. Teachers, administrators, specialists,

expanded learning leaders, parents, guardians, caretakers, families, and the broader school community need the support of one another to best serve all students.

All California students have the fundamental right to be respected and feel safe in their school environments. Creating safe and inclusive learning environments are essential for learning in the arts as personal expression and communication is a foundational aspect of creative endeavors.

With many languages other than English spoken by California's students, there is a rich tapestry of cultural, linguistic, ethnic, and religious heritages students can share. California students have a range of skill acquisition and structural circumstances that impact their lives and learning. It is important to acknowledge the resources and perspectives students bring to school, as well as the specific learning needs that must be addressed in classrooms for all students to engage in media arts education. For an expanded discussion on California's diverse student population, see the *ELA/ELD Framework* (California Department of Education 2015).

As teachers inform themselves about different aspects of their students' backgrounds, it is important they keep in mind that various student populations are not mutually exclusive; these identities may overlap, intersect, and interact. Teachers should take steps to understand their students as individuals and their responsibility for assessing their own classroom climate and culture. It is essential for administrators, educators, parents, and school board members to support the communication and articulation of relevant student information across classrooms and school sites. Teachers should consider referring and navigating students in need of services to appropriate professionals, including the school nurse, administrators, counselors, school psychologists, and school social workers, as available. For additional guidance and resources, refer to the *Health Education Framework for California Public Schools: Kindergarten Through Grade Twelve* (California Department of Education 2020).

Media arts production is student-centered and emphasizes the primary role of the student in determining the substance and style of their original media arts content, as well as the specific process by which that is realized. Media arts technologies are continually becoming more accessible and providing more powerful capacities for production and presentation. This continuing diversification of media production, combined with carefully and sensitively designed instruction, ensures multiple pathways for students to achieve mastery of the media arts standards.

Universal Design for Learning

Universal Design for Learning (UDL) is a research-based framework for improving student learning experiences and outcomes through careful instructional planning focused on the varied needs of all students, including students with visible and nonvisible disabilities, advanced or gifted learners, and English learners.

The principles of UDL emphasize the importance of providing multiple means of engagement, representation, and action and expression. Through the UDL framework, the needs of all learners are identified, and instruction is designed specifically to address student variability at the first point of instruction. This evidenced-based instructional planning supports students' full inclusion in media arts and reduces the need for follow-up instruction.

The table below provides an outline of UDL Principles and Guidelines that media arts teachers can use to inform their curriculum, instruction, and assessment planning. More information on UDL principles and guidelines, as well as practical suggestions for classroom teaching and learning, can be found at the National Center for UDL and in the California *ELA/ELD Framework* (California Department of Education 2015).

Table 4.14: Universal Design for Learning

Principles *Provide multiple means of …*	Guidelines *Provide options for …*
I. Engagement Provide multiple ways to engage students' interests and motivation.	1. Recruiting interest 2. Sustaining effort and persistence 3. Self-regulation
II. Representation Represent information in multiple formats and media.	4. Perception 5. Language and symbols 6. Comprehension
III. Action and Expression Provide multiple pathways for students' actions and expressions.	7. Physical action 8. Expression and communication 9. Executive functions

Sources: California Department of Education (2015) and CAST (2018)

See tables 4.16, 4.17, and 4.18 later in this chapter for instructional strategies, accommodations, and modifications to provide multiple means of engagement, representation, and action and expression when planning instruction for media arts.

The media arts standards focus primarily on a student-centered and cognitive production and design process. The objective of media arts education is not in professional production, mastering a specific film genre, technology, or technique, but toward realizing creative inquiry and cultural agency for students in emerging media environments. Media arts is a flexible discipline that readily aligns with implementation of UDL in discrete media arts instruction and also in other subject areas where media arts forms and processes may be helpful when planning instruction to provide options and remove barriers. It allows for the variability in perception, language, symbols, and comprehension in its many adaptable forms and affords students multiple pathways for students' actions and expressions in its diverse processes and roles.

Throughout all stages of instruction, planning, executing, and assessing, media arts teachers must continually respond to students' learning needs. Incorporating UDL principles and guidelines assists teachers in the planning for instruction. Formative assessments and observations can further inform teachers how to differentiate instruction for students.

Culturally and Linguistically Relevant Teaching

"Design creates culture. Culture shapes values.
Values determine the future."

—Robert L. Peters, designer and author

A culturally relevant curriculum and supporting strategies are the keys to maximizing inclusivity and building relational trust in the classroom. Media arts instruction that includes varied instructional practices that honor students' learning styles, levels of previous training, and account for social and religious sensibilities benefit all students' learning. Students need to see representations of themselves within a broad range of human experiences, including historical and contemporary images, and in media arts texts insofar as they support learning that is sourced from many regions and historical periods.

Authentic media arts learning that includes rich learning in all artistic processes develops artistically literate students that are fluent in interpreting intent, meaning, and bias in artworks and designs. The media arts classroom can be an opportune environment to explore and examine difficult issues of culture, race, identity, and social harmonization. It should be a safe haven where students can feel secure that their expressions and perspectives are encouraged and honored. As students within a diverse classroom work together to gain these critical discerning skills and capabilities in creating media artworks that are free from bias, they expand their existing creative avenues to amplify their own voice and perspective.

Media arts education can be an avenue for culturally and linguistically relevant teaching. Teachers should design culturally relevant media arts learning experiences that ensure students explore, examine, and discuss a variety of cultural, societal, and historical perspectives. Media arts teaching that focuses on one culture for a unit is not necessarily inappropriate. It provides opportunities for students to compare and contrast between units as they analyze media artworks. The Responding student performance standards emphasize this important aspect of learning in media arts. Table 4.15 provides a sampling of these important standards.

Table 4.15: Sample Responding Standards in Media Arts

Standard Code	Performance Standard
2.MA:Re8	Determine the purposes and **meanings** of media artworks, considering their **context**.
5.MA:Re8	Determine and compare personal and group interpretations of a variety of media artworks, considering their intention and **context**.
Prof.MA:Re8	Analyze the intent, **meanings**, and reception of a variety of media artworks, focusing on personal and cultural **contexts**.

Recognizing and honoring students' intellectual and artistic capacities, linguistic traditions, and the cultures that are connected to those languages creates a rich atmosphere of learning for all students. Bilingualism and multilingualism should be celebrated and explored. Media arts is a language and linguistically diverse disciplines and student groups benefit from the democratizing of the classroom that media arts can promote. Culturally and linguistically relevant teaching—theorized in 1995 by Gloria Ladson-Billings in the landmark article, "Toward a Theory of Culturally Relevant Pedagogy"—informed a generation of teachers about the need to consider how practices involving monocultural and monolinguistic frameworks excluded students. Students who are English learners are offered opportunities in learning media arts that are not always English language dependent but support language development when instruction is intentionally designed.

In *Culturally Responsive Teaching and the Brain*, Zaretta Hammond took Ladson-Billings' research further. Hammond integrates neuroscience and learning theory with cultural and linguistic responsiveness in the classroom to prove that culturally responsive teaching is not only useful but absolutely necessary. Hammond articulates the way in which students without a cultural or linguistic connection to the class content or context simply cannot learn and will not likely achieve higher-order thinking as readily as when they are recognized for their cultural and linguistic gifts and these attributes and stores of knowledge are honored and count for something in the classroom (2015). Therefore, in the teaching of media arts, the wider the array of genres, styles, origins, and purposes of media arts that are explored, the less likely a student is to feel that one culture, not their own, dominates the curriculum.

In media arts classrooms teachers and students can explore, create, produce, and respond in ways that sustain the cultural traditions of the students themselves as well as other traditions of different time periods and places. Culture is sustained when it is passed on through artworks and designs. Cultures and languages are enlivened when a new generation of learners discovers the meaning and beauty of other cultures. In order to avoid the pitfalls of cultural appropriation while doing culturally sustaining or relevant work, media arts students and teachers should know the sources and acknowledge from where the information, style, and practice generates.

The media arts standards provide teachers with opportunities to include culturally relevant lessons into their classrooms. Through the study of artworks and designs from a variety of cultures, students gain a deeper understanding of the cultures and time period from which they are derived. In the sixth grade, Connecting standards media arts students are asked by the end of the year to demonstrate "… how media artworks and ideas relate to personal life, and social, community, and cultural situations, such as personal identity, history, and entertainment" (6.MA:CN11a).

It is through the understanding of why an artwork or design exemplifies a specific culture, the time period it represents and/or the function of the artwork that one will become artistically literate, or able to fully understand what the artwork symbolizes. As students' progress in media arts learning they advance in these understandings as seen in performance standard Advanced Responding 7b (Adv.MA:Re7), which asks students by the end of the year to "Examine diverse media artworks, analyzing methods for managing audience experience, creating intention and persuasion through multimodal perception, and systemic communications."

Learning in media arts facilitates opportunities to explore and examine difficult issues of culture, race, identity, and social harmonization. The media arts classroom, therefore, should be a safe environment where students can feel secure that their expressions and perspectives are encouraged and honored. As students progress in media arts learning, they develop these proficiencies as seen in performance standard Advanced Responding 10 (Adv. MA:Cn10), which asks students by the end of the year to "Demonstrate and expound on the use of media artworks to consummate new meaning, knowledge, and impactful cultural experiences." Media arts students critically examine the plethora of media arts experiences for their underlying intentions and purposes, as well as their impacts and influences on culture and cultural groups. In turn, they can explore their own identities and begin presenting their own perspectives on the range of issues that are important to them and their communities. In constructing their own messages and products, they build capacity as contributors to a culture of inclusion and positive civic engagement.

Support for Students Who Are English Learners

Teaching media arts is a multimodal process (i.e., visual, aural, and kinesthetic), as such students who are English learners are supported and benefit from media arts learning and may experience fewer linguistic barriers to participation and learning. While various media aspects lend authentic access to media arts learning, English learners gain from teaching that supports their overall growth in the academic, technical, responsive language of media arts in English. Students benefit from having many ways to access the language of media arts for communication, comprehension, and expression, as well as the language to negotiate its operational processes and technical systems.

Students learning English should be actively engaged in standards-based academic curriculum and have rigorous, supportive, equitable learning experiences in all content

areas, including media arts. Teaching through modeling is a cornerstone in media arts practice that is rich in providing access for all. It is not uncommon, when space allows, for students to gather around a device, tool, or other equipment to view a demonstration or specific technique. When space is not available, using a camera to project to the class and thoughtful class seating charts can support and be beneficial for all learners. Seating students needing additional support next to students that are comfortable modeling steps for clarification is a good alternative for students who are English learners. All students gain when provided with multiple examples of using media tools and equipment and have ample time to watch or review the demonstrations.

Creating videos of demonstrations, lectures, or other presentations that include verbal attributes and sharing them with students can also support all learners, including students learning English, as they can follow up with the contents by watching the videos repeatedly based on their own speed. Through the student's ability to review visually and auditorily at their own pace, students can access the content and grow in the academic language and processes of media arts. The addition of subtitles and captions to the instructional videos provides another level of access for students in the language of media arts. Teachers may also offer additional visual examples, printed viewing guides, and graphic organizers to students that are learning the English language that they can utilize as they access the unique multimodal and text-based language of media arts.

All students have opportunities to reinforce academic language through the Producing and Responding artistic processes. Developing accessible prompts, providing the needed language support, and giving students ample time to formulate verbal or written responses to instructional tasks within these processes will support the success of students learning English. Allowing students to formulate ideas, share those ideas in pairs or small groups, and reflect on their process and intention can allow authentic reflection on expression. Talking about their artwork with peers in pairs or small groups provides the student learning English with opportunities to practice oral language in safe and affirming situations.

Supporting all learners with written directions, documents, or other instructional materials and online programs is essential as students gain media arts academic, technical, and responsive language. Accepting responses in the native language is an alternative method that can be used to support language development of a student learning English. Teachers can accommodate all learners with printed classroom presentation slides, instructional handouts, word banks, academic language sheets, or translated materials, especially for important guidelines and rubrics. Thus, the teacher provides students learning English multiple ways to grow in the comprehension and application of media arts concepts and technical skills.

Media arts instruction for students learning English should include challenging content and well-developed learning strategies that support them to think critically, solve problems, and communicate in the language(s) of media arts. Teachers should become familiar with their students' profiles and levels of proficiency to proactively support them appropriately.

Incorporating UDL approaches, such as providing multiple tools for construction and composition and building fluencies with graduated levels of support for practice and performance, are authentic applications within media arts in any grade level.

The following snapshot illustrates English learner students in a television production course engaged in an immersive and intensive linguistic experience that supports students toward comprehensive and robust English proficiency.

Snapshot: *English Learners in Television Production*

Media arts instruction can foster an immersive and intensive linguistic experience that can support students' English language development.

Grouping students in linguistically heterogeneous teams, the Television Production class teacher provides instruction and demonstration in the basic processes of video production: idea development, scripting, storyboarding, filming, editing, sound recording, sound mixing, titling, and distribution.

Students engage in the Responding processes of viewing, analyzing, interpreting, and discussing specific films and videos. After they deconstruct various scenes and understand their associated dialogical structures and patterns, they construct their own versions, based on their own lives, interests, and cultures for their designated audience. Students are guided through the various pre-production processes and, as needed, are supported in utilizing English to develop their own scripts, storylines, storyboards, and logistical plans.

Throughout this process, all students are learning the language of filmmaking and video production and are being exposed to new discipline-specific vocabulary. This process—when experienced through intentionally designed instruction and well-taught—can support growth in students' language skills through the development of authentic texts, dialogues, and scenes, and as students engage in their evaluative review and refinement.

The ensuing procedures of producing and presenting video segments provide further opportunities for language acquisition. The students collaboratively enact, capture, negotiate and redo scenes. They review and revise clips, edit, and engage in discussion about their work in class and across school and community channels. Final projects might include documentary or narrative films, news broadcasts, and original content for TV, or experimental videos and transmedia installations.

Support for Students with Disabilities

Student artists span a broad range of abilities and disabilities, visible and nonvisible, and must be supported to excel in visual arts. The media arts standards are designed to support all students, including students with disabilities, by offering multiple ways to approach the content and options for students to build upon their abilities. Teachers that are responsive and proactive through their planning ensure that the foundation for the curriculum and related teaching approaches provide genuine learning opportunities for all, while being responsive and flexible to adjust to the needs of students with disabilities. The teacher's goal is to amplify students' natural abilities and reduce unnecessary learning barriers.

Sometimes students have disabilities that are visibly apparent, but not always, as some have nonvisible disabilities. Both types of disabilities must be addressed. It is important for teachers to understand that within any disability category there is an entire spectrum of support needed. The media arts teacher must be proactive in learning about students' specific disabilities and abilities in order to anticipate their needs. A first step is to become informed about the specific disabilities and the range of support needed. This information is vital to systematically plan for learner variability throughout the teaching process. Teachers are not expected to do this in isolation. Teachers can draw upon the resources within the school and district to access, review, and understand each student's Individualized Education Program (IEP) or 504 plan. These documents help the teacher understand the student's needs and provides guidance on accommodations or modifications. Accessing school or district personnel that serve students with disabilities provides additional insight, expertise, and support for the media arts teacher. Media arts teachers should call upon the support from special education teachers to address students' specific teaching needs.

Once teachers understand their students' individual needs, they can make instructional decisions as needed, including modifications or accommodations. Modifications adjust what content a student is taught and expected to learn. Examples of modifications in media arts might include having the student focus on one production process or one aesthetic principle, as opposed to multiple processes and principles. A student may be asked to analyze only one aspect, such as how method interacts with the audience experience, as opposed to analyzing how form, method, and styles all interact with the audience experience.

Specific accommodations might include extended time, additional support, preferential seating, etc. Instructional teams, including special education advisers, can consider creative amendments to the instruction in order to facilitate the student's full inclusion and achievement. For example, for interactive code, "Scratch" (a graphic, drag-and-drop style code) may serve as an alternative production tool; or for those with impairments preventing them from using computers, they could take photos, or produce much of their work on paper, to be edited by assistants.

Accommodations within a media arts classroom change how a student learns or accesses the content. Examples of accommodations in a media arts class include providing additional time for the student to complete the production, offering noise-cancelling headphones for those sensitive to sound; providing audio recordings of the directions and steps related to learning a new technical skill, as opposed to only offering written directions; or giving students the option of speaking, writing, and/or drawing when sharing their ideas for a media arts creation. The media arts standards do not indicate specific media tools or products and emphasize the process as well as product—therefore, teachers can adjust variabilities of forms, tools, processes, and product to meet individual student needs and support students with different abilities to access standards and produce media artworks. For example, a student with limited vision could focus on audio media and, similarly, a student with limited hearing could focus on visual media.

The media arts standards were designed to allow for a variety of responses from students. To ensure that students with disabilities are able to learn, respond, and thrive at their highest level, teachers following the UDL principles and guidelines establish inclusive learning environments. Additional guidance and explanation on UDL can be found in chapter two, "The Instructional Cycle." Media arts provides students—with and without disabilities—a unique opportunity to share their perspectives, experiences, and artistic voices and visions. The media arts classroom also celebrates and engages collaboration between students with and without disabilities, which reinforces the understanding of capacities and contributions people with a range of abilities offer.

Students Who Are Gifted and Talented

The flexibility inherent in media arts productions and standards supports the full inclusion and support of gifted and talented learners who need opportunities that build upon and challenge their unique abilities. Students who thrive in media arts classrooms may not have been formally identified as gifted. Teachers should rely on their own observations that may help identify accelerated or gifted learners.

Gifted and talented students may exhibit a limitless sense of creativity and innovation, and benefit from opportunities to create and explore. Teachers of gifted and talented or advanced students should structure classrooms and instruction to ensure these learners are challenged. There are three components that are crucial to supporting learning: affective, cognitive, and instructional. Understanding these components can help parents and teachers support advanced learners to maximize their potential in media arts.

Affective, or emotional, issues can be more profound for advanced learners. Perfectionism may drive advanced learners to achieve but torment them when they do not. When they do not believe themselves capable of attaining the ideal, this may lead to feelings of failure and hold these learners back. Advanced learners can easily maintain fixed mindsets, as

many learning endeavors may come easily for them. When they encounter a challenge, they may not realize that growth is possible and may only recognize their failure. Teachers may observe these learners simultaneously exhibiting keen perception but also frustration.

Highly imaginative cognitively advanced students may need to see themselves creating beauty with their art form. They may aspire to an image of perfection derived from the work of more accomplished artists or cognitively "see" what they want to do but not yet be able to enact it. They may feel like failures when their early concepts or rough drafts are not perfect. Holding themselves to such exacting standards can create inner conflict and angst (Sand 2000).

Students who are gifted and talented or who have a great deal of prior knowledge can be guided to achieve above and beyond what is given to the class. These students might need support in other areas or life skills but should be supported to differentiate their learning to larger applications and connections. Gifted and talented learners may tend to complete assignments rapidly and advance quickly in their capacities for production and conception. Media arts teachers should proactively prepare for this in instructional design and planning, creating lessons and units that are open ended, allowing for wide variability in pacing and accomplishment. The teacher may consider providing students more choice and self-direction and encourage students to develop and follow their own lines of inquiry.

Gifted students may also need support in developing sensitivity and responsibility to others and in self-generating problem-solving abilities. Media arts standards provide opportunities for learning experiences that authentically engage students in gaining collaborative, soft, and problem-solving skills. For example, in kindergarten, students engage in sharing ideas with others and cooperating to create media artworks; fourth-graders identify media arts roles and practice soft skills; and high school advanced learners master skills in managing media artworks and other students' contributions. In fact, effective instruction of the media art standards helps all students, including those that are gifted and talented, develop the interpersonal and intrapersonal skills needed throughout their lives.

Advanced learners may do many things well, and with little effort, and pushing through inner conflict in order to persevere may prove daunting. Parents and educators can teach advanced learners that small "failures" are part of the process and perseverance produces rewards. Sometimes it may help for the student to witness a parent, other mentor, or teacher struggling with a new task, and stumbling and failing a bit while on the front end of the learning curve. This is an opportunity to model that growth takes time. Everyone struggles with some aspect when learning in dance, and there is no shame in not knowing how, not being perfect, or not achieving the first time around.

To support learning in media arts and to acknowledge the variability in all students, the following tables highlight possible instructional strategies, accommodations, and modifications organized by the UDL guidelines for teachers to consider. As students grow toward being an expert learner, students begin to take on the capacities or attributes and direct their own strategies.

Table 4.16: Instructional Strategies, Accommodations, and Modifications to Provide Multiple Means of Engagement

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Engagement
Recruiting Interest	■ When selecting media artworks to share or source materials to explore, draw on student interest in the world around them. These interests might be in the natural world, or the social worlds and cultural worlds of students. ■ Allow for open interpretations of lesson parameters and in analysis of works of media artworks. ■ Allow as many opportunities for choice as possible. Build around student agency and choice while maintaining objectives. Imbed choice within lesson plans. Follow student leads with curriculum that is flexible and responsive. ■ Build on individual student strengths and draw on students' prior knowledge and expertise. ■ Engage students using multiple means of communication (visual, auditory, tactile, kinesthetic, written, physical, and digital). ■ Create an environment of experimentation and respect in which risk-taking is valued. Respond positively to students, as all students need to feel comfortable about making mistakes in order to maximize learning.
Sustaining Effort and Persistence	■ Teachers can scaffold tasks from simple to complex as needed for student learning, building confidence with skills, and familiarity in various media and media tools. ■ Provide students with opportunities to expand on work that interests them with more complexity. This might take the form of a series of videos, multiple explorations of a theme, or extended exploration within a medium or tool. ■ Collaboration can be a powerful tool for sustaining engagement: when students may be more engaged when they have someone to plan, imagine, and play with. Collaboration can be built into the curriculum as a class or schoolwide project, capitalizing on the work that a large group of media artists can do. Teachers can also create parameters that allow for student agency in making the choice to collaborate with a partner or group, or to work independently.

Table 4.16: Instructional Strategies, Accommodations, and Modifications to Provide Multiple Means of Engagement *(continued)*

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Engagement
Self-regulation	■ Recognize steps students take towards more effective self-regulation, whether it be attention during a teacher demonstration, time on task making work, respect towards others while sharing, or attention to group needs during collaboration. ■ Remove barriers to effective self-regulation. During portions of lessons when self-regulation can be a challenge, provide clear structures such as step-by-step lists, step-by-step visuals, and call-and-response repetition of directions by students.

Table 4.17: Instructional Strategies, Accommodations, and Modifications to Provide Multiple Means of Representation

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Representation
Perception	■ Use multisensory modalities including visual, auditory, tactile, and kinesthetic learning. ■ Include short videos, visuals such as posters and charts, and other graphic organizers to display and organize information. ■ Provide written and verbal prompts. Restate prompts multiple times. When clarification is needed, restate prompts using different words. ■ Vocalize and provide visual examples for expected technical and physical outcomes for all tasks.
Perception	■ Incorporate analogies and context about media arts that students can connect to their personal life experiences. ■ Students with auditory impairments are seated strategically in the classroom, perhaps close to the teacher's desk or close to the front of the classroom. Students will also be partnered with a student who agrees to support the other student by clarifying directions and questions around spoken content. ■ Students with visual impairments are seated strategically in the classroom, close to the front of the classroom where they can more readily see the whiteboard and projections. Students will also be partnered with a student who agrees to support the other student by clarifying directions and questions around written content. ■ Teachers can provide written materials in digital text that can be accessed through screen readers. ■ Students will also have written text in hand and enlarged projections on a screen. ■ Students can work with partners for the independent portion of reading activities and are given direct access to a range of dictionaries, including picture dictionaries, translators, and bilingual glossaries. Where possible, students may independently utilize a device with an internet connection where they can access bookmarked resources such as online image libraries, online translation tools, and media arts-specific multimedia resources.

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Representation
Language and Symbols	■ Label locations, equipment, and materials with words and images to support student connection to spoken and written language of equipment and materials they are expected to use. ■ Provide images and symbols to represent recurring themes within the class, i.e., a light bulb for brainstorming, an eraser for revision, symbols for annotating text, etc. ■ Word banks organized by characteristics, form, equipment, media, or technical terms support students in making connections across and within content literacy and application of language. ■ Academic word banks support students in making connections across and through different content areas. ■ A chronological timeline of media arts production processes, artistic movements, and styles provide students visual support to understand the steps and flow of production, and when and where different movements and styles of art occur throughout history. ■ Checklists for any given task so students can check for completion as they work. ■ When exposing all students to more complex, nonfiction printed materials, teachers attend to the language demands of the text and how the key ideas of the text are supported with teacher-created focus or guiding questions, illustrations, charts, text features, movements, or other clues that can help students identify and decode what is most important about a text. ■ Provide a glossary at the bottom of the page for complex nonfiction reading for words or complex concepts to support comprehension.

Table 4.17: Instructional Strategies, Accommodations, and Modifications to Provide Multiple Means of Representation *(continued)*

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Representation
Comprehension	■ Start with a common experience (video, hands-on activity, provocative visual) to build background knowledge and provide a concrete anchor for more abstract discussions. ■ Provide considerable time and opportunity for experimentation, documentation, and reflection to facilitate deep comprehension. ■ Use various graphic organizers for thinking, planning, and writing about media arts content. ■ Facilitate protocols and structures for brainstorming, idea generation, critique, and revision to support higher-order critical thinking.
Comprehension	■ Teacher and peer modeling provide students with opportunities to visually see what is expected of them and encourages participation. When giving instructions for a procedure, an activity, or a task, the teacher makes sure to provide a physical example of the expected process as part of the explanation. For example, the teacher might call on one student to repeat the first direction in a task. As the student says it correctly, the teacher or a student helper writes the step on chart paper or on an interactive whiteboard. Next, a student is called on to physically model the part of the task. These simple steps (restate, chart, and model) continue for each part of the task until it is clear that students understand the procedure for the entire task. ■ Sentence starters or language frames promote student conversation related to the task. For example, a graphic organizer could include a series of boxes where each element of a task contains a sentence starter. They may also provide interesting information and context for the student and work as a formative assessment tool. ■ Provide a language-rich environment for media arts students, including leveled books and picture books. When reading picture books, the teacher points to pictures when appropriate, using an expressive voice and facial expressions to help illustrate the text.

Table 4.18: Instructional Strategies, Accommodations and Modifications to Provide Multiple Means of Action and Expression

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Action and Expression
Physical Action	■ Engage students in artistic vocabulary and concepts throughout the entire artistic process through conversations and discussions. It is helpful to provide definitions and contextual information for media arts terms and general academic words. Emphasize these terms while physical modeling and when students are engaged in artistic practice. ■ Providing alternatives to the length of time to display comprehension of key terms or concepts should vary throughout the lesson to meet all students' processing capabilities.
Physical Action	■ Providing alternatives to achieving mastery of key vocabulary and concepts should be provided. Providing alternatives to physical interaction with the key vocabulary and concepts. In this example the key concept is knowing the difference between real and implied texture as related to the creation of media artworks. The following are examples of how to observe, describe, and explain through a variety of methods. ■ Students can create a video recording of themselves displaying objects and explaining how the object represents real or implied texture. ■ Students can draw examples of implied texture by looking a real texture using either real or computer-assisted drawing tools. ■ Students can create implied texture by creating a crayon rubbing during a walk on campus and find similar computer-generated implied texture to make pairs of textures (real and implied). They then present their sets of pairs to a small group. ■ Students can sort a stack of images into appropriate real or implied categories as they explain why they are making their choices. ■ Adaptive tools and technologies should be provided when needed, such as adaptive keyboards or mouse for ease of navigating a computer, or translation devices for language clarity.

Table 4.18: Instructional Strategies, Accommodations and Modifications to Provide Multiple Means of Action and Expression *(continued)*

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Action and Expression
Expression and Communication	■ Provide alternative media for expression to display mastery. For instance, if asking students to draw from observation, they can be given a variety of rendering choices both digital and physical. ■ Offer a variety of ways students can describe and explain their artistic process. For example, students can create a portfolio to document or display work. This portfolio can be per project, per quarter, or yearlong. Numerous portfolio forms can be utilized depending on choice and ability: digital, bound, folder, or display board. ■ Offer a variety of ways to respond to a prompt. For example, students are asked to respond to a five-minute video clip showcasing photographic work. Students can be given a choice to video record, post to a digital board, share verbally, or write their responses. ■ Teaching how to solve problems using multiple avenues to reach a final outcome.
Expression and Communication	■ Scaffolding to assist in practice to develop independence.
Executive Functions	■ Each lesson should build from previous lessons. Building foundation skills helps support and guide a student's learning. Designing a lesson to help a media artist build confidence allows students to take chances as they practice and experiment with the creative process. These are small steps that over time with added foundational skills build confidence so students are able to create a media arts work on their own.

Table 4.18: Instructional Strategies, Accommodations and Modifications to Provide Multiple Means of Action and Expression *(continued)*

UDL Guideline	Instructional Strategies, Accommodations, and Modifications to: Provide Multiple Means of Action and Expression
Executive Functions	■ Establishing routines in the classroom for different aspects will help students organize their thoughts and know how to manipulate the process a teacher is setting forth. For example, each unit could follow the same design formula, such as: a hook, research/sketch component, explanation/practice of key vocabulary/concepts, application of vocabulary/concept, sharing out, feedback, and jumping-off point for the next lesson. Components of each lesson within the unit should vary. When routines are established for the year, students know what is expected of them and student-centered learning is easier to achieve. ■ Providing multiple examples of how something is done will reach all kinds of learning abilities. For example, teachers can provide multiple ways for the students to achieve a specific outcome. Videotaping demonstrations and having it accessible for multiple viewings can free up time to formatively assess who needs one-on-one help. Display boards with visual examples and steps provide opportunities to review as a class and for students to continue investigating on their own. Live demonstrations, whether for an entire group, small group, or one to one, provides instruction. By composing a found video resource list for students to see multiple ways several artists go about doing something for the same outcome provides student choice.
Executive Functions	■ Providing project steps or a checklist will serve as guidance as students progress through a project. Steps and checklists can be partially written out so a key aspect can be written in by students to ensure accountability and provide an opportunity to review material. ■ Classroom routines should consist of a place where goals, objectives, and schedules are posted. Examples of this can range from and are not limit to: writing on the front board, having a classroom agenda printed in a sketchbook, or using a digital classroom program.

Considerations for Instruction in Media Arts

"The challenge is, then, to find ways of adapting and modifying the curriculum and teaching practice to meet learners' growing needs in the emerging digital media context, rather than just to integrate new technology and media into the existing curriculum in order to ensure relevance or boost standards."

—Cassie Hague and Ben Williamson, Futurelab (2009)

Approaches in Media Arts Instruction

The artistic processes are cognitive and can be nonlinear and reciprocating. The process components provide a tangible handle on the standards for the teacher for fluid organization of learning experiences, while ensuring that students are provided balanced, comprehensive instruction in media arts over the entire year. For example, the teacher may begin the year emphasizing constructing and integrating process components, while gradually increasing attention to analyzing and evaluating processes in the middle of the year.

Creating is a generative, experimental, and formative stage that supports students' wide-ranging capacities to produce original and effective media art works. It constitutes the "heart" of media arts in the initiation, development, assembly, and refinement of student works. In Creating, students may go through the sequential "pre-production" steps of conceiving new ideas for media artworks, developing these ideas into models and prototypes, plans and process structures, and finally constructing or producing their media artworks. Creating demonstrates much of media arts' "design-based" nature as iterative, and critically and progressively refined.

Producing advances student competency in intermodal fluency, the complex ability to synthesize components, processes, and works across a variety of forms and media. Students practice integrating various elements, forms, and contents. Integrating, a process component of Producing, is a unique and significant competency in the media arts as it is the means to unify a variety of aesthetic components and technical processes to produce a meaningful, impactful media artwork such as an interdisciplinary broadcast or a multigenre online zine with ads, poems, essays, art, and articles. In practice, the other process component of Producing, media arts students learn to fulfill various roles and master varying skills for media arts production and fundamental workplaces, such as responsibility to a collaborative and coherent process, setting goals, making decisions, and resolving conflicts. In Producing, students also practice creativity and innovation as a discrete competency, as applied to problems within media arts productions, but also in solutions to problems addressed through or with media arts productions. Media arts

communications and designs can be used to address academic, cultural, and community issues, such as challenges in mathematical understanding, unawareness of an important issue, or the improvement of a poorly designed park. Students also practice presenting their works, not only as the simple posting of an image on social media, but for distribution to targeted audiences, possibly across networks, for specific impacts. In a school, for example, this may result in a video that animates and simplifies a particularly difficult concept in mathematics for that teacher's or their students' use.

> "The electronic image is not fixed to any material base and, like our DNA, it has become a code that can circulate to any container that will hold it, defying death as it travels at the speed of light."
>
> —Bill Viola, video artist

In **Responding**, the steps to reading media artworks are structured through the artistic process components of Perceive, Analyze, Interpret, and Evaluate. The unique aspects of these media arts processes include identifying and analyzing the diverse components that make up media artworks and how they function to convey coherent meaning or experience. In video game design, for example, the composition, timing, trajectory, velocity, and resistance of interactive forces are components of designing a fluid, realistic, satisfying interface. In video production, basic components may be visual composition, camera movement, actor positioning, lighting, timing, and storyline. Understanding how these components manage the audience's, or "user's," multimodal experience and response is critical for quality design and conveyance of meaning. The same principles apply to a multimedia theatre experience, an advertising project, or a multiformat web broadcast. The Responding process leads to the development and honing of the students' capacity for "multimedia literacy" as the critical autonomy to discern the value, intent, and veracity of diverse and multimodal communications so vital to our twenty-first century digital environment and democracy. This and other literacies will be addressed in greater detail in the section on Digital Literacies.

Connecting includes the interrelational aspects of media arts that support students in synthesizing personal and cultural meaning. Context is an overriding concept in Connecting. Contextual awareness includes aspects of personal and cultural identity; history and geography; and the formats, markets, and systems of media presentation and distribution, and is a global competency for students of media arts.

For each artistic process and related anchor standard, the enduring understandings and related essential questions that are specific to media arts can provide a goal for student understanding. Teachers can use these to design sequences of lessons. The goal is a

deeper, experiential form of learning, rather than the superficial knowledge of a technique or software program.

Table 4.19: Sample Performance Standard, Enduring Understanding, and Essential Questions for Media Arts

Standard	Enduring Understanding	Essential Question
Prof.MA:Cr3: a. Implement **production processes**, making artistically deliberate choices in content, technique, and style in media arts productions, demonstrating understanding of associated **aesthetic principles**, such as **emphasis** and **tone**.	The forming, integration, and refinement of aesthetic components, principles, and processes creates purpose, meaning, and artistic quality in media artworks.	What is required to produce a media artwork that conveys purpose, meaning, and artistic quality?

Teachers can adapt and elaborate on these general goals and create additional enduring understandings and essential questions that are more specific to a course medium, form, and genre. To do this, teachers reflect on the form and its lasting value for student learning beyond the classroom and consider what students need to know to master the form. For example, the unit focus of a digital imaging teacher who is teaching 2D formalist composition at the beginning of the school year may be the enduring understanding, "Strong visual communication requires a clear focus with supporting components." Essential questions to support that inquiry might be, "How do media artists construct a strong composition?" and "What are focus and supporting components?"

There are 16 sequential and spiraling performance standards for media arts. When planning, teachers should read the standards charts both vertically and horizontally. The horizontal row shows the same standard, and its progression, developing greater sophistication as students progress through each grade level. When designing instruction, the standards are often bundled together rather than taught as discrete skills and knowledge. For example, in Producing, the process components of Integration and Practice are often combined. Assuming roles in a project, practicing innovation, and working to integrate components in media artworks tends to be a unified skill set. Only occasionally might the teacher isolate a component as a specific skill, for example, in a specific video-editing technique. Planning instruction strategically through the process components and bundling standards is an effective strategy for a course or grade level. Students can achieve mastery of the standards through a carefully planned sequence of instruction including quality project design over the year.

The media arts standards emphasize core cognitive traits, which are enactive and experiential, that will result in the holistic competencies of artistic literacy. Students of media arts will become adept at the production and design process and its contextual presentation which in itself be a cognitive process. The artistic processes of Creating, Producing, Responding, and Connecting can be considered as embodied, social, and cultural forms of cognition.

The standards promote student communication, engagement, and interaction directly with their culture because their works can be about the world and can be a part of the world. As such, their works are viable cultural products, offering distinctly creative perspectives for their world. Their works can extend beyond the classroom and garner feedback beyond teacher evaluation. Teachers should encourage students to view and experience student artists' works and promote their accomplishments to their school site and the greater community. These student works can contribute to the culture of the school and can vitalize the school's relationship with parents and the local community. The media arts standards emphasize the enduring, holistic competencies that result from these authentic processes of cultural engagement. Students of media arts become proficient at a wide range of skills and abilities that enable them to become effective communicators, technicians, and problem-solvers; collaborative project managers and team members; creative producers; and discerning, critical audiences.

In the snapshot below, middle school students engage in the entire standards-based process in one unit that contributes to the culture of the school. This illustrates the comprehensive or holistic range of creative, cognitive, and technical activities and modalities and expressions that are prevalent in media arts productions, and that are the foundations of artistic literacy in media arts.

Snapshot: *Stop Motion Animation to Address a Local Issue*

Purpose: The animation unit will address bullying and will be publicly presented upon completion.

Media Arts Performance Standards

6.MA:Cr1 Envision original ideas and innovations for media artworks using personal experiences and/or the work of others.

6.MA:Pr5a Develop a variety of artistic, design, technical, and **soft skills**, such as invention, formal technique, production, self-initiative, and problem-solving, through performing various assigned roles in producing media artworks.

Health Education Standards

6.8.2.S Promote a bully-free school and community environment.

7-8.8.2.S Design a campaign for preventing violence, aggression, bullying, and harassment.

Pre-production: At the beginning of the unit, students prepare by learning about the issue (connecting to health education standards) and developing a solution for how it should be addressed (Connecting). They determine their own approach for how to convey the problem and proposed solution to others (Relate). They consider: What will make people pay attention? What kinds of stories do they want to tell? How do they convince their audience to change their thinking and behavior around the issue? (Synthesize). They generate multiple ideas (Creating, Conceive), and collaboratively determine the best of those ideas to formulate goals and a plan for action. Even in this initial stage, they need to fully envision the final presentation format and the audience (Present), as well as the cultural results and context of their production (Connect, Synthesize, Relate). Next, they will create and refine various concept sketches or models and storyboards, scripts, timelines, and process steps for realizing these ideas (Develop).

Production: (Construct), the students develop a plan to maintain consistency while integrating the aesthetic, multimodal aspects of storytelling—the compelling quality of message, the embodied intricacy of character, the dramatic conditions of story, tone and setting, the spatial and dynamic motion of cinematic communication, and the emotional impact of the dialogue and sound (Producing, Integrate). This reflects the "inter-arts" nature of media arts, where students, to varying degrees, must be adept at integration across and fluent in individual artistic and academic elements, forms, and disciplines. This process requires patience, perseverance, creative problem solving, and a consistent aesthetic vision of the final result. It requires students to coordinate and manage their various roles within a challenging, multitiered, multiphased process (Practice).

Post-production: The student animators assemble and edit their best pieces into a consistent, unified whole, which ultimately becomes the finished media artwork. This can be technically complicated, requiring a variety of digital tools and processes that take considerable knowledge, skill, and precision to apply effectively. Students meticulously negotiate this process, communicating the nuanced inflection of the smallest detail in the dynamic modulation of timing, volume, effect, and edit toward the animation's emotional and physical impact. This challenging but rewarding process builds confidence and pride in their final production.

Finally, the students present their completed animation to a local audience in the school auditorium and through various online media channels. The students are

engaged in discussion with parents, other students, and community members. They talk about their vision, process, challenges, and breakthroughs. They are met with praise and admiration for their creative ideas, artistic work, and the quality of the completed product (Connecting, Relate, Synthesize).

Throughout, students engage in discussion, debate, analysis, and evaluation, both individually and collaboratively (Responding) as they conceive, construct, and refine their works (Analyze, Interpret, Evaluate). Along the way, students build fluency in the languages of media arts, which include the vocabularies of technical tools and processes; the metaphors and symbols of cultural meaning; the conventions and techniques of style and genre; and the visceral dynamics of action, story, and drama; and the aesthetic subtleties and emotional impacts of light, motion, sound, and time.

Process Emphasis

Evident within the animation unit above are the universal artistic process steps of Creating, Producing, Responding, and Connecting, and the media arts-specific process components within each artistic process. This illustrates the process emphasis of the standards, whereby students enact their learning through a cognitive process of creative inquiry as to how to communicate a message on bullying for a specific impact. Media arts students develop a rich understanding through this experience, advancing their artistic literacy in media arts through the diverse, integrative, and purposeful activities.

Educators can see media arts as a vehicle for creative inquiry by which any concept, element, content, topic, or problem can gain cultural relevance and deeper and aesthetic meaning. Inquiry through creative standards-based media arts productions allows students opportunities to form and share the meaning of their world. It provides them the power to help an audience see through their eyes and hear through their ears.

Interconnective and Interdisciplinary Nature of Media Arts

Media arts is uniquely interconnective and interdisciplinary, which positions it for a unifying role in schools to provide integration opportunities across multiple disciplines. Media arts can seamlessly weave together all content areas and arts disciplines, enhancing the aesthetic and cultural aspects of student learning. Such transdisciplinary instruction dissolves traditional educational boundaries while providing opportunities for students to develop well-rounded skills and knowledge. For example, news broadcasts created and produced by media arts students and presented to the school and local community can summarize a variety of school events and topics, such as a theatre performance; an innovative Science Technology, Engineering, Arts, and Mathematics (STEAM) project; or student athletic awards. Well-planned and implemented standards-based media arts teaching can serve to unify students' discrete, separate content learning.

Figure 4.3: Media Arts Integration Graphic

light

science

math

VA

virtual

sound MU MA DA motion

interactive

TH

language

history
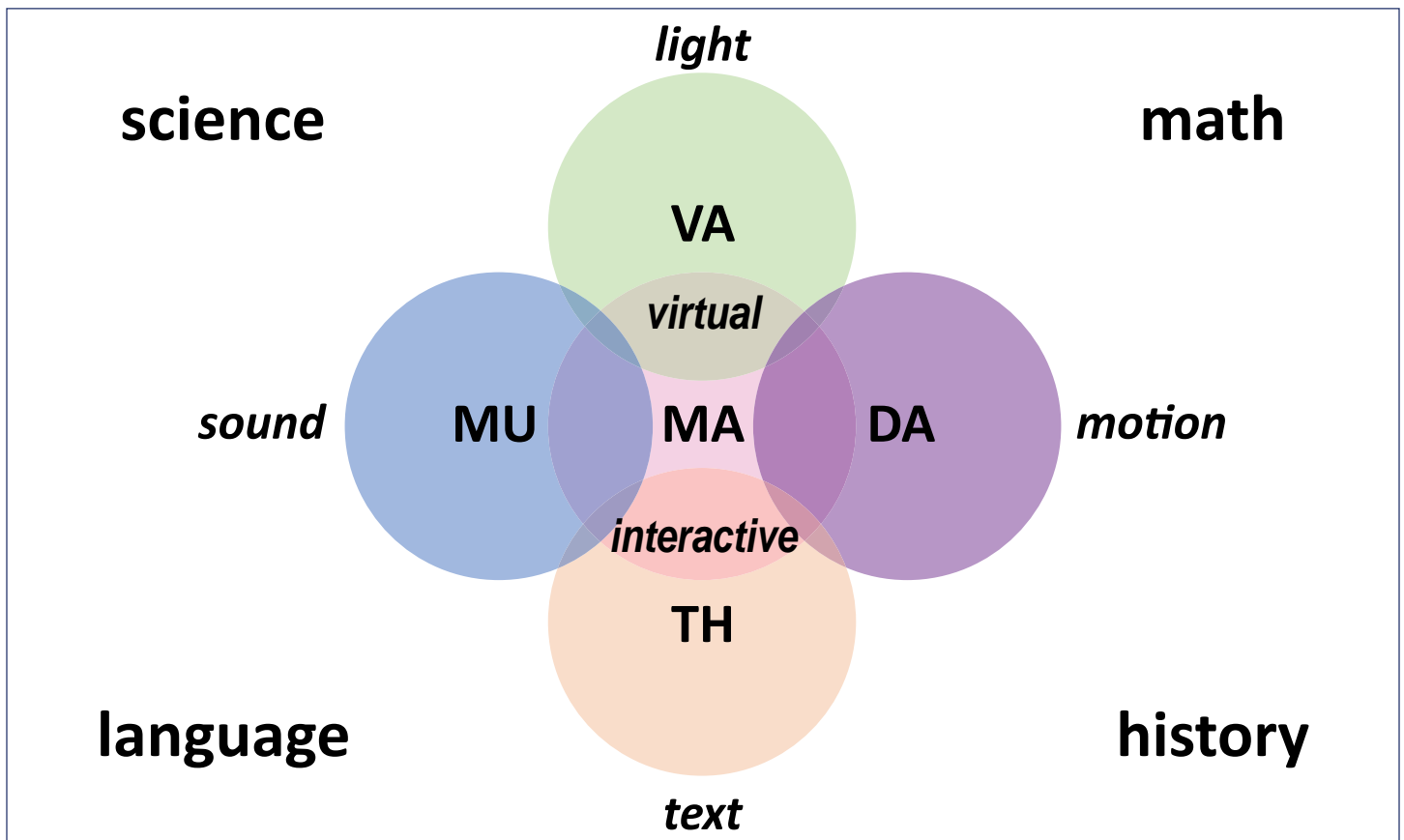
text

Media arts' integrative capacity is exhibited in figure 4.3, where the discipline is shown in reciprocating overlap between the primary media arts elements (sound, light, motion, text), their associated disciplines (music, visual arts, dance, theatre), and other content areas (science, math, history, language).

Media arts can access these elements and contents through its communication and design forms, as in video, sound, or virtual and interactive production. The arts and other disciplines can likewise access media arts forms by incorporating media arts tools and processes. This interconnectivity and complementary reciprocation demonstrates the distinct status of media arts as an arts discipline. To develop the unique potentials media arts learning provides, students require discrete, standards-based, sequential media arts learning along with opportunities for integration of their media arts learning into other arts and disciplinary learning.

Media arts offers considerable opportunities for interdisciplinary integration collaboration among the arts disciplines and other content areas especially, but not exclusively, at the secondary level. Each media arts form, genre, and project offers its own unique set of creative, production, and design processes and products. This diversity of activities within the various forms supports students in achieving broad competencies and skill sets that are essential to modern society and workforce development.

The integration of media arts can also enrich and enliven a school's culture and climate, inspiring interest and pride in the arts as well as other subjects, community awareness and engagement in the school, and positive effects on the larger community. For example, media arts students can stage transdisciplinary inquiries into community issues and then design and implement possible solutions through student-led projects across the arts and other areas of study. This supports students in initiating and directing their own paths of creative inquiry, as well as their cultural agency in engaging with their culture and community.

A collaboration of theatre and media arts students can provide the theatre students opportunities to act in film and video productions. In turn, the media arts students can direct and produce a multicamera shoot of a student-written theatrical performance. Media arts students might also produce an animated or interactive projection to be included within a stage play. The collaboration might include rendering the set design in 3D. Music and media arts students can collaborate as well. For example, student-composed music performed by a band or choir can be recorded for the play, while a media arts team might video record the same musicians performing the piece for a student-run video broadcast. The media arts students can produce the play's soundtrack of sound effects and music, as well as its overall audio production, the sound quality of local and ambient mics, live mixing, sound effects, etc. If the rights allow, they can livestream the play for the community at large, or share productions through social media platforms and various online channels. They can produce marketing materials for the play such as posters, flyers, video advertisements, or news segments, or in an after-performance review. The possibilities for media arts integration across the arts disciplines is endless and the resulting integration collaborations can be showcased in a yearbook page production, a student produced "multimedia yearbook," or website presentation.

Media arts integration opportunities exist across the other disciplines beyond the arts. Media arts also facilitates integration with science, technology, engineering, arts, and mathematics, often called STEAM initiatives. For example, through creating documentary videos, students can become researchers, project developers, artistic directors, and engaging teachers of science and engineering topics. Other examples of STEAM integration include

- video game design that includes computer science and mathematics;
- 3D virtual design of objects, tools, machines, and architecture; and
- data visualization through stop-motion or motion graphics techniques that display the correlations of air pollution levels to socioeconomic zones.

Thoughtfully designed and well-implemented co-equal integrated standards-based media arts approaches can encompass a broad range of transferrable media arts skill sets for students, including

- conceiving segment ideas through brainstorming and debate;
- researching each of the school activities, their contents, and meaning;

- determining audience, purpose, engagement, story arc, final formats;
- pre-production development, scriptwriting, and storyboarding;
- planning and organizing of the production process;
- assuming production roles and managing collaborative processes;
- staging and recording of various activities and interviews;
- video, image, graphics, narration and soundtrack processing, animation, and editing;
- producing motion graphics for images, informational titles, charts, and illustrations;
- exporting, archiving, and sharing for multiformat presentations;
- continually embedding responsive processes in analysis and evaluation; and
- creating potential social media and online supplements and discussion threads.

Integrated media arts learning can influence and support a vibrant school culture where student learning and creating are connected to the larger community. Additional discussion, guidance, and examples of arts integration approaches can be found in chapter eight, "Transcending Disciplinary Boundaries—Arts Integration."

Effective, sequential, standards-based media arts instruction supports the development of artistically literate students, provides endless opportunities for them to creatively connect, and enhances their learning.

Curriculum and Scheduling

Authentic student learning in media arts requires well-planned and articulated curriculum and appropriate time in the school schedule for teachers to teach media arts. With the adoption of media arts standards in 2019, many districts and schools will need to develop a scope and sequence and curriculum for media arts growing out of the standards. Teachers and administrators involved in constructing these instructional guides must understand media arts as an arts discipline and be familiar with the student performance standards for media arts. General approaches to developing these critical instructional arts learning foundations can be found in chapter nine, "Implementing Effective Arts Education."

Media arts classes should be scheduled with the same considerations as any other content area course. Scheduling of the media arts courses should provide all students with access to learning in media arts and not conflict with pull-out or supplemental programs. Teachers in self-contained classrooms should allocate time within their schedules for discrete instructional time in media arts. Extensions and applications of media arts learning can be made through cross-curricular approaches as described here, as well as in chapter eight, "Transcending Disciplinary Boundaries—Arts Integration." These real-life applications of artistic creations allow students to apply, hone, and innovate using their media arts skills and knowledge. Media arts teachers should have a similar case load of students and class sizes, and the same supports given to other education programs.

Teachers of Media Arts

To be effective, teachers of media arts must have a rich, diverse range of artistic and technological knowledge, experience in its diverse forms and genres, and the ability to support its interdisciplinary capacity. They must be creative and versatile, technically adept, and reflective in pedagogy. Designing standards-based media arts instruction requires extensive knowledge of, and experience in, media arts production processes, their translation into classroom situations, and their specific pedagogy. Teaching media arts requires the effective design of learning activities for various contexts with diverse students. Media arts teachers also need operational skills in program development, coordination, and maintenance. This broad scope of specialized knowledge in pedagogy and programming denotes the necessity for comprehensive institutional supports.

Professional learning can support teachers to gain additional skill or knowledge needed to teach media arts as an arts discipline. While universities and online training platforms can be sources for gaining experience in media arts and to fill out teachers' individual needs, as media arts education becomes more established, universities may need to offer specific training in implementation and pedagogy. Museums, libraries, and online multimedia and media literacy sites can also be sources of information and resources helpful to media arts teachers. Additional information about professional learning can be found in chapter nine, "Implementing Effective Arts Education."

Media Arts Program Development

Developing a media arts program can be a complex endeavor that encompasses equipment, facilities, budgets, and the general capacities of the school in its existing and potential resources. All of this requires specific experience, training, and careful consideration and planning. Some basic guidance and examples are provided here for educators to build on.

Media arts teachers require specific equipment and facilities to authentically instruct in any given form. When beginning a program, a foundation in basic equipment and facilities needs to be established. Some courses are computer based and can be serviced adequately with a computer lab, or a multimedia device cart, preferably at 1:1 ratio. Other courses require video and audio recording equipment. It is also possible to use a lower ratio of computer or camera to student if the work is primarily group based, for example as in photography, game design, or sound production.

> "Improve your films not by adding more equipment and personnel but by using what you have to its fullest capacity. The most important part of your equipment is yourself: your mobile body, your imaginative mind, and your freedom to use both. Make sure you do use them."
>
> —Maya Deren, avant-garde filmmaker (1965)

Teachers should examine what is explicitly available for their courses and what other equipment might be available through shared resources. The technology must match the intent of the course or the instructional unit, or the reverse, where a media arts teacher adjusts their course to the equipment that is available. In a graphic design media arts course, for example, a teacher can work with computers alone because works can remain purely digital. A basic video production course can manage with a few video cameras and workstations if students are collaborating in groups. It is helpful in video production to have a diverse range of other tools as well, such as tripods, microphones, cables, lights, and backdrops.

A media arts facility must be able to accommodate the nature of the program. Computer labs can sometimes fit into a normal classroom space. Device carts are more flexible to a variety of production spaces. Video production can fit into a normal classroom if the few group workstations can be accommodated, and students can access other spaces and the larger school grounds. Any tech facility should be adequately serviced for electrical needs and outlets, as prescribed in safety codes. Districts and schools can provide guidance related to local safety and fire codes. See chapter nine, "Implementing Effective Arts Education," for additional information related to safety.

Media arts programs can potentially become expensive, and schools need to consider not only the costs of implementation, but their continuing maintenance or expansion. Media arts teachers need to be flexible, resourceful, and creative in determining how to initiate and sustain a media arts program. For example, a teacher may start with a few computers and cameras and slowly build the program with continuing support from the school and community grants and donations.

When considering the further development of a media arts program to become more sophisticated and robust, teachers need to be strategic when planning implementation. The primary factors to consider are as follows:

- Facility—What are the size, configuration, and specifications of the space? Imagine the students involved in their different activities. Does this space accommodate them and allow free movement and safe operations of projects? Is there access to electricity and the internet?

- Resources—What resources are available currently and potentially in the future? Does the local community have any resources in support of the potential program?

- School administration—Is the administration supportive in the further development of the program? Do they understand the instructional and other benefits of investing in such a program? Are other administrators or teachers interested in assisting, collaborating, or supporting the program? What are the school's priorities or challenges that can benefit from the program? Can the schedule accommodate its development?

- Students—What do students want in a media arts program? What will gain their support and engagement in advocating its development?

When envisioning programs, media arts teachers need to also consider when the top-of-the-line equipment is needed and when equipment of a lesser quality will function just as well for the intended learning. Most companies that provide equipment to schools have supports, guides, and personnel that can be helpful when determining equipment needs. Online multimedia related sites, educational services, and organizations can also be sources for information and guidance when selecting equipment. Although their goals and purposes are slightly different, youth media organizations, teaching artists, and CTE programs are other excellent resources for experienced teachers and program models and much can be gleaned from their examples and experience.

Primary Sources in Media Arts

Primary sources are creative works, original documents, or artifacts that define a culture and provide insight to a time and place in history. The largest holding of primary sources that are accessible to the general public are held in The Library of Congress. This is the world's largest library with "millions of books, recordings, photographs, newspapers, maps, and manuscripts" (Library of Congress n.d.). The Library of Congress website can be found at https://www.cde.ca.gov/ci/vp/cf/ch4.asp#link1.

Primary sources provide a glimpse of the real life, culture, and history of media arts that brings the media arts to life. Using primary sources, students and teachers can understand an event, item in time, construct knowledge, integrate information, and create connections to people and events that place history as an actual living moment. Using primary sources also encourages students to think critically and further research information surrounding the media art or artifacts that rarely stand in isolation and are usually connected to additional significant events. This critical thinking process asks the student to view and identify academically oriented sites and determine if the source is authentic, and if so, how is this determined. Primary sources also invite the student to step into history and support an empathetic look, fostering understanding of people and situations with a larger perspective while making personal connections.

Using primary sources connects the learner to the actual creator of the artwork, which allows the student to see the source of the intellectual property. This is a valuable connection—the student is placed closer to the person who created the work, which develops empathy with the media artist and is placed in real time with what may have motivated or inspired the work. Learning the context of the work also supports the historical and cultural connection to the media artist and the piece within a time of history.

Primary sources within media arts provide a cache of knowledge for students. When given the opportunity to work with primary sources, students can experience living history and expand their minds into the world outside the walls of their classroom. Access to these raw primary sources, such as original manuscripts of writings, historical records, journal entries, diaries, letters, or historical newspaper articles, allows students to deepen their understanding of the concept, period, piece, or idea they are studying. Beyond the Library of Congress, the Smithsonian Institution, and the National Archives, many multimedia outlets, such as municipal libraries, museums, universities, newspapers, and media archivists have web galleries, such as Loyola Marymount University Linus Catalog and University of California, Los Angeles.

Digital Literacy and Citizenship for Creatives

"Students should gain fluencies in the evolving languages of interfaces, mediation, codes, and conventions, as well as contingent issues of power, persuasion, and cross-cultural collaboration, thus empowering them to critically investigate and use the effects and possibilities of various media."

—**National Coalition for Core Arts Standards, in *The Inclusion of Media Arts in Next Generation Arts Standards* (2012)**

"Digital Literacy" is a critical aspect of media arts literacy as framed through media arts standards. California's digital literacy legislation, SB 830, states: "*'Digital citizenship' means a diverse set of skills related to current technology and social media, including the norms of appropriate, responsible, and healthy behavior.*" In a media arts-centered culture, we are dependent on multimedia texts and experiences for our understanding of and ability to participate in and contribute to our culture and society. The importance of educating all students in forming, navigating, and negotiating digital environments is crucial to their well-being, as well as for our culture and democratic society.

Media arts standards-based education serves a proactive, leading role in developing all students' capacities for critical autonomy. Critical autonomy is defined here as the independent ability to discern the value, veracity, and intentions of multimedia experiences.

A significant aspect of this quality is conveyed through media arts production processes and the student's resulting cultural agency. A selection of Responding and Connecting standards that address digital and media literacy include:

- **Adv.MA:Re8:** Analyze the intent, **meanings** and impacts of diverse media artworks, considering complex factors of **context** and bias.
- **Acc.MA:Cn11a:** Examine in depth and demonstrate the relationships of media arts ideas and works to various **contexts**, purposes, and values, such as **markets**, **systems**, propaganda, and truth.
- **Acc.MA:Cn11b:** Critically investigate and proactively interact with **legal**, **technological**, systemic, and **vocational contexts** of media arts, considering **civic values**, **media literacy**, **digital identity**, and artist/audience interactivity.

The creatively empowered media arts student knows their way around the digital environment, is grounded in their culture, and is confident in being able to assert their own perspectives. The creative empowerment of students can mitigate many of the negative aspects of digitally immersive environments that younger generations will increasingly encounter, including media misinformation, propaganda, and influence, as well as digital abuse, addiction, and social misconduct. This is another beneficial outcome of a distinct and fully established media arts education program. When combined with the mutually strengthening interrelationships among all arts and other subject areas, the entire system can unify and positively support students' creative empowerment, critical autonomy, and cultural agency. Students of media arts can attain these specific standards-based outcomes toward digital literacy:

- creative capacity to produce impactful, multimodal works for specific audiences and contexts;
- ability to analyze diverse media artworks for bias and intention, manage multimodal experience, and form influence and persuasion through systemic communications;
- experiential understanding of the dynamic interrelationship of media arts and culture within virtual environments, global networks, and legal and market systems;
- capacity for appropriate, solutions-based, and ethical construction and use of multimedia; and
- capacity for critical investigation into and strategic interaction with legal, technological, systemic, and cultural contexts of media arts, considering digital identity, civic values, and community impacts.

Students of media arts are given unique opportunities to produce and create artistic work, just as artists and creatives in professional contexts. Media arts teachers must authentically and rigorously convey the benefits, rules, responsibilities, and safety issues to enable students to fully participate and create in ethical and meaningful ways in the context of our larger civil society.

Developing Media Arts Entrepreneurs

"Artists who get technology, technologists who get art, managers who are creative and creatives who can manage are our future. Fail to include the full spectrum of skills, fail to treat media arts education as anything but a full partner, and get ready to find an explanation even a child can understand about why the rainbow is missing half its colors, and one for business people about why we are losing jobs to more colorful competitors."

—Randy Nelson, expert trainer/director at arts-related businesses such as Apple University, Pixar, and DreamWorks, and former performing juggler (National Coalition for Core Arts Standards 2012)

Media arts education instills entrepreneurial capacity within students through its creative and culturally empowering forms and implicit connections to, and interactions with, local and global communities, including markets and networks. Students of media arts fulfill various roles to become the artists, designers, marketers, manufacturers, managers, producers, technicians, and engineers of original products, expressions and ideas, innovative inventions, and imaginative worlds. They gain a holistic range of skill sets and vocational competencies that are in demand within the modern workforce and California's creative economy. Their works have actual purpose and impacts for their culture and communities. Students of media arts practice positioning their works within the contexts of contemporary society. They are empowered creative producers who have the ability and confidence to assert their unique perspectives and expressions.

The internet and the growth of digital connectivity have not only brought forth new types of creative work, but also new systems of distribution of creative work. As the creative sector expands, so does the need for students to know how to create, navigate, and interact as creatives. Media arts students develop creative and technical skills that support them in such artistic entrepreneurial pursuits, as well as for post-secondary studies and industry careers. Learning in media arts can even lead to students becoming artistic entrepreneurs while still in school. It is not unusual for students to conduct their own entrepreneurial ventures in online platforms and channels, and digital production services, such as generating virtual artifacts for sale within virtual worlds. To prepare for the real world as professional creators, the teacher must engage students in grappling with topics such as professional integrity, current laws governing and protecting creative work, and understanding the potential ramifications of their creative activities.

Professional Integrity

Instruction that supports students of media arts in developing a sense of professional integrity about their work and working habits is critical. The media arts standards provide students with the opportunities to develop understanding, studio habits, and capacities needed to work effectively, safely, and creatively as media artists. For example, the media arts standards call for students to consider and grow in their understanding of ethics and rules related to creating in media arts.

Table 4.20: Selected Media Arts Standards Related to Ethics and Rules of Creating in Media Arts

4.MA:Cn11	7.MA:Cn11	Prof.MA:Cn11
b. Examine and interact appropriately with media arts tools and environments, considering **ethics**, **rules**, and **fairness**.	b. Analyze and responsibly interact with media arts tools and environments, considering **fair use** and **copyright**, **ethics**, **media literacy**, and social media.	b. Critically evaluate and effectively interact with **legal**, t**echnological**, systemic, and **vocational contexts** of media arts, considering **civic values**, **media literacy**, social media, virtual environments, and **digital identity**.

Students in media arts learn about different creative sectors of the global creative economy and industries, such as film, music, gaming, publishing, and how to make good choices and manage intellectual property in ethical, legal, and productive ways. Instruction in media arts supports students in acquiring professional habits, understandings, and in developing their own sense of professional integrity. Teachers guide students in developing respect for the creative and innovative work of others, while also protecting their own rights as creators.

Professional integrity builds a foundation for trust in relationships, both inside and outside of the classroom. Through the use of digital tools, immediate access and connection to the larger world is simple, and with such ease of communication students must learn how to act responsibly and judiciously to engage in professional and educational excellence with a high degree of personal integrity. Students need to learn how to build healthy and ethical interpersonal relationships with peers, and others, both in person and online, and must have opportunities to professionally engage with peers and the larger world of media arts through multiple mediums and modalities.

Intellectual Property

The internet is vast and has restructured what and how intellectual property is viewed, engaged with, and retained. With the ease of access and the privacy of digital devices, media arts educators should take note that each image, graphic, audio and video recording, text, and other internet content, as well as each choreographic, literary, dramatic, musical, artistic, and architectural work, is the intellectual property of its creator. The very concept of intellectual property in the performing and creative arts should also be explicitly taught so students experience the concept of intellectual property as daily instruction, and that they, themselves—regardless of age—are the creators of such valuable outcomes. This comes into play as students brainstorm ideas in class and as they create.

Digital tools make it easier for students to produce their own media artworks, but also make it easier to inadvertently misappropriate the work and content owned by others, especially through the internet. Students should assume that the existing work and content available through the internet or elsewhere is protected by various intellectual property rights, which prohibit unauthorized copying, modification, incorporation, display, or other media arts use, despite being easily viewable online. Media arts teachers should be aware of how intellectual property laws apply to media arts and teach students to respect the tenets of intellectual property rights.

Teachers should also teach students to recognize, value, and preserve their own intellectual property rights in creating media artworks. Students should learn the intellectual property requirements related to the public broadcast of media artworks, such as paying for royalties and securing the rights to any or all pieces they choose to use in their projects. Teachers should also introduce students to the concept of "fair use" under copyright laws and how it may apply to media artworks. Teachers may access more detailed information about copyrights and fair use from the US Copyright Office (https://www.cde.ca.gov/ci/vp/cf/ch4.asp#link2) and more detailed information about patents and trademarks from the US Patent and Trademark Office (https://www.cde.ca.gov/ci/vp/cf/ch4.asp#link3).

It is imperative that teachers, schools, and/or districts adhere to the law for appropriate use of content, music, images, and other resources used when teaching, directing, producing, recording, copying, distributing, publishing, posting, and other activities related to media artworks displays. Special attention should be paid to copyrighted images (e.g., graphics, multimedia projection, audio and video recordings) and any music selections (e.g., dance music, sound effects, underscoring, or pre- and post-show) used in media arts works. Questions, concerns, and guidance about the complicated area of intellectual property infringement should be addressed by school district legal counsel.

Conclusion

Media arts is a versatile and creative arts discipline with its own specific and unique forms of expression. Many of its forms continue to develop and evolve. Media arts is no longer reserved solely for documenting school events or the weekly news broadcast. It can no longer be seen solely as existing only to serve interdisciplinary models that enhance and interconnect the arts with other content areas. While those are possible and important facets of a robust media arts program, media arts now assumes its place as an inventive and experimental arts discipline that can grow and expand in countless ways.

Media arts education has tremendous potential for the future of student learning and creativity. Students of media arts can tell their stories through various media that are compelling and moving. They can merge sound and image into dynamic music videos that express provocative points of view. They can produce highly engaging interactive games and intriguing 3D virtual environments that realize their imaginative visions. Media arts students grow to think and create from the center of the discipline. Media arts makes available to students all the elements in sound, image, motion, text, space, and interactivity, as well as the various creating processes and production forms of media arts. With the foundation of the arts standards and the arts framework, and with the full implementation of standards-based media arts education in California, students will have increased capacities for self-direction and cultural agency and be well prepared for twenty-first century societal and workforce conditions.

Glossary of Terms for California Arts Standards: Media Arts

The glossary for the *California Arts Standards* is intended to define select terms essential to understanding and communicating about the standards. The glossary contains only those terms that are highlighted in each artistic discipline's performance standards. The glossary definitions explain the context or point of view, from the perspective of the artistic discipline, regarding the use of terms within the standards. Glossary definitions are not meant to be an exhaustive list or used as curriculum.

aesthetic principles: Fundamental sensory quality or organizational rule within the diversity of media arts production and appreciation.

attention: Principle of directing perception through sensory and conceptual impact.

balance: Principle of the equitable and/or dynamic distribution of items in a media arts composition or structure for aesthetic meaning, as in a visual frame, or within game architecture.

civic values: Valuing the rights and well-being of individuals, collectives, and community through tolerance, appreciation, open-mindedness; having a sense of duty at local to global levels and awareness of power and predisposal to take action to change things for the better.

components: The discrete portions and aspects of media artworks, including: elements, principles, processes, parts, assemblies, etc., such as: light, sound, space, time, shot, clip, scene, sequence, movie, narrative, lighting, cinematography, interactivity, etc.

composition: Principle of arrangement and balancing of components of a work for meaning and message.

concept modeling: Creating a digital or physical representation or sketch of an idea, usually for testing; prototyping.

constraints: Limitations on what is possible, both real and perceived.

context: The situation surrounding the creation or experience of media artworks that influences the work, artist, or audience. This can include how, where, and when media experiences take place, as well as additional internal and external factors (personal, societal, cultural, historical, physical, virtual, economic, systemic, etc.).

contrast: Principle of using the difference between items, such as elements, qualities, and components, to mutually complement them.

convention: An established, common, or predictable rule, method, or practice within media arts production, such as the notion of a 'hero' in storytelling.

copyright: The exclusive right to make copies, license, and otherwise exploit a produced work.

design thinking: A cognitive methodology that promotes innovative problem solving through the prototyping and testing process commonly used in design.

digital identity: How one is presented, perceived, and recorded online, including personal and collective information and sites, ecommunications, commercial tracking, etc.

divergent thinking: Unique, original, uncommon, idiosyncratic ideas; thinking "outside of the box."

emphasis: Principle of giving greater compositional strength to a particular element or component in a media artwork.

ethics: Moral guidelines and philosophical principles for determining appropriate behavior within media arts environments.

exaggeration: Principle of pushing a media arts element or component into an extreme for provocation, attention, contrast, as seen in character, voice, mood, message, etc.

experiential design: Area of media arts wherein interactive, immersive spaces and activities are created for the user; associated with entertainment design.

fairness: Complying with appropriate, ethical, and equitable rules and guidelines.

fair use: Permits limited use of copyrighted material without acquiring permission from the rights holders, including commentary, search engines, criticism, etc.

force: Principle of energy or amplitude within an element, such as the speed and impact of a character's motion.

generative methods: Various inventive techniques for creating new ideas and models, such as brainstorming, play, open exploration, prototyping, experimentation, inverting assumptions, rule-bending, etc.

hybridization: Principle of combining two existing media forms to create new and original forms, such as merging theatre and multimedia.

interactivity: A diverse range of articulating capabilities between media arts components, such as user, audience, sensory elements, etc., that allow for inputs and outputs of responsive connectivity via sensors, triggers, interfaces, etc., and may be used to obtain data, commands, or information and may relay immediate feedback, or other communications; contains unique sets of aesthetic principles.

juxtaposition: Placing greatly contrasting items together for effect.

legal: The legislated parameters and protocols of media arts systems, including user agreements, publicity releases, copyright, etc.

manage audience experience: The act of designing and forming user sensory episodes through multisensory captivation, such as using sequences of moving image and sound to maintain and carry the viewer's attention, or constructing thematic spaces in virtual or experiential design.

markets: The various commercial and informational channels and forums for media artworks, such as television, radio, internet, fine arts, nonprofit, communications, etc.

meaning: The formulation of significance and purposefulness in media artworks.

media environments: Spaces, contexts, and situations where media artworks are produced and experienced, such as in theaters, production studios, and online.

media literacy: A series of communication competencies, including the ability to access, analyze, evaluate, and communicate information in a variety of forms, including print and nonprint messages (National Association for Media Literacy Education 2001).

media messages: The various artistic, emotional, expressive, prosaic, commercial, utilitarian, and informational communications of media artworks.

movement: Principle of motion of diverse items within media artworks.

multimodal perception: The coordinated and synchronized integration of multiple sensory systems (vision, touch, auditory, etc.) in media artworks.

multimedia theatre: The combination of live theatre elements and digital media (sound, projections, video, etc.) into a unified production for a live audience.

narrative structure: The framework for a story, usually consisting of an arc of beginning, conflict, and resolution.

personal aesthetic: An individually formed, idiosyncratic style or manner of expressing oneself; an artist's "voice."

perspective: Principle pertaining to the method of three-dimensional rendering, point-of-view, and angle of composition.

point of view: The position from which something or someone is observed; the position of the narrator in relation to the story, as indicated by the narrator's outlook from which the events are depicted and by the attitude toward the characters.

positioning: The principle of placement or arrangement.

presentation: A diverse range of activities of exhibiting media artworks, which can include sharing, distributing, installing, publishing, broadcasting, posting, showing, performing, etc.

production processes: The diverse processes, procedures, or steps used to carry out the construction of a media artwork, such as prototyping, playtesting, and architecture construction in game design.

prototyping: Creating a testable version, sketch, or model of a media artwork, such as a game, character, website, application, etc.

resisting closure: Delaying completion of an idea, process, or production, or persistently extending the process of refinement, toward greater creative solutions or technical perfection.

responsive use of failure: Incorporating errors toward persistent improvement of an idea, technique, process, or product.

rules: The laws or guidelines for appropriate behavior; protocols.

safety: Maintaining proper behavior for the welfare of self and others in handling equipment and interacting with media arts environments and groups.

soft skills: Diverse organizational and management skills, useful to employment, such as collaboration, planning, adaptability, communication, etc.

stylistic convention: A common, familiar, or even "formulaic" presentation form, style, technique, or construct, such as the use of tension-building techniques in a suspense film, for example.

systemic communications: Socially or technologically organized and higher-order media arts communications such as networked multimedia, television formats and broadcasts, "viral" videos, social multimedia (e.g., "vine" videos), remixes, transmedia, etc.

systems: The complex and diverse technological structures and contexts for media arts production, funding, distribution, viewing, and archiving.

technological: The mechanical aspects and contexts of media arts production, including hardware, software, networks, code, etc.

tone: Principle of "color," "texture," or "feel" of a media arts element or component, as for sound, lighting, mood, sequence, etc.

transdisciplinary production: Accessing multiple disciplines during the conception and production processes of media creation, and using new connections or ideas that emerge to inform the work.

transmedia production: Communicating a narrative and/or theme over multiple media platforms, while adapting the style and structure of each story component to the unique qualities of the platforms.

virtual channels: Network-based presentation platforms such as: YouTube, Vimeo, Deviantart, etc.

virtual worlds: Online, digital, or synthetic environments (e.g., Minecraft, Second Life).

vocational: The workforce aspects and contexts of media arts.

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