NEW HAVEN PUBLIC SCHOOLS

AGREEMENT COVER SHEET

Cover Sheet is an Internal Document for Business Office Use

Please Type

Contractor full name: Magalis Martinez

Doing Business As, if applicable: Martinez Design Collective LLC

Business Address: 1014 South Broadway #208 Santa Monica, CA 90401
Billing address: 295 Commonwealth Ave New Britain, CT 06053

Business Phone: (310) 487-8308

Business email: thecolorofwords@gmail.com

Funding Source & Acct # including location code: 2 ESSR ARP/ESSR 3 %: 553 6399 56694 0017

Principal or Supervisor: Medria Blue-Ellis

Agreement Effective Dates: From 7/1/2023. To 06/30/2024.

Hourly rate or per session rate or per day rate. $50.00 per hour not to exceed 800 hours for the 2023-2024 school year
Total amount: $40,000

Description of Service: Please provide a one or two sentence description of the service. *Please do not write "see attached."*

Consultant continues to oversee and facilitate the redesign of the Digital Media Arts and Technology Department at ESUMS. The redesign of ESUMS-DMAT aligns with a future forward, college and career ready curriculum. Consultant to add the following key services to this year's contract: teaching/co-teaching 2 courses; creating curriculum for 2 DMAT courses (curriculum aligns with ESUMS mission and a ***future forward***, college and career ready curriculum); producing curriculum map and learning frameworks for the DMAT Tech Capstone Course; creating Rubrics for DMAT Courses and aligning these rubrics with the Media Arts' National Core Arts Standards Align Design Thinking Standards to DMAT courses.

Submitted by: *Medria Blue- Ellis* Phone: 475-220-6000

NEW HAVEN PUBLIC SCHOOLS

Memorandum

To:	New Haven Board of Education Finance and Operations Committee
From:	**Medria Blue-Ellis**
Date:	**6/5/23**
Re:	**Martinez Design Collective**

Please ***answer all questions and attach any required documentation as indicated below***. Please have someone **ready to discuss** the details of each question during the Finance & Operations meeting or this proposal might not be advanced for consideration by the full Board of Education.

1. **Contractor Name**: Magalis Martinez/ Martinez Collective Design LLC

2. **Description of Service**: Consultant to continue to oversee and facilitate the redesign of the ESUMS' Digital Media Arts and Technology Department (DMAT). The redesign of DMAT aligns with a future forward, college and career ready curriculum. The Consultant scope of services includes: Curriculum design, development and delivery; Professional Development; Modeling and Co-teaching; Teaching 1 DMAT course; Co-teaching the 2 production studio courses; train staff and students on the management and maintenance of the DMAT production studio; development and facilitation of afterschool offerings; software and hardware management/maintenance of the DMAT production studio.

3. **Amount** of Agreement and hourly or session cost: **$50.00 per hour**

4. **Funding Source** and account number: **ESSR ARP/ESSR 3 Carry over: 2553 6399 56694 0017**

5. Approximate number of staff served through this program or service: **10**

6. Approximate number of students served through this program or service: **300**

7. **Continuation/renewal or new Agreement? New Agreement**
   Answer all questions:
   a. If continuation/renewal, has the cost increased? If yes, by how much? **No**
   b. What would an alternative contractor cost: **see decision matrix- different for each**
   c. If this is a continuation, when was the last time alternative quotes were requested? **We don't know of another vendor that offers this combination of services: embedded**

designer, exceptional educator, curriculum development, Co-teaching and modeling, Professional Development, aligning industry standards to student deliverables, software and hardware maintenance, management and training for production studio and development of production studio manual. The second vendor, MilestoneC, we'd consider as a service provider can provide only limited co-teaching and job-embedded services and their technology expertise does not fully meet the needs of this department at ESUMS. The third vendor is an independent contractor whose name is Howard Horvart. The fourth vendor was Technical Education Products Inc. who provides PD and curriculum ideas for equipment purchased only. The fifth vendor is Skills 21. (ATTACHMENT 7)

d. For new or continuation: is this a service existing staff could provide. If no, why not? **No, existing staff in the DMAT department are relatively new to ESUMS. They do not have the same level of real world industry experience as well as the same big picture planning to connect what they are learning to the real world.**

8. **Type of Service**:

Answer all questions:

a. Professional Development? **Yes**

i. If this is a professional development program, can the service be provided by existing staff? If no, why not? **No, they don't have the type of expertise we are looking for.**

b. After School or Extended Hours Program? **Yes**

c. School Readiness or Head Start Programs? **No-College and Career Readiness**

d. Other: (Please describe) **Curriculum design, development and delivery within the DMAT department. Curriculum maps, learning frameworks and rubrics that align with National Core Media Arts Standards, and Design Thinking Standards. Teach/co-teach 2 DMAT courses (train the trainers/modeling/co-teaching, professional development); Facilitate student-centered pop-up labs and hands on activities in the DMAT production studio (train the trainers); Facilitate and oversee production studio afterschool program (train the trainers); Produce the DMAT Production Studio Manual (includes procedures and protocols for staff & students); Manage and Supervise the DMAT Production Studio (professional development); Software and Hardware management & maintenance of the DMAT production studio.**

9. **Contractor Classification:**

Answer all questions:

a. Is the Contractor a Minority or Women Owned Business? **Yes**

b. Is the Contractor Local? **No- California Based business; she resides in New Britain, CT**

c. Is the Contractor a Not-for-Profit Organization? If yes, is it local or national? **No**

d. Is the Contractor a public corporation? **No**

e. Is this a renewal/continuation Agreement or a new service? **Renewal**

f. If it is a renewal/continuation, has the cost increased? If yes, by how much? **No**

g. Will the output of this Agreement contribute to building internal capabilities? If yes, please explain: **Yes- Professional development and lessons which prepare our**

students for the workplace of the future.

10. **Contractor Selection: In this section, please describe the selection process, including other sources considered and the rationale for selecting the contractor. Please answer all questions:**

    a. What specific skill set does this contractor bring to the project? Please attach a copy of the contractor's resume if an individual or link to contractor website if a company: **Ms. Martinez is a human centered design practitioner bringing innovative practices public . As an embedded designer Martinez's has a *"design with and for"* ethos at the center of her design practice; Martinez is also an exceptional educator, with over 20 years experience teaching in classrooms and 3rd spaces around the country, all while maintaining an active career within related industries. She is also a scholar-practitioner with fellowships at the University of Southern California and a network that includes MIT Media Lab, Columbia University Digital Storytelling lab, and the Annenberg School of Communication at University of Southern California. She is a highly sought-after experiential learning designer. Previous clients include United Nations, Public Broadcasting System, Google, Los Angeles Unified School District, City of Los Angeles Innovation Department and Santa Monica Malibu Unified School District.**

    b. How was the Contractor selected? Quotes, RFP/RFQ, Sealed Bid or Sole Source designation from the City of New Haven Purchasing Department? **Ms. Martinez was selected for a variety of reasons: (1) she is the founder of the ESUMS award winning Technology department. In 2011-12 she pitched and delivered adding technology/digital media electives to the engineering themed school. Digital media was not a part of the original ESUMS grant and constitution. Ms. Martinez worked a full year and provided guidance for the first ESUMS technology teacher who went on to become an award-winning teacher who lead students to achieve many scholastic honors and achievements. That teacher has relocated to Arizona and the school has struggled to maintain the vibrancy of this program. ESSER funds have been designated for the re engagement and motivation of students, many of whom have returned to school post-pandemic disengaged. It is critical that we reinvigorate this department that has the most potential to engage at-risk students, especially those who struggle in the engineering discrete courses.**

    c. Is the contractor the lowest bidder? If no, why? Why was this contractor selected? **See Contract Decision Matrix** ATTACHMENT #6)
    Ms. Martinez is the lowest bidder and the bidder whose work and experience best aligns with our needs. A second vendor, is Howard Hovarth who is $30 more per hour.

    d. Who were the members of the selection committee that scored bid applications? **Medria Blue-Ellis, current principal and principal who hired and worked with Ms. Martinez in 2011; Alison Doyon, Administrative Intern; Talima Andrews-Harris, Magnet Resource Teacher; Didicus Oparaocha, Technology Teacher who was on staff when Ms. Martinez worked at ESUMS in 2011. Lakesha Kirkland who is in the tech department**

e. If the contractor is Sole Source, please attach a copy of the Sole Source designation letter from the City of New Haven Purchasing Department. **NA**

11. **Evidence of Effectiveness & Evaluation**

Answer all questions

a. What **specific need** will this contractor address and how will the contractor's performance be measured and monitored to ensure that the need is met?

- **Ms. Martinez will assure that teacher and student performance meets effectively through exemplary performance, as measured by the NHPS and ESUMS teacher evaluation platforms.**
- **Ms. Martinez will deliver the following by June 2024:**
  - **Curriculum for 2 DMAT Courses**
  - **Curriculum map and learning frameworks for the DMAT Tech Capstone**
  - **Rubrics for DMAT Courses that align with the Media Arts' National Core Arts Standards** (See Attachment # 1)
  - **Align Design Thinking Standards to DMAT courses** (See Attachment #3)
- **Ms. Martinez will continue to use digital media tools to document the process and progress and evolution of creating a FutureForward ESUMS Digital Media and Technology Department and Curriculum.**

b. If this is a **renewal/continuation service** attach a copy of the evaluation or archival data that demonstrates effectiveness.
(See Attachment #)

c. How is this service aligned to the District Continuous Improvement Plan?
Programming centers itself in the social and emotional wellbeing of each student. Learning experiences integrate applied creativity, human centered design, storytelling and game mechanics to offer a unique combination of multi-sensory and multi-modal experiential learning. These experiences are trans-disciplinary and combine an eclectic mix of disciplines while cultivating a safe, creative and rigorous learning space that promotes inclusion, belonging and empathy.

12. Why do you believe this Agreement is fiscally sound?

Ms. Martinez is a Master Teacher who has worked with renowned school districts, universities and agencies. She has credits in the media and movie industry and brings a wealth of real-world experience to the teaching and learning experience. Classroom teachers who lack the professional industry experience background struggle to create curriculum and teach 21st Century technical skills. It is rare to find an expert willing to work in public education at the non-certified rate and with the demands of the teaching schedule that does not often leave room for professional practice. Ms. Martinez is a New Haven Public Schools graduate and has given a commitment to build a program that can be sustained by qualified teachers who remain loyal to the school during this period of Great Resignation. In short, Ms. Martinez is being paid below her skillset and this is a bargain based on a desire to see the students of our city soar.

13. What are the implications of not approving this Agreement?

Teacher retention: Four full-time teachers and two part-time teachers with degrees in marketing, journalism and business struggled to gain a skill set to teach a 21st century skillset based curriculum. Job-embedding professional development and coaching is essential to teacher development and success. A previous vendor use to provide onsite professional development in business and industry and at universities. That provider, Skills21, has changed their model and have not been successful in helping develop teachers, as evidenced by teacher evaluations, resignations and non-renewals in this department.

Student Impact:
Critical and creative thinking skills are embedded in 21st Century Skills.

	2020-2021	2021-2022	2022-2023 Goals
Academic Data	ELA: 54.5 Math: 43.2 Science:	ELA: 60.21 Math 38.9 Science:59	ELA: 65 Math: 44 Science: 63 Data not finalized

Rev: 8/2021

NEW HAVEN PUBLIC SCHOOLS

AGREEMENT
By And Between
The New Haven Board of Education
AND

Martinez Design Collective LLC

FOR DEPARTMENT/PROGRAM:

Engineering and Science University Magnet School

This Agreement entered into on the 1 day of July 2023, effective (*no sooner than the day after Board of Education Approval*), the 1 day of July, 2023, by and between the New Haven Board of Education (herein referred to as the "Board" and, Martinez Design Collective LLC located at, 295 Commonwealth Ave New Britain, CT 06053 (herein referred to as the "Contractor".

Compensation: The Board shall pay the contractor for satisfactory performance of services required the amount of $50.00 per hour, not to exceed a total of 800 hours.

The maximum amount the contractor shall be paid under this agreement: $40,000. Compensation will be made upon submission of an itemized invoice which includes a detailed description of work performed and date of service.

Fiscal support for this Agreement shall be by **ESSR ARP/ ESSR 3 Carryover Program** of the New Haven Board of Education, **Account Number**: 2553-6399-56694-**Location Code**:0017.

This agreement shall remain in effect from 7/1/2023 to 6/30/2024.

SCOPE OF SERVICE: *Please provide brief summary of service to be provided*

***Exhibit A: Scope of Service**: Please attach contractor's detailed Scope of Service on contractor letterhead with all costs for services including travel and supplies, if applicable.*

***Exhibit B: Student Data and Privacy Agreement:** Attached*

Exhibit C:

APPROVAL: This Agreement must be approved by the New Haven Board of Education ***prior to service start date***. Contactors may begin service no sooner than the day after Board of Education approval.

HOLD HARMLESS: The Contractor shall insure and/or indemnify the Board and its members, employees and agents against all claims, suits, and expenses, including reasonable attorney's fees, in connection with loss of life, bodily injury or property damage arising from any neglect act or omission of the Contractor or its employees or agents. Further, the Contractor covenants and agrees that it shall hold the Board and its members, employees and agents harmless against any and all claims, suits judgments of any description whatsoever caused by the Contractor' breach of this agreement or based upon the conduct of the Contractor, or its agents or its employees or arising out of in connection with their activities under this agreement.

TERMINATION: The Board may cancel this agreement for any reason upon thirty (30) days' written notice sent to the Contractor by certified U.S. mail, return receipt requested; provided however, that the Board shall be responsible to the Contractor for all services rendered by the Contractor through the last day of thirty (30) day notice period, as long as the Agreement was approved by the Board prior to the start date of service.

Magalis Martinez

Contractor Signature

President
New Haven Board of Education

6/6/2023

Date

Date

MAGALIS MARTINEZ, CONSULTANT

Contractor Printed Name & Title

Revised: 8/2021

NEW HAVEN PUBLIC SCHOOLS

EXHIBIT B

STUDENT DATA PRIVACY AGREEMENT
SPECIAL TERMS AND CONDITIONS

For the purposes of this Exhibit B "directory information," "de-identified student information," "school purposes," "student information," "student records," "student generated content," and "targeted advertising" shall be as defined by Conn. Gen. Stat.§10-234aa.

1. All student records, student information, and student-generated content (collectively, "student data") provided or accessed pursuant this Agreement or any other services agreement between the Parties are not the property of, or under the control of, the Contractor.

2. The Board shall have access to and the ability to delete student data in the possession of the Contractor except in instances where such data is (A) otherwise prohibited from deletion or required to be retained under state or federal law, or (B) stored as a copy as part of a disaster recovery storage system and that is (i) inaccessible to the public, and (ii) unable to be used in the normal course of business by the Contractor. The Board may request the deletion of any such student information, student records or student generated content if such copy has been used by the operator to repopulate accessible data following a disaster recovery. The Board may request the deletion of student data by the contractor within two (2) business days of receiving such a request and provide to the Board confirmation via electronic mail that the student data has been deleted in accordance with the request, the date of its deletion, and the manner in which it has been deleted. The confirmation shall contain a written assurance from the Contractor that proper disposal of the data has occurred in order to prevent the unauthorized access or use of student data and that deletion has occurred in accordance with industry standards/practices/protocols.

3. The Contractor shall not use student data for any purposes other than those authorized pursuant to this Agreement.

4. A student, parent or legal guardian of a student may review personally identifiable information contained in student data and correct any erroneous information, if any, in such student data. If the Contractor receives a request to review student data in the Contractor's possession directly from a student, parent, or guardian, the Contractor agrees to refer that individual to the Board and to notify the Board within two (2) business days of receiving such a request. The Contractor agrees to work cooperatively with the Board to permit a student, parent, or guardian to review personally identifiable information in student data that has been shared with the Contractor, and correct any erroneous information therein.

5. The Contractor shall take actions designed to ensure the security and confidentiality of student data.

6. The Contractor will notify the Board, in accordance with Conn. Gen. Stat. § 10-234dd, when there has been an unauthorized release, disclosure or acquisition of student data. Such notification will include the following steps:

   Upon discovery by the Contractor of a breach of student data, the Contractor shall conduct an investigation and restore the integrity of its data systems and, without unreasonable delay, but not more than thirty (30) days after such discovery, shall provide the Board with a more detailed notice of the breach, including but not limited to the date and time of the breach; name(s) of the student{s) whose student data was released, disclosed or acquired; nature of and extent of the breach; and measures taken to ensure that such a breach does not occur in the future.

7. Student data shall not be retained or available to the Contractor upon expiration of the contract between the Contractor and Board, except a student, parent or legal guardian of a student may choose independently to establish or maintain an electronic account with the Contractor after the expiration of such contract for the purpose of storing student generated content.

8. The Contractor and Board shall each ensure their own compliance with the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. § 1232g, as amended from time to time.

9. The Contractor acknowledges and agrees to comply with the above and all other applicable aspects of Connecticut's Student Data Privacy law according to Connecticut General Statutes §§ 10-234aa through 10-234dd.

10. The Parties agree that this Agreement controls over any inconsistent terms or conditions contained within any other agreement entered into by the Parties concerning student data.

MAGALIS MARTINEZ

MARTINEZ DESIGN COLLECTIVE, LLC

CONTACT

310-487-8308

thecolorofwords@gmail.com

Santa Monica, CA

EDUCATION

Master of Fine Arts / Writing
Sarah Lawrence College
2008

Bachelor of Arts / English
University of Southern California
1996

EXPERTISE

Project Design and Direction

User Experience Design

Learning Experience Design

Systems Thinking

Curriculum Development and Implementation

Impact Design

Creative Direction

Project Management

Development and Building Teams

PROFILE

My work lives at the intersection of social innovation, impact design and experiential learning. My design practice is centered on cultivating safe, creative and rigorous learning spaces that promote inclusion, belonging and empathy.

FOUNDER • CREATOR • CONSULTANT

The Imagination Lab / 2016-Present

THE **IMAGINATION LAB** (IML) integrates applied creativity, human centered design, storytelling and game mechanics to offer a unique combination of multi-sensory and multi-modal experiential pop-up learning activations, design labs and workshops. These experiences are trans-disciplinary and combine an eclectic mix of disciplines, including: immersive storytelling, embedded programming, creative code, game design, emerging media & new technologies, art, science and architecture.

Recent and Current Partners and Clients include: Los Angeles Unified School District, Google Serves LA, City of Los Angeles, Samsung North America, Unity Technologies, UNICEF, Columbia University Digital Storytelling Lab, USC Annenberg School of Communication, USC Interactive Media & Gaming Division, City of Santa Monica, Santa Monica Public Library, Santa Monica-Malibu Unified School District, LA's Best, PBS (Public Broadcasting System), Challengers Boys and Girls Club.

IMAGINATION LAB x LEARNING EXPERIENCE DESIGN

LIQUID FUTURES – 2019-2022
Liquid Futures - an interdisciplinary investigation of water that encourages an exploration of the relationship between people and water through art. In partnership with Columbia University Digital Storytelling Lab and the Columbia Water Center at the Earth Institute, high school students co-created an immersive and interactive, story-driven installation.

AFRO-FUTURIST WRITERS ROOM – 2018-2020
Step inside the future as imagined and designed by African-American youth from South Central Los Angeles. The youth, with support from adult mentors, co-designed and co-created an immersive and interactive experience that invites people to imagine a shared future through an Afrofuturist lens.

PALIMPSEST -- 2018-2019
Palimpsest - an immersive media project designed for women of color and their allies to consume, dismantle, and rewrite themselves into the culture of computing. The *Palimpsest HS Program* – prototyped through the Imagination

MAGALIS MARTINEZ

MARTINEZ DESIGN COLLECTIVE, LLC

SKILLS

Oral and Written Communication

Multi-Media Production

Visual Design

Impact Storytelling

Adobe Creative Suite

Digital Photography

Graphic Design

Interaction Design

Embedded Programming

Bilingual (Spanish)

AFFILIATIONS

ANNENBERG INNOVATION LAB
University of Southern California
MacArthur Foundation
SENIOR FELLOW

CIVIC IMAGINATION PROJECT
University of Southern California
ADVISORY TEAM

DIGITAL STORYTELLING LAB
Columbia University
MEMBER

EMPATHY LAB
Columbia University
EXPERIENCE DESIGNER

GAME INNOVATION LAB
University of Southern California
GUEST *PlayTHINK*

TECH TALKS @GOOGLE
Google Los Angeles
FEATURED SPEAKER

YOUTH DRIVEN SOCIAL IMPACT PROJECTS

solve|YOUTH POWERED SOLUTIONS

PROJECT DIRECTOR • LEARNING EXPERIENCE DESIGNER - 2014-2018

solve – a youth-driven design challenge, equipped adolescents with tools and experiences that nurtured their development as impact designers and change makers. Using their local neighborhoods as spaces for collective learning and collaboration, participating youth identified challenges and opportunities in their communities, and then applied a set of human centered design methodologies to prototype and test solutions that helped them rethink and re-imagine local socio economic-cultural dynamics, physical spaces, and government policies.

THE BUKE | Grassroots Social Innovation, 2018
The BUKE is a people powered bike-bus as envisioned and imagined by a group of former high school drop-outs in East LA. The BUKE serves as a symbol of how youth can drive grassroots social innovation projects in their community, through the use of human centered design methods and their own ingenuity. The BUKE debuted in East LA and Boyle Heights in the summer of 2018, with support from LA2050.

BuddyBOTS:Empathetic Robots | Technology for Good / 2017

Through the use of design thinking and emerging technologies - including artificial intelligence and mechatronics – the *Girls in Tech* STEM team at the Critical Design & Gaming High School in South Central Los Angeles, designed and prototyped an empathetic robot for children experiencing long stays in hospitals. The BuddyBOTS were designed to provide comfort and companionship to kids in hospitals and in recovery. The high school students served as the lead design and engineering team and worked alongside younger children at the Challengers Boys and Girls Club, also in South Central Los Angeles. The BuddyBOT prototype was showcased, as a youth powered solution, at the International Consumer Electronics Show in January 2017.

RELEVANT PROFESSIONAL EXPERIENCE

Learn Do Share | Global Design Collective

EXPERIENCE & IMPACT DESIGN • CREATIVE PRODUCTION - 2014-2017

Learn Do Share (LDS) is an open space for collaboration, design fiction and social innovation. LDS offers a unique combination of experience halls, design labs, meet-ups and workshops that convenes storytellers, creative technologists, educators, game developers, students, scientists, architects and designers. LDS prototypes and shares creative collaborative methods that explore the future of work and learning.

Responsibilities included: overseeing all aspects of producing multi-day events, labs and screenings; designing and facilitating workshops; communicating vision, scope of event and details to production team, sponsors, partners, collaborators and vendors; creating and implementing communications strategy; creating content); hiring and managing

MAGALIS MARTINEZ

MARTINEZ DESIGN COLLECTIVE, LLC

RELEVANT PROFESSIONAL EXPERIENCE (CON'T)

Learn Do Share | Global Design Collective

EXPERIENCE & IMPACT DESIGN • CREATIVE PRODUCTION - 2014-2018

EMPATHY LAB

CITY OF SANTA MONICA & CIVIC WELLBEING PROJECT / 2017

Fostering Empathy through applied creativity and human centered design. During this "think and do" lab for the West Coast Convening of Bloomberg Philanthropies Innovation Teams – we mixed speculative design, storytelling, and critical play to share collaborative thinking frameworks and system design methods that harness co-creation and empathy as mechanism for civic innovation in local government.

CIVIC INNOVATION LAB LOS ANGELES

CITY OF LOS ANGELES, 2014-2016

The Civic Innovation Lab engaged the ingenuity of citizens to develop solutions through the use of open data, local government support, and a facilitated design process. Our goal: Prototype new ways citizens can work productively with government and engage a community of designers, developers, nonprofit leaders, artists, activists, data scientists, policy makers, academics, and entrepreneurs to tackle city-wide challenges such as housing, education, small businesses, neighborhood stabilization, and transportation; Demonstrate a stakeholder engagement process of designing with and for end users; activate and connect the civic tech community to experts in government and policy issues to create lasting, impactful solutions.

LIBRARY OF THE FUTURE

CITY OF SANTA MONICA & SANTA MONICA PUBLIC LIBRARY / 2015

In 2015 the Santa Monica Public Library envisioned the future of the organization through the process of strategic planning. A major focus of this effort was to solicit input from the Santa Monica community in order to ensure that the library's newly formed plan would meet the needs of the community it serves. As part of these efforts, the Pico Branch Library invited, Martinez to join them as they imagined, designed and prototyped the future of library services at the Pico Branch.

ADDITIONAL YOUTH DEVELOPMENT EXPERIENCE

MANAGING DIRECTOR • CREATIVE PRODUCER

THE COLOR OF WORDS | DIGITAL STORYTELLING LAB / 2007 – 2013

The Color of Words offered digital media production and impact storytelling training to youth from under-resourced communities. Participating youth co-produced projects that used cinematic storytelling and digital media arts as tools for community-driven impact and engagement.

Partners and clients included: New Haven Public Schools, Yale University, City of New Haven, Community Foundation for Greater New Haven, New Haven Public Library, International Festival of Arts and Ideas, Youth Development Training and

MARTINEZ DESIGN COLLECTIVE, LLC
CONSULTING SERVICES & LEARNING EXPERIENCE DESIGN

STATEMENT OF WORK

Date	June 5, 2023
Client	Engineering and Science University Magnet High School (ESUMS)
Job Name	ESUMS DIGITAL MEDIA ARTS & TECHNOLOGY DEPARTMENT (DMAT)
Requested by	Medria Blue Ellis, Principal, ESUMS
From	Martinez Design Collective, LLC Magalis Martinez, Consultant & Learning Experience Designer

DESCRIPTION: Consultant to continue to oversee and facilitate the redesign of the Digital Media Arts and Technology Department at ESUMS. The redesign of ESUMS-DMAT aligns with a ***future forward***, college and career ready curriculum that includes:

- Students develop 21st century skills, mindsets and competencies that prepare them for the workplace of the future;
- Students are prepared for and acquire industry standard certifications;
- Students engage in real world and personally meaningful projects;
- Students use design, digital media and technology as tools to demonstrate individual creativity and academic achievement;
- Educational strategies and instructions that help students gain core competencies and skills required to succeed in today's challenging world, including: critical thinking, problem solving, higher order thinking, collaboration and design thinking.
- Learning frameworks and experiences that: 1) align with social and emotional learning; 2) cultivate a learning environment that is engaging, student centered, inclusive; 3) invite students to participate in problem-solving activities that reflect current workplace practices; 4) applies a whole-village approach to education.
- Integrate a multi-disciplinary approach to computer science (CS) and computational thinking (CT); connecting to CT/CS across all subjects, from literature and art to music and dance.

1.0 SCOPE OF SERVICES

CONSULTANT shall perform the following tasks and produce the following deliverables:

Task 1 & Deliverables – CURRICULUM DESIGN, DEVELOPMENT & DELIVERY

A. Produce the following:
   - ➢ Curriculum for 2 DMAT courses (curriculum aligns with ESUMS mission and a ***future forward***, college and career ready curriculum)
   - ➢ Curriculum map and learning frameworks for the DMAT Tech Capstone Course
   - ➢ Create Rubrics for DMAT Courses and aligning these rubrics with the Media Arts' National Core Arts Standards
   - ➢ Align Design Thinking Standards to DMAT courses

B. Teach 1 DMAT course (train the trainers)

C. Co-facilitate 2 DMAT production studio courses (Modeling/Co-teaching)

Task 2 & Deliverables – PROFESSIONAL DEVELOPMENT & TRAIN THE TRAINERS

A. Teach 1 DMAT course (train the trainers)

B. Co-facilitate 2 DMAT production studio courses (modeling/co-teaching, professional development)

C. Facilitate student-centered pop-up labs and hands on activities in the DMAT production studio (train the trainers)
D. Facilitate and oversee production studio afterschool program (train the trainers)

Task 3 & Deliverables – ESUMS DIGITAL MEDIA ARTS AND TECH PRODUCTION STUDIO

A. Produce the DMAT Production Studio Manual (includes procedures and protocols for staff & students)
B. Manage and Supervise the DMAT Production Studio (professional development)
C. Software and Hardware management & maintenance of the DMAT production studio

2.0 PERIOD OF AGREEMENT

JULY 1, 2023 - JUNE 30, 2024

3.0 PRICING & PAYMENT SCHEDULE

Item	Price	Cost Structure
Fee for Service:	$40,000	$50 per hour No more than 800 hours (for academic year 2023-24)
TOTAL		**$40,000**

Contractor shall invoice the District for the performance of the services described in the Statement of Work and according to the payment schedule below.

PAYMENT SCHEDULE & TIMELINE OF SERVICES & MONTHLY DELIVERABLES

Payment Schedule, Billable Hours & Invoice Amount

Invoice Dates	Invoice Amount
Invoice #1 - 7/28/23	$3,500
Invoice # 2 - 8/31/23	$4,000
Invoice # 3 - 9/29/23	$4,000
Invoice #4 - 10/27/2023	$4,000
Invoice #5 - 11/30/2023	$3,500
Invoice #6 - 12/22/2023	$3,000
Invoice #7 - 1/26/2023	$4,000
Invoice #8 - 2/23/2024	$2,000
Invoice #9 - 3/22/2024	$4,000
Invoice #10 - 4/26/2024	$3,000
Invoice #11 - 5/31/2024	$4,000

Invoice #12 - 6/14/2024	$1,000

Timeline of Services & Monthly Deliverables

Month	Timeline of Services	Invoice # Date Billable hours #
JULY	• Curriculum development & design • Professional Development planning • Produce DMAT Production Studio Manual (includes procedures and protocols for DMAT staff & students)	Invoice #1 - 7/28/23 70 hours
AUG	• Curriculum development & design • Professional Development planning and outline • Produce DMAT Production Studio Manual (includes procedures and protocols for DMAT staff & students • Software and Hardware management & maintenance	Invoice # 2 - 8/31/23 80 hours
SEPT	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise DMAT Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice # 3 - 9/29/23 80 hours
OCT	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #4 - 10/27/2023 80 hours
NOV	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #5 - 11/30/2023 70 hours
DEC	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #6 - 12/22/2023 60 hours
JAN	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development	Invoice #7 - 1/26/2023 80 hours

	• Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	
FEB	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #8 - 2/23/2024 40 hours
MAR	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #9 - 3/22/2024 80 hours
APRIL	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #10 - 4/26/2024 60 hours
MAY	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #11 - 5/31/2024 80 hours
JUNE	• Finalize Curriculum and DMAT Production Studio Manual • Facilitate Train the Training sessions with student & staff • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #12 - 6/14/2024 20 hours

END OF STATEMENT OF WORK

Martinez Design Collective LLC
Timeline of Services 2023-2024

Timeline of Services & Monthly Deliverables

*DMAT = Digital Media Arts and Technology

Month	Timeline of Services	Invoice # Date Billable hours #
JULY	• Curriculum development & design • Professional Development planning • Produce DMAT Production Studio Manual (includes procedures and protocols for DMAT staff & students)	Invoice #1 - 7/28/23 70 hours
AUG	• Curriculum development & design • Professional Development planning and outline • Produce DMAT Production Studio Manual (includes procedures and protocols for DMAT staff & students • Software and Hardware management & maintenance	Invoice # 2 - 9/1/23 80 hours
SEPT	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise DMAT Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice # 3 - 9/29/23 80 hours
OCT	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #4 - 10/27/2023 80 hours
NOV	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #5 - 11/30/2023 70 hours
DEC	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development	Invoice #6 - 12/22/2023

	• Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	60 hours
JAN	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #7 - 1/26/2023 80 hours
FEB	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance • Facilitate and oversee afterschool program	Invoice #8 - 2/23/2024 40 hours
MAR	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #9 - 3/22/2024 80 hours
APRIL	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #10 - 4/26/2024 60 hours
MAY	• Curriculum development & delivery (obtain student/staff feedback) • Professional Development • Teach 1 DMAT* course (train the trainers) • Co-facilitate DMAT production studio course (Modeling/Co-teaching) • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #11 - 5/31/2024 80 hours
JUNE	• Finalize Curriculum and DMAT Production Studio Manual • Facilitate Train the Training sessions with student & staff • Manage/Supervise the ESUMS Production Studio • Software and Hardware management & maintenance	Invoice #12 - 6/14/2024 20 hours

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 06/06/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATIONIS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER NUTMEG INSURANCE AGENCY INC/PHS 02025657 The Hartford Business Service Center 3600 Wiseman Blvd San Antonio, TX 78251	**CONTACT NAME:** **PHONE (A/C, No, Ext):** (866) 467-8730 **FAX (A/C, No):** **E-MAIL ADDRESS:**
INSURED Martinez Design Collective LLC 295 COMMONWEALTH AVE NEW BRITAIN CT 06053-2401	**INSURER(S) AFFORDING COVERAGE** — **NAIC#** **INSURER A :** Hartford Underwriters Insurance Company — 30104 **INSURER B :** **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED.NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/Y YY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR [X] General Liability GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:			02 SBU AS2YRF	04/26/2023	04/26/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE AGGREGATE	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					[ ] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE -EA EMPLOYEE E L. DISEASE - POLICY LIMIT	
A	Employment Practices Liability Insurance			02 SBU AS2YRF	04/26/2023	04/26/2024	Each Claim Limit Annual Aggregate Limit	$25,000 $25,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Those usual to the Insured's Operations.

CERTIFICATE HOLDER	CANCELLATION
New Haven Public Schools 54 MEADOW ST NEW HAVEN CT 06519	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Susan L. Castaneda

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
MAGALIS MARTINEZ

2 Business name/disregarded entity name, if different from above
MARTINEZ DESIGN COLLECTIVE

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☒ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
1014 BROADWAY

Requester's name and address (optional)

6 City, state, and ZIP code
SANTA MONICA, CA 90401

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
[ ][ ][ ] - [ ][ ] - [ ][ ][ ][ ]

or

Employer identification number
8 1 - 3 3 3 2 2 2 0

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ Magalis Martinez Date ▶ 6/5/2023

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

MARTINEZ VERSION
ESLMS 2023-24

ATTACHMENT #2

National Coalition for CORE ARTS Standards

National Core Arts Standards: A Conceptual Framework for Arts Learning

This narrative document outlines the philosophy, primary goals, dynamic processes, structures, and outcomes that shape student learning and achievement in dance, media arts, music, theatre, and visual arts, as articulated in the National Core Arts Standards. To view the National Core Arts Standards go to www.nationalartsstandards.org.

CONTENTS

FOREWORD

Understanding and Using the Core Arts Standards

The arts have always served as the distinctive vehicle for discovering who we are. Providing ways of thinking as disciplined as science or math and as disparate as philosophy or literature, the arts are used by and have shaped every culture and individual on earth. They continue to infuse our lives on nearly all levels—generating a significant part of the creative and intellectual capital that drives our economy. The arts inform our lives with meaning every time we experience the joy of a well-remembered song, experience the flash of inspiration that comes with immersing ourselves in an artist's sculpture, enjoying a sublime dance, learning from an exciting animation, or being moved by a captivating play.

The fact that the arts provide important touchstones confirms their value to the development of every human being. Nurturing our children, then, necessarily means that we must provide all of them—not just those identified as "talented"—with a well-rounded education that includes the arts. By doing so, we are fulfilling the college and career readiness needs of our students, laying the foundations for the success of our schools and, ultimately, the success of our nation.

The central purposes of education standards are to identify the learning that we want for all of our students and to drive improvement in the system that delivers that learning. Standards, therefore, should embody the key concepts, processes, and traditions of study in each subject area, and articulate the aspirations of those invested in our schools—students, teachers, administrators, and the community at large. To realize that end goal, these new, voluntary National Core Arts Standards are framed by a definition of artistic literacy that includes philosophical foundations and lifelong goals, artistic processes and creative practices, anchor and performance standards that students should attain, and model cornerstone assessments by which they can be measured. The connective threads of this conceptual framework are designed to be understood by all stakeholders and, ultimately, to ensure success for both educators and students in the real world of the school.

The framework is being developed in the complex, evolving context of local, state, and national educational practice and public policy. Therefore, the National Coalition for Core Arts Standards (NCCAS) expects that this guiding document will evolve as the standards are brought to completion. This conceptual framework is intended to serve as an entry point into the further refinement of the standards through feedback and discussion with a broad range of stakeholders.

In addition, while extensive research has been done in support of the standards revision (ranging from international standards and to alignment to the Common Core Standards in Mathematics and English Language Arts), the research phase of the work is far from complete. To further refine and develop this new generation of arts standards, NCCAS is committed to seeking out and gathering input from a broad range of stakeholders with an interest in arts education. Teachers, students, parents, and decision makers all have a stake in the work of creating coherent standards that will shape policy and classroom practice, helping arts education to solidify its contributions to the students of America.

The Context for Arts Education

Arts education has had a formal place in American schools at least since the early 1800s. The unique and essential contributions of the arts to every child's growth and development were as clear to Americans then as they are to us today. Unfortunately, children's access to arts education as part of their core education continues to be uneven across our nation's nearly 14,000 school districts. Some local education agencies currently offer a full, balanced education that includes rich and varied arts opportunities for their students. However, too many schools have succumbed to funding challenges or embraced a narrow focus on tested subjects, resulting in minimal, if any, arts experiences for the children they serve.

Narrow curricula and wide variances in the breadth of subject areas offered are incompatible with the ideal of a comprehensive public education. The underlying challenge seems to be how we can organize concepts, manage systems, and leverage resources to provide a better education for every child. The original 1964 Elementary and Secondary Education Act (ESEA) was designed to address problems of educational equity, particularly for high-poverty students. Through its most recent revision, the 2001 act known as *No Child Left Behind*, ESEA continues to be a driving force in education at the federal and consequently at the state and local levels.

The status of arts education in federal law (and, more importantly, in American schools) has also evolved over time. While arts education has been subject to less data-gathering than subjects such as mathematics and English language arts, we do know enough to present a relatively accurate picture of the status of arts education in today's schools. The Department of Education's Fast Response Survey System (FRSS) report, *Arts Education In Public Elementary and Secondary Schools 1999-2000 and 2009-10*, affirmed that there is a real and robust infrastructure of arts education in American schools. However, it also revealed extreme inequities in students' access to arts education, indicating that arts education is not universally available, is too often limited to music and art, and is inconsistent across grade levels. [1]

These inequities in learning opportunity have, not surprisingly, resulted in lackluster achievement, as evidenced in student scores on the 2008 National Assessment of Education Progress (NAEP) in music and visual arts. (NAEP did not test theatre and dance students, nor were the media arts a part of the study.)

- [1] At the elementary level, 94% of our schools offer music, 83% offer visual arts. Fewer schools at this level offer dance or theatre: 3% included dance and 4% offered theatre.
- At the elementary level (at least three times per week) is offered in the following percentages of schools: 15% for music, 8 percent for visual arts. The percentages for dance and theatre were not measured.
- At the elementary level, 88% of classroom teachers include arts as part of their ongoing instruction
- At the eighth-grade level, 57% of eighth graders attend schools offering a credible level of instruction in music; the figure for visual arts is 47%, while data for dance and theatre were not collected.
- At the eighth-grade level, there are differences (many of which are statistically significant) in achievement levels between some of the diverse ethnic, economic and geographic groups served by American schools. That is, minorities, poorer children, and urban schools seem to achieve less in the arts.
- Some arts programs are provided on a co-curricular (having an academic and extra-curricular component) or extra-curricular basis. At the middle and secondary levels, for example, 82% of queried theatre educators classified their programs as co-curricular, and 13% said that their programs were strictly extra-curricular.
- At the secondary level, 91% of our schools offer music, 89% offer visual arts, 12% offer dance, and 45% offer theatre.
- Americans' reports of lifetime learning in the arts (as children or as adults) show that about one-third of our citizens have taken lessons or classes in music; about 17% have done so in visual arts, about 12 percent in dance, and about six percent in theatre. These percentages have been declining at least for the past three decades.

Education in the United States

Education in the United States is provided primarily by the public sector, with control and funding coming from state, local, and federal agencies. Public education is universally available, but policies regarding school curricula, funding, teaching, and employment are established by locally elected policymakers having jurisdiction over school districts, who must also comply with numerous directives from state legislatures. The quality and availability of education in dance, media arts, music, theatre, and visual arts vary widely, particularly in locales where arts education is not compulsory. Further, the educational achievement gap in the U.S. between Black/Hispanic students and White/Asian Pacific Islander students, as well as urban/suburban schools, also applies to equity and access in arts education. Federal law does require that *all* schools that receive federal funding must provide services to meet the individual needs of students with special needs or disabilities and provide access to the general curriculum, which may include arts instruction. [2]

In most American schools today, students begin their formal education in kindergarten by age five and advance in age-based cohort groups through twelfth grade. While educational requirements vary state to state, the curriculum in public elementary education is typically determined by individual school districts that select curriculum and classroom resources linked to a state's learning standards and benchmarks for a given grade level. Students in most high schools (grades 9-12) take a broad variety of classes without special emphasis in any particular subject, with the exception of students enrolled in Career and Technical Education programs or themed schools. Students are required to take a certain minimum number of courses in mandatory subjects for high school graduation and may elect additional courses to round out their requirements toward graduation. States set graduation requirements for students, and individual schools must provide the opportunity for students to meet or exceed the minimum. High school students receive credits for courses as determined by local policies. The National Core Arts Standards are designed to encourage excellence within this educational structure. The arts standards also acknowledge the value of assessment to evaluate curriculum, instruction, student achievement, and teacher effectiveness—most often (and uniquely) through performance or portfolio assessments.

The new voluntary arts standards are designed to guide the delivery of arts education in the classroom with new ways of thinking, learning, and creating. The standards also inform policymakers about implementation of arts programs for the traditional and emerging models and structures of education. As with other subject areas, a commitment to quality education, equitable opportunities, and comprehensive expectations is embedded within the new arts standards.

Arts standards in America

The standards movement emerged with the 1994 passage of the *Goals 2000: Educate America Act*. Title II of that act established a National Education Standards and Improvement Council, which was charged with finding appropriate organizations to write standards. There were three goals for the standards development process: (1) to ensure that the standards reflect the best ideas in education, both in the United States and internationally; (2) to ensure that they reflected the best knowledge about teaching and

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[2] The Individuals with Disabilities Education Act (IDEA) ensures services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities. Infants and toddlers with disabilities (birth-2) and their families receive early intervention services under IDEA Part C. Children and youth (ages 3-21) receive special education and related services under IDEA Part B.

learning, and (3) to ensure that they had been developed through a broad-based, open process. The standards themselves were to define what students should "know and be able to do" to the end that "all students learn to use their minds well, so that they may be prepared for responsible citizenship, further learning, and productive employment in our nation's modern economy."

While the arts were not initially included as a core content area in *Goals 2000,* they did eventually become part of the legislation and were the first academic subject to successfully write standards under that law (though they were preceded by and profited from standards developed by the National Council of Teachers of Mathematics). Following the general idea of developing "voluntary" standards for "what students should know and be able to do," and in anticipation of the passage of the act, a consortium of organizations representing teachers of dance, music, theatre, and the visual arts approached the U.S. Department of Education, the National Endowment for the Arts, and the National Endowment for the Humanities in 1992 for a grant to move forward in this area.

The group completed its work and released the *National Standards for Arts Education* in 1994, the same year the *Goals 2000 Act* was enacted. The 1994 standards established achievement expectations for students at grades 4, 8, and 12. The introduction to the standards set out the following purposes for that document:

> Standards for arts education are important for two fundamental reasons. First, they help define what a good education in the arts should provide: a thorough grounding in a basic body of knowledge and the skills required both to make sense and to make use of each of the arts discipline—including the intellectual tools to make qualitative judgments about artistic products and expression. Second, when states and school districts adopt the standards, they are taking a stand for rigor, informed by a clear intent. A set of standards for arts education says, in effect, "An education in the arts means that students should know what is spelled out here, reach specified levels of attainment, and do both at defined points in their education."

Those standards, accepted by then-Secretary of Education Richard Riley, were highly influential. It is fair to say that they have helped shape curricula across the United States, through adoption of state standards, in the development of scope-and-sequence documents at the local education agency level, and by challenging individual arts educators to reflect on their practices.

International arts standards

As a part of the effort to improve American standards for arts education, NCCAS studied the standards that have been established in other nations. A 2011 study by the College Board, an NCCAS leadership team member, found that arts standards exist in nations throughout the world. International arts standards seem to share certain universal assumptions about the primary educational goals to be attained. While the language used in different nations may vary, most standards for arts education seem to be grouped in three broad areas:

- Generating/Problem solving; this corresponds to the American formulation of "Creating."
- Expressing/Realizing; this corresponds to the American usage of "Performing."
- Responding/Appreciating; this corresponds to the American "Responding."

Both the history of standards in the United States and comparisons with our international colleagues confirm that a complete education system must include significant and well-designed programs in the arts and, further, that well-designed standards play an essential role in delivering quality curriculum, instruction and assessment.

Standards in the United States have never been a monolithic and prescriptive set of governing rules for curriculum or teaching methods. Rather, the nation's current standards for arts education have served as an important guide to the development of curricula in all fifty states and in the District of Columbia. It is also important to point out that standards are "living" documents, a vision that was articulated in the introduction to the 1994 standards document:

> As we look ahead, it is important to keep two things in mind: To the degree that students are successful in achieving them, the standards will have to be raised to encourage higher expectations. At the same time, even though the substance of each of the arts discipline will remain basically constant, the changes created by technology, new cultural trends, and educational advances will necessitate changes in the standards as well.

Indeed, many states have gone through one or more revisions of their own standards in the years since the appearance of the first edition of the national standards. Clearly, standards in the arts have played and continue to play an important role in improving and supporting education for America's students. But the standards must be kept fresh if they are to remain relevant and influential.

The standards process today

The voluntary National Core Arts Standards being developed with this framework are a re-imagining of the 1994 *National Standards for Arts Education,* and more recently, the *2005 Standards for Learning and Teaching Dance in the Arts*. These standards are being crafted to guide arts curriculum, instruction, and assessment in America's schools. Toward that end, they emphasize the process-oriented nature of the arts and arts learning that guide the continuous and systematic operations of instructional improvement by:

- Defining artistic literacy through a set of overarching Philosophical Foundations and Lifelong Goals that clarify long-term expectations for arts learning.
- Placing Artistic Processes and Anchor Standards at the forefront of the work.
- Identifying Creative Practices as the bridge for the application of the Artistic Processes across all learning.
- Specifying Enduring Understandings and Essential Questions that provide conceptual throughlines and articulate value and meaning within and across the arts discipline.
- Providing Model Cornerstone Assessments of student learning aligned to the Artistic Processes.

The National Core Arts Standards will be delivered to the field through a web-based platform, designed to allow flexible sorting and organizing to meet individual teacher and local district needs. The web-based platform will allow for examples of student work to be linked directly to each of the standards. Over time, as teachers implement the standards and capture student work based on the model cornerstone assessments, this repository of representative student work near standard, at standard, and above standard will grow.

The format and design of this new set of standards will reposition the way in which the field interacts with standards and assessments. No longer will we talk about standards as lists of what students should know and be able to do. Rather, we will talk about standards as measurable and attainable learning events based on artistic goals.

A backwards design approach was selected as a clear and cogent model for building standards. The Understanding by Design (UbD) Framework®, co-created by Jay McTighe and Grant Wiggins, assists educators in first identifying important outcomes of learning, then determining acceptable evidence of attainment, and finally, designing the best path for achieving those desired results. These standards have been developed using the UbD framework as a major design driver. Jay McTighe, along with visual arts educator Daisy McTighe, provided early guidance to standards writing chairs as well as additional assistance on model cornerstone assessments.

These standards are also developed with the full knowledge of current trends in the field of public education, including— notably—the Common Core State Standards (CCSS). Educators familiar with the Common Core State Standards for English Language Arts, in particular, will find similarities in structure that should aid in the smooth implementation of the National Core Arts Standards. Simultaneously, those same educators will find differences in content and presentation that stem from the unique nature and traditions of each art form.

The National Coalition for Core Arts Standards is not associated with the Common Core State Standards project, although it did review CCSS concepts and design.

The National Core Arts Standards are built around evidence—not just evidence of student learning, but also research-based discoveries that helped writers and reviewers determine best-practice methods for the presentation of the standards as well as their content. In addition to research compiled by the National Coalition for Core Arts Standards (NCCAS) member organizations, the standards writers have benefited from research efforts of the College Board.[3] (The College Board's research on behalf of NCCAS is detailed in the Research-based Discoveries section of this document.) Additional valuable research on arts education may be found in sources including ArtsEdSearch.

The structure of the new arts standards suggests that they are learning events, progressing across grades and levels to create a sequential, standards-based approach to arts education. However, they also assume that learning does not happen out of context. Quality learning requires opportunity-to-learn conditions that create a rigorous and supportive learning environment. Standards are only one building block of quality arts education.

[3] Under the leadership of Nancy Rubino, Senior Director, Office of Academic Initiatives, AP and College Readiness, the College Board, and her team of researchers, led by Amy Charleroy.

SECTION I: The National Core Arts Standards

This section communicates the purpose and relationship of the major elements of the new arts standards: Philosophical Foundations/Lifelong Goals, Artistic Processes, Anchor Standards, and Performance Standards. Additionally, NCCAS-developed instructional support resources available on the website are explained. These include: Enduring Understandings, Essential Questions, Process Components, and Model Cornerstone Assessments. These elements are displayed visually in the Standards Matrix to illustrate their role in the development of knowledge and skills for the discipline studied, as well as their overarching function of nurturing the ultimate goal of artistic literacy.

The National Core Arts Standards Matrix

The Standards Matrix provides a unified view of the Standards for the five arts disciplines. Helping educators throughout the nation work toward common ends by recommending worthy goals for students as they progress–from grade to grade, instructor to instructor, school to school, or community to community–is one of the key reasons for providing arts standards. Rather than offering simply a compilation of individual skills and knowledge, the National Core Arts Standards integrate the processes, skills and knowledge, sample assessments, and criteria for successful learning into a single organized system that spans PreK-12 and is aligned to the philosophical foundations and lifelong goals. Rooted in backward design, this outcomes-based approach to teaching and learning in the arts emanates from four artistic processes, eleven anchor standards, and PK-12 performance standards articulated by each of the five arts disciplines.

Instructional support resources provide greater insight into the meaning of the standards, provide instructional guidance, and show how student learning can be measured through rich performance tasks. The instructional support resources include enduring understandings, essential questions, process components, glossaries, and model cornerstone assessments with key traits. Some of these support resources are emphasized differently among the arts disciplines. To accommodate these nuances, web-based viewing and reporting options will vary slightly across arts disciplines.

There are numerous advantages of a web-based presentation of standards, including the ability to add content, enhance the site over time, and link to NCCAS organizational member sites for additional resources and professional development opportunities. The site will also allow users to identify how 21st century skills align to the new standards.

While the standards are rooted in an outcomes-based approach, they are also built on a balance between the existing structure of American schools and an attainable vision of what that structure could and should be. Thus, performance standards for students up to grade 8 are listed grade-by-grade, in the full knowledge that some schools do not provide instruction in some art forms in certain grades within that span. Notwithstanding this fact, performance standards appear at grade level because that is the typical working structure of our nation's PK-8 schools, and the standards are meant as a guide to articulating the place of the arts in those schools. Individual districts will have to work through implementation of these standards within current allocations of time and resources even as they work toward the full availability of the arts for all students.

Because students' selection of arts courses can occur at any grade, the new high school standards are presented in three levels of proficiency rather than by grade. The three levels—Proficient, Accomplished, and Advanced—are flexible enough to accommodate

varying degrees of achievement by students during high school, including those who build on their PreK-8 foundation by pursuing deeper engagement in one arts discipline, as well as those who explore a wide range of artistic pursuits and experiences (further defined on page 17).

The standards matrix is a visual aid that shows the arrangement of and relationship among the elements of the National Core Arts Standards. Altogether, these elements will assist local education agencies in writing curriculum. The elements include sample cornerstone assessments –supplied for grades 2, 5, and 8, and for each high school proficiency level– that illustrate how student learning can be assessed through rich performance tasks with clearly identified criteria. These tasks are intended to serve as models to guide the development of local assessments and as such, will eventually be benchmarked with student work and available on the NCCAS website.

Philosophical Foundation	ARTISTIC LITERACY ⟷ Lifelong Goals				
Artistic Processes	Anchor Standards	Pre K—grade 8 Discipline-specific Performance Standards (grade by grade)	HS Performance Standards		
			Proficient	Accomplished	Advanced
Creating	3 Common Anchor Standards				
Performing (Dance, Music, Theatre) Presenting (Visual Arts) Producing (Media Arts)	3 Common Anchor Standards				
Responding	3 Common Anchor Standards				
Connecting	2 Common Anchor Standards				

The above chart is a representational graphic only. To see the full grid, refer to the Standards Matrix located on NCCAS website. Instructional resources and their relationship to the standards are shown in the full matrix layout.

Philosophical foundations and lifelong goals

The philosophical foundations and lifelong goals establish the basis for the new standards and illuminate artistic literacy by expressing the overarching common values and expectations for learning in arts education across the five arts disciplines (see page 17 for an in-depth explanation of artistic literacy).

Philosophical Foundation	Lifelong Goals
The Arts as Communication	
In today's multimedia society, the arts are the media, and therefore provide powerful and essential means of communication. The arts provide unique symbol systems and metaphors that convey and inform life experience (i.e., the arts are ways of knowing).	Artistically literate citizens use a variety of artistic media, symbols, and metaphors to independently create and perform work that expresses and communicates their own ideas, and are able to respond by analyzing and interpreting the artistic communications of others.
The Arts as Creative Personal Realization	
Participation in each of the arts as creators, performers, and audience members enables individuals to discover and develop their own creative capacity, thereby providing a source of lifelong satisfaction.	Artistically literate citizens find at least one arts discipline in which they develop sufficient competence to continue active involvement in creating, performing, and responding to art as an adult.
The Arts as Culture, History, and Connectors	
Throughout history the arts have provided essential means for individuals and communities to express their ideas, experiences, feelings, and deepest beliefs. Each discipline shares common goals, but approaches them through distinct media and techniques. Understanding artwork provides insights into individuals' own and others' cultures and societies, while also providing opportunities to access, express, and integrate meaning across a variety of content areas.	Artistically literate citizens know and understand artwork from varied historical periods and cultures, and actively seek and appreciate diverse forms and genres of artwork of enduring quality/significance. They also seek to understand relationships among the arts, and cultivate habits of searching for and identifying patterns and relationships between the arts and other knowledge.
Arts as Means to Wellbeing	
Participation in the arts as creators, performers, and audience members (responders) enhances mental, physical, and emotional wellbeing.	Artistically literate citizens find joy, inspiration, peace, intellectual stimulation, meaning, and other life-enhancing qualities through participation in all of the arts.
The Arts as Community Engagement	
The arts provide means for individuals to collaborate and connect with others in an enjoyable, inclusive environment as they create, prepare, and share artwork that brings communities together.	Artistically literate citizens seek artistic experience and support the arts in their local, state, national, and global communities.

Artistic processes

The Artistic Processes are the cognitive and physical actions by which arts learning and making are realized. Inspired by the 1997 National Assessment of Education Progress (NAEP) Arts Education Assessment Framework, the National Core Arts Standards are based on the artistic processes of Creating; Performing/Producing/Presenting; Responding; and Connecting. Each of the arts disciplines incorporates these processes in some manner. These processes define and organize the link between the art and the learner.

The identification of these Artistic Processes was informed by two studies conducted by the College Board: A Review of Selected State Arts Standards and International Arts Education Standards: A Survey of the Arts Education Standards and Practices of Fifteen Countries and Regions. The former reviewed a series of recently revised arts education standards from states and large districts nationwide, noting trends in the structure and organization of these standards, as well as finding commonalities among their guiding philosophies. The researchers found that the NAEP framework was a significant source of influence in many recent standards revisions. The framework of creating, performing, and responding became a foundational element for the structure and content of the standards of several states: Michigan, Minnesota, New Jersey, and Washington, among others. In the other study, College Board researchers reviewed the recently created standards of 15 countries worldwide. In 14 of the studied countries, the skills of creating, performing, and responding were found to form the core of these international examples as well, though the terminology varied.

Included in the NAEP framework were definitions for creating, performing, and responding. The writing groups of the National Core Arts Standards have broadened the NAEP definitions and in some cases made them discipline-centric. Though the NCCAS definitions are shorter, the use of verbs suggests that the arts operate in an active "hands-on" and "minds-on" capacity.

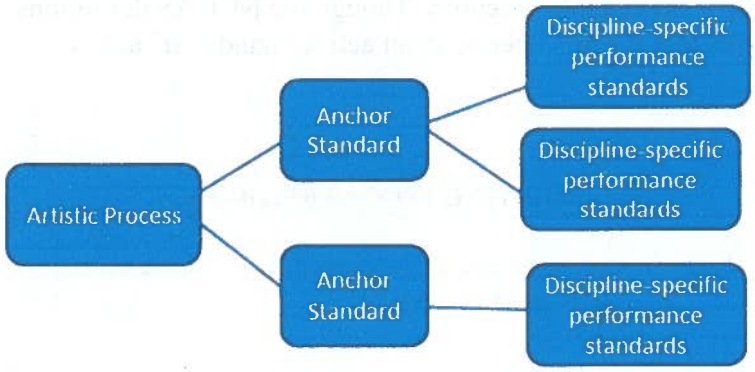
CREATE (NAEP definition)	**CREATING (NCCAS definition)**
Creating refers to generating original art.	Conceiving and developing new artistic ideas and work.

PERFORM (NAEP definition)	**PERFORMING/PRODUCING PRESENTING (NCCAS definition)**
Performing/interpreting means performing an existing work, a process that calls upon the interpretive or re-creative skills of the student.	Performing (dance, music, theatre): Realizing artistic ideas and work through interpretation and presentation. Presenting (visual arts): Interpreting and sharing artistic work. Producing (media arts): Realizing and presenting artistic ideas and work.
Note: The various arts disciplines have chosen different words to represent this artistic process; however, they are clustered here as essentially parallel.	

RESPOND (NAEP definition)	RESPONDING (NCCAS definition)
Responding varies from that of an audience member to the interactive response between a student and a particular medium.	Understanding and evaluating how the arts convey meaning.

NAEP definition	CONNECTING (NCCAS definition)
N/A	Relating artistic ideas and work with personal meaning and external context.

The current set of arts standards emerges from the Artistic Processes of Creating, Performing/Presenting/Producing, Responding, and Connecting. Each artistic process branches into two or three anchor standards. The performance standards, which describe student learning in each of the specific arts disciplines, align with anchor standards. Collectively, the design reflects a cohesive and aligned system that allows for commonality across the disciplines and specificity within each discipline, therefore establishing the appropriate level of breadth and depth required for national standards. The model below represents a portion of the full design.



Anchor standards

Anchor standards describe the general knowledge and skill that teachers expect students to demonstrate throughout their education in the arts. These anchor standards are parallel across arts disciplines and grade levels and serve as the tangible educational expression of artistic literacy.

National Core Arts Standards Artistic Processes and Anchor Standards			
Artistic Processes			
Creating Definition: Conceiving and developing new artistic ideas and work.	**Performing/Presenting/ Producing** Definitions: **Performing:** Realizing artistic ideas and work through interpretation and presentation. **Presenting**: Interpreting and sharing artistic work. **Producing**: Realizing and presenting artistic ideas and work.	**Responding** Definition: Understanding and evaluating how the arts convey meaning.	**Connecting** Definition: Relating artistic ideas and work with personal meaning and external context.
Anchor Standards			
Students will: 1. Generate and conceptualize artistic ideas and work. 2. Organize and develop artistic ideas and work. 3. Refine and complete artistic work.	Students will: 4. Select, analyze, and interpret artistic work for presentation. 5. Develop and refine artistic techniques and work for presentation. 6. Convey meaning through the presentation of artistic work.	Students will: 7. Perceive and analyze artistic work. 8. Interpret intent and meaning in artistic work. 9. Apply criteria to evaluate artistic work.	Students will: 10. Synthesize and relate knowledge and personal experiences to make art. 11. Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

Performance standards

Performance standards are discipline-specific (dance, media arts, music, visual arts, theatre), grade-by-grade articulations of student achievement in the arts PK-8 and at three proficiency levels in high school (Proficient, Accomplished, and Advanced). As such, the performance standards translate the anchor standards into specific, measurable learning goals.

Instructional resources

Completing the design features of the model, instructional resources are provided to support teachers as they build understanding about the new standards and consider multiple ways to implement the standards in their classrooms. The instructional resources include: enduring understandings and essential questions; process components; glossaries; and model cornerstone assessment with key traits. Instructional resources receive different emphasis based on various approaches to teaching and learning in individual disciplines. The web application of each discipline's resources reflects these differences.

Enduring understandings and essential questions

The National Core Arts Standards have been written using enduring understandings and essential questions to help both educators and students organize the information, skills and experiences within artistic processes. Enduring understandings and essential questions focus on what are often called "big ideas." Current brain research suggests that by organizing information (in the arts and other subjects) into a conceptual framework, greater "transfer" is facilitated—a key aspect of planning and delivering big ideas in curricula. Further, in *How People Learn* (National Research Council, 2000), one of the key factors which distinguishes "expert" learners from "novices" is the ability to organize or cluster thinking around big ideas. This process allows more efficient retrieval of prior knowledge, as well as improved "mental filing" of new information. Therefore, teachers who are interested in helping their students understand must be intentional about helping students construct their own mental "storage and retrieval" systems. Likewise teachers must seek to learn about and implement meta-cognitive strategies that students can use to facilitate their meaning-making or understanding.

As Jay McTighe and Grant Wiggins explain in their seminal text, *Understanding by Design* (ASCD, 2005), enduring understandings refer to the big ideas or important understandings "that we want students to 'get inside of' and retain after they've forgotten many of the details. Put differently… [the big ideas and understandings] implicitly answer the question, Why is this topic worth studying?"

Enduring understandings are statements summarizing important ideas and core processes that are central to a discipline and have lasting value beyond the classroom. They synthesize what students should come to understand as a result of studying a particular content area. Moreover, they articulate what students should value about the content area over the course of their lifetimes. Enduring understandings should also enable students to make connections to other disciplines beyond the arts. A true grasp of an enduring understanding mastered through a variety of activities is demonstrated by the student's ability to explain, interpret, analyze, apply, and evaluate its core elements.

In their book, McTighe and Wiggins define essential questions as "questions that are not answerable with finality in a brief sentence…" Their aim is to "stimulate thought, to provoke inquiry, and to spark more questions—including thoughtful student questions—not just pat answers." Essential questions guide students as they uncover enduring understandings. "Instead of thinking of content as something to be covered," they state, "consider knowledge and skill as the means of addressing questions central to understanding key issues in your subject." The authors also assert that essential questions are those that encourage, hint at, and even *demand* transfer beyond the particular topic in which students first encounter them, and therefore, should recur over the years to promote conceptual connections and curriculum coherence.

Reflecting differences in traditions and instructional practices among the arts, the specific enduring understandings and essential questions addressed by their standards also vary somewhat. For example, one enduring understanding in the music standards for the artistic process of Creating is "The creative ideas, concepts, and feelings that influence musicians' work emerge from a variety of sources." This understanding is suggested, in slightly different language, within other arts disciplines as well. An enduring understanding in the visual arts standards for the artistic process of Responding is "People gain insights into meanings of artworks by engaging in the process of art criticism." Again, this is an idea that

appears, with modest variation in wording but with very similar meaning, in the other arts. An enduring understanding for theatre in the artistic process of Performing is "Theatre artists share and present stories, ideas, and envisioned worlds to explore the human experience." This understanding is evident in every other discipline. The same sort of fundamental ideas and core processes appear in the enduring understandings of dance, and media arts as well. For dance, in the artistic process of Connecting: "As dance is experienced, all personal experiences, knowledge, and contexts are integrated and synthesized to interpret meaning." In media arts, for Producing: "Media artists integrate various forms and contents to develop complex, unified artworks."

Model cornerstone assessments

In education, what is chosen for assessment signals what is valued. In other words, the evidence that is collected tells students what is most important for them to learn. What is not assessed is likely to be regarded as unimportant. Sample model cornerstone assessments are provided within the standards to illustrate the type of evidence needed to show attainment of desired learning. This idea is key to backward design: the assessments bring the standards to life by illustrating the demonstrations of desired learning and the criteria by which student performances should be judged. Standards-based curriculum and associated instruction can then be designed "backward" from key assessments that reflect the desired outcomes.

Jay McTighe (2011), describing the characteristics of cornerstone assessments, wrote "They:

- are *curriculum embedded* (as opposed to externally imposed);
- *recur over the grades*, becoming increasingly sophisticated over time;
- establish *authentic contexts* for performance;
- assess *understanding* and *transfer* via genuine performance;
- *integrate 21st century skills* (e.g., critical thinking, technology use, teamwork) with subject area content;
- evaluate performance with established *rubrics*;
- engage students in *meaningful learning* while encouraging the best teaching;
- provide content for a student's portfolio (so that they graduate with a *resume of demonstrated accomplishments* rather than simply a transcript of courses taken).

Unlike externally developed standardized tests that interrupt instruction occasionally, cornerstone assessments are curriculum embedded. Indeed, the term cornerstone is meant to suggest that just as a cornerstone anchors a building, these assessments should anchor the curriculum around the most important performances that students should be able to do (on their own) with acquired content knowledge and skills. They are intended to engage students in applying knowledge and skills in authentic and relevant contexts. They call for higher-order thinking (e.g., evaluation) and habits of mind (e.g., persistence) in order to achieve successful results. Their authenticity and complexity are what distinguishes them from the de-contextualized, selected-response items found on many tests.

Cornerstone tasks serve as more than just a means of gathering assessment evidence. These tasks are, by design, "worth teaching to" because they embody valuable learning goals and worthy accomplishments. Accordingly, they should be presented at the *beginning* of a course or a unit of instruction to serve as meaningful and concrete learning targets for students. Such assessment transparency is needed if standards are going to be met. Students must know the tasks to be mastered well in advance and have continued opportunities to work toward their accomplishment.

The illustrative cornerstone assessments included in the standards reflect genuine and recurring performances that become increasingly sophisticated across the grades. Just as a keel protects boats from aimless drift, these tasks are designed to prevent "curriculum drift" by helping educators and learners always keep the ends—i.e., lifelong goals—in mind.

For these reasons, cornerstone assessments are included in the National Core Arts Standards project. The standards are built with the expectation that schools or districts will value the understanding and transfer of knowledge and skills that will come with a standards-based curriculum in the arts and, therefore, acknowledge that they are important curricular goals. Moreover, NCCAS hopes that the inclusion of cornerstone assessments in this project will focus the great majority of classroom- and district-level assessments around rich performance tasks that demand transfer. These assessments also provide the basis for collecting the benchmark student work that illustrates the nature and quality of student achievement envisioned in the standards. This paradigm shift in measuring student learning in the arts will offer relevant and reliable evidence of what students truly understand and know how to do, for it is only when students are able to apply their learning thoughtfully and flexibly to a new situation that true understanding of the content is demonstrated.

Integral to each model cornerstone assessment are key traits. Key traits describe the criteria or "look-fors" used to build evaluation tools for open-ended performance tasks. The lists of key traits included in these example performance tasks disclose for students and teachers what skills and cognitive demands are being asked for in the task.

Process components

Process components are the actions artists carry out as they complete each artistic process. Students' ability to carry out these operational verbs empowers them to work through the artistic process independently. The process components played a key role in generating enduring understandings and performance standards, and serve as the action verbs that collectively build toward the artistic processes. Process components and their definitions are presented among supplemental resources. In the final presentation of standards, individual arts disciplines have placed differing levels of emphasis on the process components. Music standards, in particular, place process components in a central role. Visual arts standards, on the other hand, place greater emphasis on enduring understandings and essential questions.

SECTION II: Establishing Principles and Informing the Work

Foundations of Artistic Literacy
Artistic literacy is the knowledge and understanding required to participate authentically in the arts. Fluency in the language(s) of the arts is the ability to create, perform/produce/present, respond, and connect through symbolic and metaphoric forms that are unique to the arts. It is embodied in specific philosophical foundations and lifelong goals that enable an artistically literate person to transfer arts knowledge, skills, and capacities to other subjects, settings, and contexts.

In developing these standards, NCCAS has provided a structure within which educators can give all children key arts experiences. Through creative practices, these experiences will help them understand what it means to be artistically literate, and how that literacy can enrich their education and lives with 21st century skills developed through the arts.

What it means to be artistically literate

While individuals can learn *about* dance, media, music, theatre, and visual arts through reading print texts, artistic *literacy* requires that they engage in artistic creation processes directly through the use of appropriate materials (such as charcoal or paint or clay, musical instruments and scores, digital and mechanical apparatuses, light boards, and the actual human body) and in appropriate spaces (concert halls, stages, dance rehearsal spaces, arts studios, and computer labs). For authentic practice to occur in arts classrooms, teachers and students must participate fully and jointly in activities where they can exercise the creative practices of imagining, investigating, constructing, and reflecting as unique beings committed to giving meaning to their experiences. In our increasingly multimedia age, where information is communicated less through numeracy and the written word, these metacognitive activities are critical to student learning and achievement across the arts and other academic disciplines.

The arts have always provided an essential means for individuals and communities to generate experiences, construct knowledge, and express their ideas, feelings, and beliefs. Each arts discipline shares common goals, but approaches them through distinct media, practices, and techniques. Due to the highly process-oriented and reflective nature of arts making, arts education naturally encourages creative thinking, logical reasoning, and meta-cognition. Active engagement in the artistic process allows individuals to develop and realize their creative potential(s).

In addition to—indeed, as a result of—students' creating and performing, careful study of their own and others' art involves them in exploring and making sense of the broad human condition across time and cultures.

Artistic literacy also fosters connections among the arts and between the arts and other disciplines, thereby providing opportunities to access, develop, express, and integrate meaning across a variety of content areas. Indeed, an arts-literate individual recognizes the value of the arts as a place of free expression and the importance of observing and participating in the social, political, spiritual, financial, and aesthetic aspects of their communities (both local and global, in person and virtually) and works to introduce the arts into those settings.

Recent research on arts education as it relates to students' social, emotional, and cognitive developmental needs indicates that arts experiences are consistently found to give students tools to make sense of their world and make connections between disparate ideas, while also making connections between themselves and others. Researchers found that the social and emotional benefits of arts education exist for students at all grades and levels.

An artistically literate person understands that each arts discipline employs unique sign and symbol systems to make and express meaning. For example, while a theatre artist or a dancer might primarily be concerned with the ways that dancers and actors interact with each other, spaces and materials, a musician might consider the gestures that convey meaning from a conductor to members of an orchestra or choir as signs that must be interpreted accurately in order for an ensemble to work together. Visual artists must understand the nuances of line, color, texture, and form to successfully create and communicate. Meanwhile, media artists must understand the languages of analogue and digital media if they want to determine appropriate methods of integrating technologies for the purpose of artistic expression. Artistic literacy therefore requires an acknowledgement that each arts discipline has its own language of symbols and signs, informed by history and common practices, and that learning these languages requires in-depth immersion and training.

The arts provide means for individuals to collaborate and connect with others in an inclusive environment as they create, prepare, and share artwork that brings communities together. Additionally, an artistically literate person must have the capacity to transfer arts knowledge and understandings into a variety of settings, both in and outside of school. For example, within a school setting, theatre students might use their training in acting to create persuasive presentations for a history, science, or math class. Likewise, media arts students may apply their expertise in animation to create a series of public service announcements for a local cable television channel.

The Common Core Standards for English Language Arts acknowledge such connections by including numerous arts references in the text of the standards, including recommendations for students to read works of drama, analyze and interpret images and illustrations, compare the same work in different media, and complement written works with graphic and multimedia components.

The National Core Arts Standards' philosophical foundations and lifelong goals establish a definition of artistic literacy that clarifies how students can be involved in the arts beyond the high school level, and how that arts involvement contributes to college, career, and lifelong learning. To that end, the College Board researchers conducted a survey of college arts instructors and department heads to determine what students are commonly expected to know, understand, and be able to do in the arts beyond high school. The most common responses indicated that at this level students are expected to "develop functional competence in manipulating the basic elements, principles, and vocabulary" of dance, media arts, music, theatre, and/or visual art, but further responses noted that the opportunity to refine personal work in response to feedback is significant as well. This outcome implies that arts study and, therefore, artistic literacy—even among non-arts majors—is not limited to art history and appreciation courses, but should include art-making experiences that can lead to a satisfying lifetime of active and creative practices.

Arts Success and Achievement through Creative Practices
Success and achievement in the arts demands engagement in the four fundamental creative practices of imagination, investigation, construction, and reflection in multiple contexts. These meta-cognitive activities nurture the effective work habits of curiosity, creativity and innovation, critical thinking and problem solving, communication, and collaboration, each of which transfers to the many diverse aspects of learning and life in the 21st century.

The role of creative practices

The fundamental creative practices of imagination, investigation, construction, and reflection—which are essential in the arts but equally important for science and mathematics learning—are cognitive processes by which students not only learn within an individual discipline but also transfer their knowledge, skill, and habits to other contexts and settings. Creative practices are essential for teaching and learning the arts, and therefore are included in this document to help arts teachers identify methods to implement the core arts standards.

In the context of the National Core Arts Standards, the creative practices are fundamental for the Creating process, and also contribute to other processes across all five disciplines. The arts, both in academic and professional environments, are steeped in process and involve the interplay of artistic skills, individual voice, and the unexpected. Creativity, in particular, is given greater emphasis in the arts than in other academic disciplines. Arts teaching therefore requires a learning environment in which students are encouraged to imagine, investigate, construct, and reflect.

One effective classroom approach to elicit creative process (which is common in the arts and supported by Understanding by Design) is to encourage open-ended responses by asking essential questions and providing lessons that allow for more than one solution. While providing engaging materials and access to technology can support creativity, they do not ensure that it occurs. Arts education requires students to engage in higher-order thinking skills inclusive of the creative practices. Indeed, the arts' natural fusion of logical, analytical thought, and playful unexpectedness provides students with extraordinary opportunities to exercise their creativity through the artistic processes.

A student engaged in creative practices:

- *Imagines* a mental image or concept.
- *Investigates* and studies through exploration or examination.
- *Constructs* a product by combining or arranging a series of elements.
- *Reflects* and thinks deeply about his or her work.

Creative practices:

- Evoke deep, meaningful engagement in the arts.
- Can be fluid, though there is purpose and meaning to the order in which they occur.
- Vary from person to person, project to project, and moment to moment.
- Require intense cognition that can be developed through arts engagement.

Based on the cognitive rigor of the creative practices, the College Board undertook a study to research areas of alignment between these creative practices and the Common Core State Standards in English Language Arts and the Standards for Mathematical Practice. The findings—presented in A Review of Connections between the Common Core Standards and the National Core Arts Standards Framework —indicated that the creative practices of investigation and reflection are connected to all ten of the Anchor Standards for Reading, and all four skills—imagination, investigation, construction, and reflection—were strongly represented in the Anchor Standards for Writing. Additionally, all four creative practices were found to be aligned with each of the Standards for Mathematical Practice.

Contextual awareness

Contextual awareness in arts learning arises as an indirect result and appreciation of art making. Through arts teaching, students view, make, and discuss art works, and come to realize that the arts exist not in isolation, but within the multiple dimensions of time, space, culture, and history. These intrinsic aspects of art making informs students' relationships with art and how such experiences can influence their daily lives. For example, contextual awareness in the arts allows a student to:

- Absorb meaningful information through the senses.
- Develop openness in apprehension and push boundaries.
- Effectively construct artistic meaning within their cultural milieu.
- Grasp the nature and evolution of history.
- Communicate effectively within variable situations and for diverse audiences.
- Navigate the intricacies of emerging digital and global environments.

21st Century Skills

The 21st Century Arts Map, published by the Partnership for 21st Century Skills, begins with a key observation: "Anyone who has ever seen a student become excited, energized, and confident through artistic exploration has seen first-hand how arts education engages children and contributes to their overall development. The arts—dance music, theatre, and the visual arts, which collectively include the media arts—are recognized as 'core academic subjects' in Federal law, as well as in state statutes and core educational documents. While each of the arts disciplines has its own unique set of knowledge, skills, and processes, the arts share common characteristics that make arts education powerful preparation for college, career, and a fulfilling life."

Creativity and innovation

Creativity and innovation are essential for the development of the necessary skills to flourish in the 21st century, as well as to promote essential skills for successful student and workplace achievement. The goal of fostering creativity and innovation through arts education is included in numerous initiatives inside and outside education across all subjects and disciplines. Specifically, it is described in a variety of state arts standards and frameworks across the United States, and is diversely applied in classrooms across the nation as an inherent aspect of teaching and learning in the arts. Widely held definitions of these aspects include:

- Creativity is the capability or act of conceiving something original/unusual.
- Innovation is the implementation of something new.
- Invention is the creation of something that has never been made before and is recognized as the product of some unique insight.

The arts impact educational change by taking the lead in the inclusion of creative practices in instruction; by recognizing creativity as a tool to learning in other content areas and for influencing many aspects of one's life; and by exploring ways to use creativity as evidence in alternative assessments that provide new ways of showing what students know and can do. As a pathway to learning in arts education, creative practices include such attributes as flexible thinking, creative problem-solving, inquisitiveness, and perseverance. Creative and innovative strategies build students' ability in problem formulation, research, interpretation, communication, precision, and accuracy.

Critical thinking and problem solving

Critical thinking is the essential, intellectually disciplined process of actively and skillfully conceptualizing, analyzing, synthesizing, and evaluating information as a guide to belief and action. It is through critical thinking and problem solving that students learn the higher-order thinking skills necessary to engage in the artistic processes and, therefore, begin to achieve artistic literacy.

Standards-based arts educators encourage their students to apply critical thinking to the artifacts and processes that they find most compelling: the artwork of their own, of their peers, and of the artists in the wide world they are growing to understand. Precisely because of the emotional connections that students make to and through works of art, the application of critical thinking to understanding and evaluating those works leads to the development of structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue; assumptions; concepts; empirical grounding; reasoning leading to conclusions; implications and consequences; objections from alternative viewpoints; and frame of reference. Critical thinking also builds contextual awareness as an indirect but fundamental aspect of artistic practice and appreciation.

Regarding the process of problem-solving, students who actively study the arts necessarily engage in and develop a disciplined, step-by-step approach to problems in creating, realizing, or understanding art. The steps involved may vary from one arts discipline to another, and the order of steps in the process may change according to the personal ideas of the student artist, which in turn may prompt more than one iteration of work. But the underlying discipline is always present. When working within the arts, as with most valuable processes in our world, students engage in allocating resources, monitoring progress, and evaluating results.

Communication

Communication lies at the heart of the arts. In studying the arts, students develop a vast repertoire of skills in intrapersonal and interpersonal processing, listening, observing, speaking, questioning, analyzing, and evaluating meaning. Often, in the arts, this meaning concerns ideas that may be difficult to express outside of the medium chosen by the artist, but it is always of great significance to the artist and the informed observer. Use of these processes is developmental and transfers to all areas of life: home, school, community, work, and beyond. It is through communication that collaboration and cooperation occur.

In learning to communicate through the arts in a standards-based curriculum, students learn to:

- Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and contexts.
- Look and listen effectively to decipher meaning, including knowledge, values, attitudes, and intentions.
- Use communication for a range of purposes (e.g. to inform, instruct, motivate, and persuade).
- Utilize multiple media and technologies, and know how to judge their effectiveness as a priority as well as assess their impact.
- Communicate effectively in diverse environments (including multi-lingual).

In order to understand the potential for connection between arts learning and the acquisition of 21st century skills, the College Board completed an analysis comparing the 1994 *National Standards for Arts Education* to the 21st Century Art Skills Map. The study noted areas where the goals and ideas expressed in these two documents aligned with one another. The 21st century skills mentioned above included the traits that were most frequently aligned to the 1994 standards, even though these two documents were created 16 years apart from one another. Further, they were reinforced in the standards of every arts discipline, at every grade level, as a primary component of the standards. The National Dance Education Association (NDEO) commissioned a similar study: *An Analysis of the Standards for Learning and Teaching Dance in the Arts (2005) as Compared to the 21st Century Skills Map* (Rima Faber, 2012).

Collaboration

Collaboration is the process where two or more people or groups work together to realize common goals. Most collaboration requires leadership, although the form of leadership can be shared within a decentralized and egalitarian group. Collaboration is in many ways the engine that drives our economy and our sense of shared culture. It is also an inherent part of arts instruction, whether the collaboration includes all the students in a performing cast or ensemble, or the partnership between a single artist and his or her peers and audience, or in a shared visual arts project that incorporates the ideas and techniques of multiple young artists.

Further, standards-based arts instruction, by its very nature, engages students with each another, helping them:

- Develop, implement, and communicate new ideas to others effectively.
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work.
- Demonstrate originality and inventiveness in work and understand the real-world limits to adopting new ideas.
- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes.
- Demonstrate ability to work effectively and respectfully with diverse teams.
- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal.
- Assume shared responsibility for collaborative work, while valuing the individual contributions made by each team member.

SECTION III: Research-based Discoveries

These standards have been prepared in the context of almost two decades of research on arts teaching and learning amassed since the writing of the 1994 standards. In addition to research compiled by the subject matter associations involved in NCCAS, The College Board, an NCCAS member, has conducted the following six research projects on behalf of National Core Arts Standards:

1. International Arts Education Standards: A Survey of the Arts Education Standards and Practices of Fifteen Countries and Regions outlines existing international standards and/or benchmarks for arts education in more than a dozen of the world's most educationally advanced countries. This report includes summaries of standards and practices, and includes a cross-referenced chart of common themes and ideas from Australia, Austria, Canada, China, Finland, Ireland, Japan, Netherlands, New Zealand, Scotland, Singapore, Sweden, United Kingdom, United States, and Venezuela. The arts standards of these countries were identified by NCCAS as exemplar resources for the coalition's writers and reviewers in their upcoming standards revision work.

2. Arts Education Standards and 21st Century Skills is an analysis of the relationship between the 1994 National Standards for Arts Education and the 21st Century Skills Map in the Arts, published by the Partnership for 21st Century Skills. This report offers an analysis of the level of alignment between the current arts content standards and the skills, lesson examples, and outcomes included in the P21 Arts Map, across three grade bands in the disciplines of music, dance, visual art, and theatre. The arts map, created by the NCCAS professional education association members and released in 2010, identifies creativity, collaboration, critical thinking, and communication, as well as nine other skills developed through arts learning. NCCAS expects alignment with 21st century skills to be a fundamental aspect of the next generation of arts standards.

3. College Learning in the Arts was conducted in two phases. Phase I is a summary and analysis of accreditation standards—specifically those standards related to course content and instruction—for schools offering two- and four-year degrees in the arts. The second portion is a review of course goals for all AP courses in the arts, including AP Studio Art, AP Art History, and AP Music Theory. Finally, a survey of college textbooks in the arts is presented, in an effort to identify which types of arts information and content are most widely available on college campuses. Most of the material that was reviewed was rather broad in its treatment of the standards, and consequently the analysis of these resources is equally broad. In an effort to obtain more specific information about particular expectations of student arts performance at the college level, College Board researchers coordinated Phase II of this project, a national survey of professors and department heads in dance, music, theatre, visual arts, and media arts in two- and four-year colleges throughout the United States.

4. A Review of Selected State Arts Standards examines the recently revised arts education standards (in dance, music, theatre, and visual arts) of eight states and districts; reviews media arts standards in four states or districts; and analyzes possible links between the new National Arts Education Standards and the Common Core State Standards in English Language Arts and Math. This report looks at the revised arts standards of seven states and one district in the United States: Colorado, Florida, Michigan, New Jersey, New York City (which also included the discipline area of "moving image."), North Carolina, Tennessee, and Washington. The second part of the report focuses on the relatively new arts form of

media arts, offering definitions, examples of best practice, and standards structure and organization in four states/districts: Los Angeles Unified School District, Minnesota, New York City, and South Carolina.

5. Child Development and Arts Education: A review of Current Research and Best Practices is a literature review that analyzes research linking arts-based learning and human development, including physical and cognitive growth and academic skills such as long-term memory, reading, creative thinking, and writing fluency. The study also includes research on the social and emotional impact of arts participation. This report is divided into four literature reviews that address the discipline of dance, music, theatre, and visual arts. The reviews are further divided by grade band (early childhood, elementary, middle, high school, and college), each of which includes information on both general and discipline-specific developmental characteristics of students. The report also features a series of specific pedagogical practices that address social, emotional, and/or cognitive needs and abilities of students in each discipline and grade band.

6. A Review of Connections between the Common Core State Standards and the Core Arts Standards is a study of the Common Core standards as they relate to arts-based learning. This study was divided into two sections: In the first portion, researchers identified arts references already present in the Common Core State Standards. This analysis noted only the instances where the arts are explicitly mentioned—to recommending that students read a play, for example, or respond to a performance—as opposed to recording standards that advocated for lines of inquiry that may or may not be met through arts-based study. The next phase of research involved identifying elements of the Common Core State Standards that reference the same broad goals, philosophies, thinking skills, and creative practices that are emphasized in the framework and planning documents for the Core Arts Standards.

SECTION IV: Concluding Thoughts: Re-imagined Core Arts Standards for America's Schools

The National Core Arts Standards are designed to serve an eminently practical purpose—to improve the teaching and learning of the arts in America's schools, thereby improving the education of more than 50 million students annually. To accomplish this goal, the standards have been written mindful of the realities faced by our nation's metropolitan, rural, suburban, and independent school districts in the 21st century. Key among those realities is increased attention to accountability for instruction and achievement. The new arts standards will help address this priority.

The new benchmarks for arts learning articulated in these standards also focus on the more distant yet still attainable goal of achieving a complete, balanced education for all our students. Using the standards as a guide, teachers, curriculum designers, and decision-makers (including administrators and school board members) can help students achieve the many skills and habits of thought necessary for success in school and beyond. That is to say, the standards outline the educational foundations for student success.

Those educational foundations for success are interwoven with a clear definition of the elements of artistic literacy and how our future citizens can achieve it. The pursuit of this literacy (accompanied by defining philosophical foundations and lifelong goals) through standards-based arts education will, in turn, support student achievement in school, career, and life.

With a focus on processes, enduring understandings, essential questions, and assessments, these arts standards represent a new and innovative approach to arts education that will serve students, teachers, parents, and decision-makers now and in the future.

Appendix A

Descriptors for High School Performance Standards Levels*

Proficient	Accomplished	Advanced
Students at the Proficient level have developed the foundational technical and expressive skills and understandings in an art form necessary to solve assigned problems or prepare assigned repertoire for presentation; make appropriate choices with some support; and may be prepared for active engagement in their community.[i] They understand the art form to be an important form of personal realization and wellbeing, and make connections between the art form, history, culture, and other learning.[ii]	Students at the Accomplished level are –with minimal assistance–able to identify or solve arts problems based on their interests or for a particular purpose; conduct research to inform artistic decisions; and create and refine arts products, performances, or presentations that demonstrate technical proficiency, personal communication,[iii] and expression. They use the art form for personal realization[iv] and wellbeing,[v] and have the necessary skills for and interest in participation in arts activity beyond the school environment.	Students at the Advanced level independently identify challenging arts problems based on their interests or for specific purposes and bring creativity and insight to finding artistic solutions. They are facile in using at least one art form as an effective avenue for personal communication, demonstrating a higher level of technical and expressive proficiency characteristic of honors or college-level work. They exploit their personal strengths and apply strategies to overcome personal challenges as arts learners. They are capable of taking a leadership role in arts activity within and beyond the school environment.
A level of achievement attainable by most students who complete a high-school level course[vi] in the arts (or equivalent) beyond the foundation of quality PreK-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.

[i] Goal 5: Artistically literate citizens seek artistic experience and support the arts in their local, state, national, and global communities.

[ii] Goal 3: Artistically literate citizens know and understand artwork from varied historical periods and cultures, and actively seek and appreciate diverse forms and genres of artwork of enduring quality/significance. They also seek to understand relationships among the arts, and cultivate habits of searching for and identifying patterns, relationships between the arts and other knowledge.

[iii] Goal 1: Artistically literate citizens use a variety of artistic media, symbols and metaphors to independently create and perform work that expresses and communicates their own ideas, and are able to respond by analyzing and interpreting the artistic communications of others.

[iv] Goal 2: Artistically literate citizens find at least one arts discipline in which they develop sufficient competence to continue active involvement in creating, performing, and responding to art as an adult.

[v] Goal 4: Artistically literate citizens find joy, inspiration, peace, intellectual stimulation, meaning, and other life-enhancing qualities through participation in all of the arts.

[vi] Carnegie Unit (120 hours of study). As stated in the NCES Secondary Course Code book (http://nces.ed.gov/pubs2007/2007341.pdf): "Element 3. Available Credit identifies the amount of Carnegie unit credit available to a student who successfully meets the objectives of the course. A course meeting every day for one period of the school day over the span of a school year offers one Carnegie unit. A Carnegie unit is thus a measure of 'seat time' rather than a measure of attainment of the course objectives. While some schools and districts use a performance—or competency—based metric of student progress, the Carnegie unit remains the predominant metric of student progress in schools in the United States and is part of the SCED framework. This document uses the term 'credit' to refer to what high school students typically earn upon completing a

yearlong course. Although some schools are currently experimenting with alternatives, the concept of 'credits' is still familiar and therefore useful to educators as the traditional unit earned to achieve a high school diploma, gain admission to college, and earn a college degree."

***Preparatory levels for Music Standards**

In light of the practical reality of music students' involvement in Ensemble and Harmonizing Instrument classes before they enter high school, performance standards are also provided for two preparatory levels in these strands. These are attached for convenience to grade levels, but are potentially useful for earlier level experiences:

1. Novice: nominally assigned to the fifth-grade level. Students at the Novice level have started specialization in an art form of their choice. They are beginning to develop the basic artistic understanding and technique necessary to advance their skill level. Their expressive skills may be identified and exploratory work begins. They may participate in presentation and performance opportunities as they are able. Their curiosity in the art form begins their journey toward personal realization and wellbeing.

2. Intermediate: nominally equivalent to the eighth-grade level. Students at the Intermediate level are continuing study in a chosen specialized art form. Their development continues in artistic understanding and technical and expressive skills enabling the student to begin to independently and collaboratively create, perform and respond at their given skill level. Their presentation and performance opportunities in ensembles at school and in the community increase and students actively participate in rehearsals. Through continued study of their art form they continue their journey toward personal realization and wellbeing.

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ATTACHMENT #3

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DESIGN THINKING STANDARDS

Our goal in education is to empower every student by developing habits of learning that render them into individuals who have the dispositions and learning practices to succeed in their future professions, projects, personal lives, and civic duties. They are future-ready, empowered citizens who can learn and have the confidence to complete tasks no matter the situation or circumstance; who are able to learn continuously in a world of constant change and innovation. We cannot predict the problems that students will face, but we can provide them with effective learning tools that will help them succeed in their future endeavors.

One of these learning tools is the *design thinking* methodology. Design thinking is an iterative process of mindsets and practices that focuses on human-centered design and is used to solve complex problems and real world challenges. This solution-thinking method allows problem-solvers to generate creative and innovative ideas to these complex problems and challenges.

The *Design Thinking Standards* (DTS) provide educators a foundation of what students are expected to learn and do when using the design thinking method. These learning goals are guidelines that educators can use, adjust and modify to meet the needs of their students. The DTS are designed to empower students by developing their confidence, competence, creativity, and their ability to collaboratively generate innovative solutions to solve complex problems.

It is important to note that this design process does not have to be used in a linear form; the design thinking practices of empathize, define, ideate, prototype, and test, can be applied through various sequences. Design thinking should be seen as a toolbox of "practices," picking out and using a specific "practice" based on the immediate need. However, it can be beneficial to first start using design thinking in the beginning in a linear fashion to provide students with a little structure, to build that psychological safety required for innovative thinking as well as building their confidence in this sphere.

The following standards were inspired by the work and teachings of the d.school (Hasso Plattner Institute of Design at Stanford University), a leader in design thinking education, and its K12 Lab Network, a program that brings design thinking into schools.

The structure of these standards are similar to the Next Generation Science Standards. The *performance expectations* (standards) are actionable learning goals that describe what students should be able to do when using the design thinking method. These performance expectations are composed of *design skills* (skills that students will be able to do), *core design ideas* (knowledge that students will understand), and *design mindsets* (set of attitudes essential for effective application of design thinking). It is important to note that most of the design mindsets are involved in every phase of the design thinking process. However, specific design mindsets are listed under each phase depending on the significance of the mindset pertaining to the phase.

EMPATHIZE

The *empathize* practice involves the designer gaining a deep understanding of the users and the context of the design challenge through observations, interviews, and the immersion of the user experience.

PERFORMANCE EXPECTATIONS

Students who demonstrate an understanding of the empathize phase can:

- DTS-ES-1: Observe the behaviors, feelings, and patterns of the user in the context of their lives and design challenges.
- DTS-ES-2: Engage with users and/or experts through conversations and interviews that incorporate open-ended questions to dig deeper for stories, feelings, emotion, and what is important to the user.
- DTS-ES-3: Submerge themselves into the user's experience.

SKILLS

Students will be able to ...

- Observe and engage with users, and immerse in the user experience.
- Identify the needs and insights of the users.

CORE IDEAS

Students will understand that ...

- Empathy brings understanding of people, their physical and emotional needs and wants, the things that they do in their lives, and the context of the design challenge.
- Engagement with users through interaction and interviews exposes insights that can be utilized to create a more innovative solution.
- Immersing oneself into the user's experience can bring a better understanding of the context of the design challenge.

- A beginner's mindset maintains an attitude of openness and puts aside biases that can restrict a person's ability to empathize.

MINDSETS PRACTICED

Design Thinking Mindsets
Students will demonstrate a set of attitudes that will help them ...

- Human Centered
  - Gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.
- Mindful of Process
  - Be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.
- Radical Collaboration
  - Collaborate and create partnerships with people of different disciplines as well as the users to develop innovative ideas and solutions.

DEFINE

Within the *define* practice, designers use the information they gathered in their empathy work and organize them under *needs* (user's goals) and *insights* (information advantageous in creating an innovative solution). The most significant needs and insights are used to develop an actionable problem statement that brings clarity and focus to the design challenge.

PERFORMANCE EXPECTATIONS

Students who demonstrate an understanding of the define phase can:

- DTS-DS-1: Synthesize the learnings, realizations, and patterns from empathy work and research into *needs* and *insights* that can be leveraged to create innovative solutions.
- DTS-DS-2: Articulate a clear, actionable problem statement that integrates the specific users, their needs, and insights to guide the process of generating high quality solutions.

SKILLS

Students will be able to ...

- Synthesize learnings and realizations into *needs* and *insights*.
- Articulate a clear, actionable problem statement.

CORE IDEAS

Students will understand that ...

- Needs are the necessities that are essential to the user and what the user ultimately wants to accomplish.
- Insights are discoveries that can be used to enhance the design of a solution.
- Problem statements are actionable statements based on what was learned and discovered that brings clarity and focus to the design challenge.

MINDSETS PRACTICED

Design Thinking Mindsets

Students will demonstrate a set of attitudes that will help them ...

- Human Centered
  - Gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.
- Mindful of Process
  - Be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.

IDEATE

The *ideate* practice involves designers brainstorming large quantities of ideas by combining their imagination with the information gathered from the empathy work to move towards prototyping.

PERFORMANCE EXPECTATIONS

Students who demonstrate an understanding of the ideate phase can:

- DTS-IS-1: Develop short prompt questions based on the problem statement to initiate brainstorming sessions.
- DTS-IS-2: Visually generate a large volume and variety of ideas for innovative solutions to the problem statement without evaluation or making judgements.
- DTS-IS-3: Identify multiple ideas for prototyping based on how well the ideas would likely meet the criteria for success.

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PRACTICES

Students will be able to ...

- Generate visual representations of ideas
- Analyze ideas and solutions based on criteria

CORE IDEAS

Students will understand that ...

- Ideation is the process of combining empathy work with the designer's imagination to generate a large volume of ideas for solutions to the problem statement.
- Innovation potential can increase by thinking beyond the obvious solutions, uncovering unexpected areas of exploration, and adding upon the ideas of others.
- Innovation potential can be preserved by bringing in multiple ideas into the prototyping phase.

MINDSETS PRACTICED

Design Thinking Mindsets

Students will demonstrate a set of attitudes that will help them ...

- Human Centered
  - Gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.
- Mindful of Process
  - Be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.
- Bias Toward Action
  - Be action-oriented to quickly think and learn, as well as make decisions.
- Show Don't Tell
  - Humbly communicate and share visual ideas without convincing others of the ideas' value.
- Radical Collaboration
  - Collaborate and create partnerships with people of different disciplines as well as the users to develop innovative ideas and solutions.

PROTOTYPE

Within the *prototype* practice, designers undergo an iterative process of creating and improving prototypes that can be utilized and/or experienced by the end user, and elicits feedback and answers specific questions about a concept.

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PERFORMANCE EXPECTATIONS

Students who demonstrate an understanding of the prototype phase can:

- DTS-PS-1: Create a prototype of a tangible product or an experience that the end user can engage and interact with based on the criteria for success.

SKILLS

Students will be able to ...

- Create and improve prototypes for users to use, interact, and experience.

CORE IDEAS

Students will understand that ...

- Prototypes can be anything that the user can interact with such as a role-playing activity, a gadget, or storyboard.
- The process of prototyping provides opportunities to empathize, ideate, problem-solve, discover new insights, and identify valuable variables.
- Creating low-resolution prototypes in the early phases of prototyping allows designers to fail faster and learn quicker in less time and with less resources and money.

MINDSETS PRACTICED

Design Thinking Mindsets
Students will demonstrate a set of attitudes that will help them ...

- Human Centered
  - Gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.
- Mindful of Process
  - Be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.
- Culture of Prototyping
  - Be exploratory and experimental, build things to learn and think things through, and engage users with prototypes to elicit and receive feedback.
- Bias Toward Action
  - Be action-oriented to quickly think and learn, as well as make decisions.
- Show Don't Tell
  - Humbly communicate and share visual ideas without convincing others of the ideas' value.
- Radical Collaboration

- Collaborate and create partnerships with people of different disciplines as well as the users to develop innovative ideas and solutions.

TEST

Within the *test* practice, designers provide users with their prototype to use or experience in a real or realistic situation. The interaction of users and prototypes provide designers with new ideas and insights that can help improve the next iteration of prototypes.

PERFORMANCE EXPECTATIONS

Students who demonstrate an understanding of the test phase can:

- DTS-TS-1: Plan and carry out tests where users interact with the prototype(s) in the context and scenario in which the prototypes will be used.
- DTS-TS-2: Observe and engage with the users while they experience the prototype to gain empathy and solicit feedback.
- DTS-TS-3: Use new learnings from the tests to inform the next iterations of prototypes for improvement.

SKILLS

Students will be able to ...

- Plan and carry out tests in appropriate context and scenario.

CORE IDEAS

Students will understand that ...

- Testing is another opportunity to gain empathy of the user and insight of the design challenge through observation and engagement.
- Designers can solicit feedback from users through questions about the experience and continually ask "Why?".
- Information gained from the testing phase will inform the next iterations of improved prototypes.

MINDSETS PRACTICED

Design Thinking Mindsets
Students will demonstrate a set of attitudes that will help them ...

- Human Centered
    - Gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.
- Mindful of Process
    - Be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.
- Culture of Prototyping
    - Be exploratory and experimental, build things to learn and think things through, and engage users with prototypes to elicit and receive feedback.
- Bias Toward Action
    - Be action-oriented to quickly think and learn, as well as make decisions.
- Show Don't Tell
    - Humbly communicate and share visual ideas without convincing others of the ideas' value.

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ADDITIONAL INFO FOR APPLYING STANDARDS

Here are some recommendations for teachers when applying the DTS into your curriculum.

- The teacher may want to convert the term *user* into another descriptor when developing and introducing the project scenario to students. The descriptor should identify the specific person or group that students will co-creating with. Here is an example of a driving question for a design thinking challenge for 2nd grade students: *How will you as toy designers develop and manufacture a toy for kindergarten-age children?*
- The design thinking process does not have to be used in a linear form; the design thinking phases can be applied through various sequences.
- Most of the design mindsets are involved in every phase of the design thinking process. However, specific design mindsets are listed under each phase depending on the significance of the mindset pertaining to the phase.

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MARTINEZ DESIGN
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ATTACHMENT #4

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DESIGN THINKING IN PEDAGOGY

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ABSTRACT

The twenty-first century has brought lots of challenges for people in all spheres, including education. In the new context, traditional approaches often seem ineffective and therefore new tools and methods have to be applied. An alternative approach that might be useful in the given context is design thinking – the approach that originated in architecture, design and art, and nowadays is applied in many fields. It is a human-centered problem-solving approach that may be used in the teaching/learning process to develop twenty-first century skills and enhance creativity and innovation. This paper introduces readers to the origin of design thinking, its attributes and processes as well as its application in pedagogy.

Keywords: design thinking, problem-solving, creativity, innovation, teamwork, skills development

INTRODUCTION

The twenty-first century has brought many challenges for people in all spheres. The increased mobility, the world-wide web, and the instant information spread place people in previously unknown contexts and situations which require immediate analysis, decision-making and problem-solving. Traditional approaches to these often seem ineffective and therefore new tools and methods have to be applied. This also concerns pedagogy where teachers face complex and varied challenges.

In this context more and more frequently we hear the term "design thinking" – "a concept used both in theory and practice" (Johansson-Sköldberg, Woodilla, & Çetinkaya, 2013, p. 121). Design thinking is even referred to as a new paradigm for dealing with problems in many professions and fields, including IT, business, research, innovation and education (Dolak, Uebernickel, & Brenner, 2013; Dorst, 2011).

Design thinking may be considered as a great tool to be used in the teaching/learning process to develop twenty-first century skills. It comprises collaboration in order to solve the problems by finding and processing information taking into consideration the real world, people's experience and feedback (Ray, 2012) and applying creativity, critical thinking and communication. Moreover, this approach is characterized as "a powerful methodology for innovation" which "integrates human, business and technical factors in problem forming, solving and design" (Leifer, & Steinert,

2011, p. 151). It is human-centered and simultaneously uses diverse points-of-view in problem-solution (Leifer, & Steinert, 2011).

However, the recent trend to adopt and apply design practices to other fields requires clear and definite knowledge about design thinking (Dorst, 2011). Therefore, it is essential to understand this phenomenon as well as to learn how to develop corresponding knowledge and skills and how to apply them in practice.

This paper deals with the origin of design thinking, its characteristics and processes, its use in pedagogy and offers ideas for the development of design thinking skills in the teaching/learning process.

ORIGIN OF DESIGN THINKING

The discourse of design thinking originated in architecture, design and art, and later was also applied in the field of management (Johansson, & Woodilla, 2009). In the academic field the term has been known for thirty years and initially it was associated with the way designers think (Johansson, & Woodilla, 2009). The term was first used in 1987 by Rowe when he published a book titled *Design Thinking* (Rowe, 1987), although Simon analyzed the nature of design already eighteen years before the term "design thinking" had been introduced (Simon, 1969).

Since then, based on "theories and models from design methodology, psychology, education, etc." (Dorst, 2011, p. 521) various models have been created. The sources point to the growth of popularity of scholarly works on design thinking in the 1980's – 1990's, with the largest number of works published in 2009 (Johansson-Sköldberg, et.al, 2013).

Theoretical perspectives of design thinking have been categorized into five sub-discourses: 1) design thinking as the creation of artifacts; 2) design thinking as a reflexive practice; 3) design thinking as a problem-solving activity; 4) design thinking as a way of reasoning/making sense of things; 5) design thinking as the creation of meaning (Johansson-Sköldberg, et.al, 2013).

Simon (1969), the founder of artificial intelligence, "distinguished between activities that create something new and activities that deal with existing reality" (Johansson-Sköldberg, et.al, 2013, p. 124). In this approach the focus was on creation and the way of changing and/or adapting the existing conditions to the ones that would comply with the current context.

The second sub-discourse is associated with Schön (1983) who emphasized the role of reflection in design thinking. Moreover, reflection was interpreted as the core of design work and as a part of practice. Reflection is at the basis of learning and any successful activity and teachers should encourage students to reflect on their activities to come to a solution.

Design thinking as a problem-solving activity is first and foremost associated with Rittel's formulation and Buchanan's elaboration of the 'wicked problems' approach (Buchanan, 1992). According to this approach "the design process is divided into two distinct phases: problem definition and problem solution" (Buchanan, 1992, p. 15). During the first phase all the elements of the problem are identified. This is an analytic sequence. In turn, during the problem-solving phase, which is a synthetic sequence, different variants are compared and balanced against each other to create the final plan (Buchanan, 1992). The approach adopted is interpretive, emergent and explicitly embodied (Rylander, 2009).

The proponents of the fourth sub-discourse argue that design thinking is a practice-based activity and a way of making sense of things. It is common to use deductive and/or in-

ductive thinking for problem-solving. However, design thinking applies abduction which results in a value. We can single out two forms of abduction – closed problem-solving and open problem-solving. The strategies involve the development of "a frame", which may be regarded as the "creation of a (novel) standpoint from which a problematic situation can be tackled" (Dorst, 2011, p. 525).

Finally, Krippendorff (2006) offers an approach dealing with design thinking as the creation of meaning rather than artifact (cf. Simon, 1969). In this approach "meaning is the core of the design process and the artifact becomes a medium for communicating these meanings" (Johansson-Sköldberg, et.al, 2013, p. 126).

Concerning the afore-mentioned sub-discourses of design thinking, it can be concluded that the following ones may refer to pedagogy as well: design thinking as a reflexive practice, design thinking as a problem-solving activity and design thinking as a way of reasoning. These are the features that are closely connected with such generic competences as problem solving, critical thinking and creativity, the development of which is enhanced at school.

CHARACTERISTICS OF DESIGN THINKING

Design thinking is both a process and a mindset. Scholars (Baeck, & Gremett, 2012) single out nine attributes or characteristics of design thinking: 1) ambiguity; 2) collaboration; 3) constructiveness; 4) curiosity; 5) empathy; 6) holism; 7) iteration; 8) non-judgmental way; 9) openness.

Ambiguity means that for one phenomenon more than one possible meaning or explanation exists. In design thinking ambiguity is associated with a person's state of being comfortable in unclear situations. Design thinking involves collaboration at certain issues across disciplines in interdisciplinary teams. Design thinking is constructive thinking as it is a solution-based approach that looks for a better outcome. It means empathy as the focus is on user needs. At the same time it is holistic because it looks at a wider context for the customer. As design thinking process is not linear but cyclical, and each cycle is built upon the previous one, it is iterative. On top of that, the method encourages "outside the box thinking" to come to a creative and innovative outcome. (Baeck, & Gremett, 2012; Waloszek, 2012)

Efeoglu, Møller, Sérié, Boer (2013) based on the ideas of Brown (2008) define design thinking as "a human-centred problem solving method that mostly leads to radical innovative solution in terms of the feasibility, desirability and viability of products or services" (Efeoglu, et.al, 2013, p. 241).

In turn, Oster (2008) describing design thinking mentions its three attributes that help ensure its operational efficiency. It is abductive, inclusive and problem-based. Design thinking is described as abductive because it "reaches well beyond deductive and inductive reasoning to build up a mountain of possible answers" (Oster, 2008, p. 111).

On the one hand, design thinking is obverse of scientific thinking. The difference lies in terms of the nature of the hypothesis they evolve around. Both, scientific thinking and design thinking depend on generating and testing hypotheses. The scientific method searches for the answer to "what is", whereas design thinking refers to "what might be" in the future. (Owen, 2005; Rylander, 2009) On the other hand, design thinking complements scientific thinking as creativity and a range of its other attributes have a distinct value to decision makers (Owen, 2007) helping them to attain the goal.

As previously mentioned, design thinking is a solution-based approach to solve the so-called "wicked problems". "The wicked problems approach was formulated by

Horst Rittel in the 1960s, when design methodology was a subject of intense interest" (Buchanan, 1992, p. 15). By wicked problems he understood the problems which were ill-formulated, where the information was confusing and where many clients and decision makers with opposite opinions existed (Buchanan, 1992). Rittel identified ten properties of "wicked problems" (Rittel, & Webber, 1972) which reveal that the problems that have to be solved do not have a definite formulation, they are unique and they can be solved in various ways. Moreover, none of the problem-solutions is true or false and none of the problem solvers is right or wrong as design thinking welcomes divergent thinking and creative and innovative ideas.

Another characteristic of design thinking is connected with the "A-Ha Moment". According to Cross (2006) the "A-Ha Moment" is a point in the cycle in which synthesis and divergent thinking, analysis and convergent thinking and the problem meet. This is a focal point as by both, reflecting and considering the future possibilities, the focus is becoming clear and the final product can be constructed. Moreover, at this moment the solution seems so evident that the people involved in the process cannot even understand how such a simple solution had not come to their minds earlier.

The main feature of design thinking is creativity that helps to solve "wicked problems" and reach the "A-Ha Moment". But besides creativity, Owen (2005) distinguishes fourteen other characteristics of design thinking. The most significant ones are as follows:

- Conditioned inventiveness – "what" questions are more important than "why" questions as the goal is inventing;
- Human-centered focus – designers have to take into consideration clients' needs when creating a product;
- Environment-centered concern in order to guarantee sustainability;
- Bias for adaptivity means applying an approach of accepting adaptive solutions fitting to the users' evolving needs wherever possible;
- Predisposition toward multi-functionality as problem-solutions need not be mono-functional;
- Systemic vision as design thinking is holistic;
- View of the generalist – for inventive creativity, contrary to the accustomed specialization, the wider the knowledge base, the more creative solution can be made;
- Affinity for teamwork because multi-disciplinary teams ensure such characteristic abilities as generalization, communication across disciplines, working systematically with qualitative information and visualizing concepts.

Owen (2006, p. 5) also adds that "these special characteristics of design thinking are not normally discussed in a university catalog. Indeed, they are seldom taught explicitly. Rather, they are acquired almost unconsciously as tacit knowledge in school projects or on the job".

Additionally, Brown (2008) emphasizes the following attributes as core attributes of design thinking: empathy, integrative thinking, optimism, experimentalism and collaboration.

In fact, these attributes are in line with the ones defined by Owen (2005; 2006) and they are all significant in order to ensure the success of innovation.

DESIGN THINKING PROCESSES

"Design process is the way in which methods come together through a series of actions, events or steps" (Waloszek, 2012).

Initially, Simon (1969) introduced the following seven stages of design thinking process: 1) define; 2) research; 3) ideate; 4) prototype; 5) choose; 6) implement; 7) learn. First of all, it is essential to define the issue to be resolved and the audience. Next, research has to be conducted comprising analysis of the history, existing obstacles, examples, stakeholders' opinions. Ideation means identifying the needs and motivations of the end-users, and this process involves brainstorming. Next, it is essential to combine, expand and refine ideas in order to create several drafts and get the feedback from a diverse group of people, including end-users. The next stage involves reviewing the objectives and selecting the powerful ideas. The final stages are implementation, which comprises making task descriptions, planning tasks, determining resources and executing tasks, and learning – gathering feedback from the consumers in order to improve the product.

"Initial Design Thinking approaches were of circular nature" (Efeoglu, et.al, 2013, p. 242). Thus, Dunne and Martin (2006) perceive design thinking as a circular process to solve 'wicked problems'. They emphasize its cyclic character comprising the following phases: induction, abduction, deduction and testing. Abduction is connected with idea generation. During the next stage – deduction – consequences are predicted. Further, ideas are tested in practice and generalized during the induction phase.

Another well-known circular design thinking approach is that by Brown (2008). The scholar points out that "the design process is best described metaphorically as a system of spaces rather than a predefined series of orderly steps" (Brown, 2008, p. 88). He claims that the design thinking process is circular and it comprises three spaces: 1) inspiration; 2) ideation; 3) implementation. Inspiration motivates to search for solutions. Ideation is connected with brainstorming. During the ideation phase ideas are generated, developed and tested. Consequently, these ideas may lead to solutions. Implementation means executing the vision and introducing the output into the market. Every "project" passes through these three spaces. Moreover, projects may repeatedly pass through the inspiration and ideation phase on their way to getting implemented.

Based on Simon's design thinking process stages (Simon, 1969), several other models have been created; some of them even use the same terminology. The most notable of them are the ones produced by the Institute of Design at Stanford, the so called d.School. The iterative design thinking process scheme (Plattner, Meinel, & Weinberg, 2009) initially comprised six stages (see *Figure* 1). As indicated by Efeoglu, et.al (2013) this is a sequential approach comprising multiple stages and it had also been impacted by a circular approach.

This approach categorizes the phases into two main phases: a problem and a solution. The problem phase consists of understanding, observing and expressing one's opinion, whereas the solution phase consists of ideation, prototyping and testing. This approach allows interacting between the phases which are linked directly or indirectly (Efeoglu, et.al, 2013). "The phase »point of view« serves as a hinge between all other linked phases" (Pferdt, 2009).

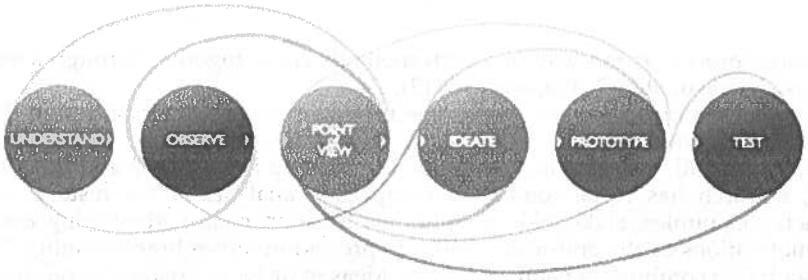

Fig. 1. Iterative Design Thinking Process
Source: Plattner, Meinel, & Weinberg, 2009, p. 114.

In 2009 and 2010 the Institute of Design adapted their previously worked out scheme offering five phases instead of six which they call modes. The following five modes were singled out: 1) empathize; 2) define; 3) ideate; 4) prototype; 5) test. In this variant empathizing is the beginning of the design process and it comprises three activities: 1) observation of users' behavior; 2) engagement – interacting with and interviewing users; 3) immersion – experiencing what the users experience. The defining mode is connected with formulating an actionable problem statement. The ideation mode is the point during which we focus on idea generation. It is a process of "going wide". The prototyping is concerned with creating ideas and explorations into the physical world and testing means refining our solutions and improving them (Plattner, 2009; Plattner, 2010).

Scholars have adapted the previously worked out scheme to pedagogy suggesting that during the phase of understanding learners try to understand the problem, talk to experts and conduct research. During the stage of observing students observe people, physical spaces and places (Taking Design Thinking to Schools, n.d.). As indicated by Beckman and Barry (2007) observation helps understanding the context. The following tools are often used in observation to gather information: participant observation, non-participant observation, formal ethnographic interviews, intercepts (they join participant observation with an interview), informant diaries and virtual ethnography (studying Internet behaviour). According to the Institute of Design at Stanford during the phase of defining students have to become aware of people's needs and developing insights. During the phase of ideation students brainstorm a lot of ideas. Therefore, students have to be encouraged to brainstorm as many solutions as possible. Prototyping is a stage during which students learn to fail. The purpose of testing is to see if the solutions offered work in practice and what shall be done to improve them. Testing provides students with a feedback (Taking Design Thinking to Schools, n.d.).

The recent approach by Dolak, et.al (2013, p. 4) postulates that design thinking is "an approach to foster the process of human-centered idea generation and evaluation in a team context". In practice, the process starts with approaching a problem from a human perspective. The primary focus is on people and their needs, and human, business and technical factors are integrated in problem identification, problem

solution and design. The process is a cycle. First, the problem is defined. Next, it is necessary to identify the needs, followed by brainstorming, leading to the creation of a prototype which is later tested. The constant, iterative cycle of problem identification and redefinition allows applying diverging and converging phases in the design process (Dolak, et.al, 2013). Thus, this approach is close to the earlier – circular design thinking approaches.

Analyzing the stages defined by various design thinking scholars, Waloszek (2012) comes to a conclusion that, despite some differences, the main stages in design thinking process are the same:

- Understanding the problem;
- Observing users;
- Interpreting the results;
- Generating ideas (ideating);
- Building prototypes and experimenting;
- Testing, implementing and improving the design.

Ideation and experimentation are significant in design thinking. Brown (2008) emphasizes that there are various methods to stimulate idea generation and enhance creativity. It especially refers to "outside the box" thinking as going beyond standard ideas is significant in innovation because this is where innovation starts.

The previously characterized design thinking approach is applied to design and business fields as well as management. It may also be applied to pedagogy, as thinking processes are the same.

IMPLICATIONS FOR PEDAGOGY

In education design thinking is sometimes referred to as 'design-based learning'. It is perceived as "a model for enhancing creativity, endurance, engagement and innovation" (Dolak, et.al, 2013, p. 2). The benefit of design thinking in pedagogy refers to its character which "enables students to work successfully in multi-disciplinary teams and enact positive, design-led change in the world" (Rauth, Köppen, Jobst, & Meinel, 2010, p. 2). It is a problem-solving approach dealing with the solution of everyday problems (Rauth, Köppen, Jobst, & Meinel, 2010). Learning and knowledge creation in design thinking education are based on highly iterative proceedings which may be associated with Kolb's experiential learning theory (Kolb, 1984; Rauth, et.al, 2010).

An ideal learning cycle must comprise the following four phases: experiencing, reflecting, thinking and acting, and a learner goes through all of them (Beckman, & Barry, 2007). Design thinking contains all four phases. As indicated by Beckman and Barry (2007) at the basis of observations and reflections is experience. Reflections are assimilated into abstract concepts that form new implications that are tested in action and impact the creation of new experiences again, thus ensuring the feedback. The design thinking process is similar.

Owen (2007) elaborated a model of knowledge development (see: *Figure* 2). This model lies also at the basis of design thinking process. The scholar points out that "in any field, knowledge is generated and accumulated through action" (Owen, 2007, p. 19). He further explains that "knowledge using and knowledge building are both structured processes controlled by channels that contain and direct the production and evaluation processes" (Owen, 2007, p. 20).

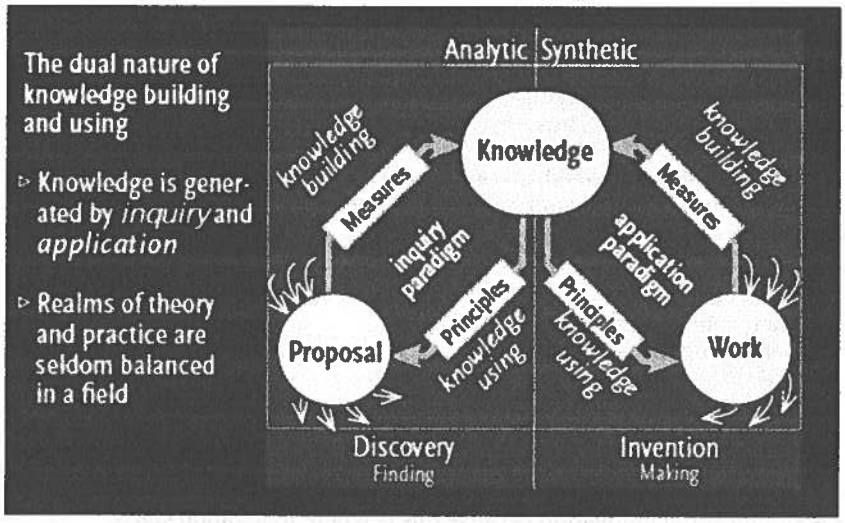

Fig. 2. Knowledge Creation
Source: Owen, 2007, p. 19, Figure 7.

The design thinking process contains analytic and synthetic elements. During the analytic phase, which is a discovery phase, the existing theories are studied, observations are made in order to find problem-solutions and this stage corresponds to the stages of understanding, observing and expressing a point of view. During the synthetic phase, idea generation continues. The application paradigm is used and it corresponds to ideation, prototyping and testing, with a focus on making. Both stages are interconnected as problem-solution starts with observation and ends with testing the variants and improving the worked out solutions. The process is an iterative cycle and during the knowledge generation the process can be repeated in loops again and again as shown in Figure 1.

Design thinking skills can be developed in various activities at school, especially in group work and projects as one of the preconditions is team working and open communication. Practitioners have tested several options. This paper summarizes the ones that may be used at any course and subject, both, at general education schools and tertiary institutions.

Ray (2012) suggests working in small groups or "Collabs" observing the following six steps: 1) identify opportunity; 2) design; 3) prototype; 4) get feedback; 5) scale and spread; 6) present. One of the basic rules concerns the way of asking the questions and expressing the opinion. Students are encouraged saying "yes" when they agree with others' ideas and "yes, but..." when they disagree. This is done in order not to discourage other students from expressing their opinion and to search alternative ideas which is essential in building prototypes. This idea demonstrates that sometimes even small changes can greatly impact the result. The activity starts with a problem that is offered for students to solve. The activity comprises six steps.

Step 1: Identify opportunity. This may be done as a frontal activity at class or as group work. During this stage students have to find the need why the problem has to be solved, who will benefit from the solution. Then it is recommended to choose someone external, who is personally affected by the issue, to share their experiences. Students have to interview them. This can be done personally, which will involve students' out-of-class activity, or alternatively these persons may be invited to participate in the lesson in which students may question them, or interviews may be organized via Skype.

Step 2: Design process. During this phase students review the stories heard during the previous phase and brainstorm solutions. One of the ways would be to give students sticky notes and pens and let them brainstorm solutions. When students have finished brainstorming, the main themes have to be identified and at this point students form smaller groups to research the initial ideas.

Step 3: Prototype. Next, it is necessary to review the ideas and choose one prototype. This prototype has to solve one aspect of the problem. At this moment we are focusing on this one solution offered to solve a specific aspect of the given problem. Then students select the next aspect of the problem and similarly approach it. In order to visualize the thinking process it is recommended to draw a brainstorming map which clearly demonstrates this process. The brainstorming map may also be made using sticky notes and attaching them to the paper. The brainstorming map will also be useful for the next stage of the activity.

Step 4: Feedback. During this stage the groups present their solutions to external experts for feedback. It is recommended to have at least two experts from different stakeholders' groups. For example, students are discussing the problem related with an issue of young people's employability possibilities during summer holidays. One expert might be from the group of pedagogues or parents who support young people's summer work, whereas another expert might be from the group of employers who are unwilling to employ young people.

Step 5: Scale and spread. During this stage students continue working in groups to find the best solution to the feedback heard during the previous stage. In this process the teacher's help with guiding the ideas is inevitable. If the group received various comments from the experts the group can be split into several smaller groups and each group works on one issue. Then the sub-groups come together and agree on a common variant for presentation.

Step 6: Present. The groups present their problem-solutions. In order to make the process more significant for students, the people whom the students had interviewed during the first phase might be invited.

The main benefit of such an activity is the opportunity for students to solve a real-world problem and offer a problem-solution for the people who need it. They look at all possible variants, including the slightest nuances, to come to a solution. There are no bad or incorrect solutions, as according to the theory of design thinking approach every problem may be solved in different ways (Rittel, & Webber, 1972). The challenge for the teacher might lie in the fact that this activity is time-consuming and cannot be done in one lesson/lecture. As any project-based activity, it extends over a longer period of time, so the teacher may guide the process by setting a definite timeline for each activity to be done.

The Institute of Design at Stanford has created teaching/learning aids for different activities developing design thinking skills (Plattner, 2009; Plattner, 2010). The tools have been made in compliance with the seven mindsets or principles that design thinking follows: 1) focus on human values; 2) showing not telling; 3) creating clarity from complexity; 4) getting experimental and experiential; 5) being mindful of processes; 6) bias towards action; 7) collaborating across boundaries (Plattner, 2009). The authors offer activities for individual work and teamwork in order to prepare for the activities developing design thinking skills, such as "What? How? Why?", "Interview Preparation" for individual work and "Team-Share-and-Capture" and "Empathy Map" for group work. It also provides a methodological guide on how to use different activities, for example, "Journey Map", "2x2 Matrix", "Why-How Laddering". It also describes different ways of brainstorming and how to apply them in practice (Plattner, 2009). The authors also encourage using design principles in learning activities: 1) inviting multiple audiences; 2) extending nature of classes; 3) diversifying learning opportunities; 4) encouraging diversity of students; 5) extending contact beyond physical walls (Plattner, 2010). A list of activities is provided on how to implement these principles in practice. Both methodological tools (Plattner, 2009; Plattner, 2010) and various other materials found on the Internet (for example: *Design Thinking for Educators*, 2013; Liedtka, & Ogilvie, 2010; McIntosh, 2014) that are used to develop design thinking skills might be applied in class as well as for self-dependent learning to diversify learning methods and material and develop design thinking skills. Teachers may adapt the existing material for their pedagogical needs and for the target groups as well as taking into consideration design thinking principles create their own teaching/learning aids as a result motivating students' learning.

CONCLUSION

"Innovation drives improvement, either incrementally by advancing existing processes or more radically by introducing new practices" (OECD, 2014, p. 3). In the context of major demographic changes – people's aging, increasing global competition and sustaining competitiveness of the EU economy, the role of innovation increases. This refers also to education which has to be modernized at all levels. It is necessary to promote excellence in education and skills development and diminish innovation skills gaps (Europe 2020 Flagship Initiative Innovation Union, 2010). The latest results of the innovation across the world (Innovation Union Scoreboard, 2014) also demonstrate that in innovation the EU with the average Global Innovation Performance Index (GIPI) 0.630 is lagging behind South Korea (GIPI 0.740), United States (GIPI 0.736) and Japan (GIPI 0.711). On the one hand, the result of the EU might seem quite good, but, on the other hand, it has to be taken into consideration that the GIPI of the EU is ranging from 0.200 to 0.750 with seventeen countries being below the EU average.

One of the ways how to increase innovation is developing design thinking skills. The term 'design thinking' was first used in 1987 and since then it has developed into an approach that extends far beyond its original application in architecture, design and art. The models designed demonstrate their applicability in pedagogy and their use at school may diversify the teaching/learning process and the study content and

motivate students' learning. The greatest benefit of the various teaching/learning tools created in accordance with the design thinking principles is their untraditional, innovative tasks that may be completed individually or in groups and that develop students' problem-solving skills. Working in groups to solve the tasks helps students enhance team working, collaboration, communication skills and develop their design thinking skills that will later be useful in solving everyday and work-related problems in a creative and innovative way. Students practice during the studies, learn to make their own mistakes and realize that there are no right or wrong solutions to various problems. They learn to explain their opinions and listen to others' opinions, accept untraditional ideas thus welcoming innovation.

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ATTACHMENT #5

Evidence of Effectiveness & Evaluation: If this is a **renewal/continuation service** attach a copy of the evaluation or archival data that demonstrates effectiveness.

During the 2022-23 school year, Martinez:

- Modeled and implemented the Design Thinking process across the department;
- Through observations and connections brought a human centered design approach to the redesign of the department
- Facilitated a year-long creative design lab with a set of 50 9th graders in 2 Tech Topics classes.
- Facilitated Participatory design sessions with students/teachers/staff
- Student-centered pop-up labs and hands on design thinking activities

Martinez used these insights from these design sessions, pop-ups and creative labs to inform the redesign of the ESUMS' Media Lab.

These insights led to:

- **Department name change:** DIGITAL MEDIA ARTS AND TECHNOLOGY
- **Amplification of the ARTS** in STEAM; allowing for more students make the connection between Art, Science, Technology and Engineering; leading students to be more engaged in the ARTS and to discover a place for themselves within a STEM school.
- Introduction of Design Thinking methodologies (see attached readings on Design Thinking in Pedagogy and Design Thinking Standards)
- **8 New Courses** - these courses directly align with readiness for careers within Digital Media Arts and Technologies (all of these courses integrate Design Thinking methods)
    1. New Media and Tech for Social Change
    2. Digital Entrepreneurship
    3. Digital Storytelling
    4. Production Studio 1
    5. Production Studio 2
    6. Digital Photography
    7. Motion Design
    8. Music Production and Sound Design

Please see attached documents:

- Design Thinking Standards (see attachment #3)
- Media Arts Standards, from the National Coalition for Core Art Standards (see attachment #1)
- National Core Arts Standards: A Conceptual Framework for Arts Learning (see attachment #2)
- Design Thinking in Pedagogy (see attachment #4)

MARTINEZ DESIGN
ESKMS 2023/24

ATTACHMENT #1 – MEDIA ARTS NATIONAL CORE ARTS STANDARDS

Media Arts

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.5
Essential Question(s): How do media artists generate ideas? How can ideas for media arts productions be formed and developed to be effective and original?

	Pre K (MA:Cr1.1.PK)	Kindergarten (MA:Cr1.1.K)	1st (MA:Cr1.1.1)	2nd (MA:Cr1.1.2)	3rd (MA:Cr1.1.3)	4th (MA:Cr1.1.4)	5th (MA:Cr1.1.5)	6th (MA:Cr1.1.6)	7th (MA:Cr1.1.7)	8th (MA:Cr1.1.8)	HS Proficient (MA:Cr1.1.I)	HS Accomplished (MA:Cr1.1.II)	HS Advanced (MA:Cr1.1.III)	
Conceive	Share ideas for media artworks through guided exploration of tools, methods, and imagining.	Discover and share ideas for media artworks using play and experimentation.	Express and share ideas for media artworks through sketching and modeling.	Discover multiple ideas for media artworks through brainstorming and improvising.	Develop multiple ideas for media artworks using a variety of tools, methods and/or materials.	Conceive of original artistic goals for media artworks using a variety of creative methods, such as brainstorming and modeling.	Envision original ideas and innovations for media artworks using personal experiences and/or the work of others.	Formulate variations of goals and solutions for media artworks by practicing chosen creative processes, such as sketching, improvising and brainstorming.	Produce a variety of ideas and solutions for media artworks through application of chosen inventive processes, such as concept modeling and prototyping.	Generate ideas, goals, and solutions for original media artworks through application of focused creative processes, such as divergent thinking and experimenting.	Use identified generative methods to formulate multiple ideas, develop artistic goals, and problem solve in media arts creation processes.	Strategically utilize generative methods to formulate multiple ideas, refine artistic goals, and increase the originality of approaches in media arts creation processes.	Integrate aesthetic principles with a variety of generative methods to fluently form original ideas, solutions, and innovations in media arts creation processes.	Conceive

CREATING

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

	Pre K (MA:Cr2.1.PK)	Kindergarten (MA:Cr2.1.K)	1st (MA:Cr2.1.1)	2nd (MA:Cr2.1.2)	3rd (MA:Cr2.1.3)	4th (MA:Cr2.1.4)	5th (MA:Cr2.1.5)	6th (MA:Cr2.1.6)	7th (MA:Cr2.1.7)	8th (MA:Cr2.1.8)	HS Proficient (MA:Cr2.1.I)	HS Accomplished (MA:Cr2.1.II)	HS Advanced (MA:Cr2.1.III)	
Develop	With guidance, form ideas into plans or models for media arts productions.	With guidance, use ideas to form plans or models for media arts productions.	With guidance, use identified ideas to form plans and models for media arts productions.	Choose ideas to create plans and models for media arts productions.	Form, share, and test ideas, plans, and models to prepare for media arts productions.	Discuss, test, and assemble ideas, plans, and models for media arts productions, considering the artistic goals and the presentation.	Develop, present, and test ideas, plans, models, and proposals for media arts productions, considering the artistic goals and audience.	Organize, propose, and evaluate artistic ideas, plans, prototypes, and production processes for media arts productions, considering purposeful intent.	Design, propose, and evaluate artistic ideas, plans, prototypes, and production processes for media arts productions, considering expressive intent and resources.	Structure and critique ideas, plans, prototypes, and production processes for media arts productions, considering intent, resources, and the presentation context.	Apply aesthetic criteria in developing, proposing, and refining artistic ideas, plans, prototypes, and production processes for media arts productions, considering original inspirations, goals, and presentation context.	Apply a personal aesthetic in designing, testing, and refining original artistic ideas, prototypes, and production strategies for media arts productions, considering artistic intentions, constraints of resources, and presentation context.	Integrate a sophisticated personal aesthetic and knowledge of systems processes in forming, testing, and proposing original artistic ideas, prototypes, and production frameworks, considering complex constraints of goals, time, resources, and personal limitations.	Develop

ATTACHMENT #1

CREATING

Anchor Standard 3: Refine and complete artistic work.
Enduring Understanding: The forming, integration, and refinement of aesthetic components, principles, and processes creates purpose, meaning, and artistic quality in media artworks.
Essential Question(s): What is required to produce a media artwork that conveys purpose, meaning, and artistic quality? How do media artists improve/refine their work?

	Pre K (MA:Cr3.1.PK)	Kindergarten (MA:Cr3.1.K)	1st (MA:Cr3.1.1)	2nd (MA:Cr3.1.2)	3rd (MA:Cr3.1.3)	4th (MA:Cr3.1.4)	5th (MA:Cr3.1.5)	6th (MA:Cr3.1.6)	7th (MA:Cr3.1.7)	8th (MA:Cr3.1.8)	HS Proficient (MA:Cr3.1.I)	HS Accomplished (MA:Cr3.1.II)	HS Advanced (MA:Cr3.1.III)
Construct	a. Make and capture media arts content, freely and in guided practice, in media arts productions.	a. Form and capture media arts content for expression and meaning in media arts productions.	a Create, capture, and assemble media arts content for media arts productions, identifying basic principles, such as pattern and repetition.	a. Construct and assemble content for unified media arts productions, identifying and applying basic principles, such as positioning and attention.	a. Construct and order various content into unified, purposeful media arts productions, describing and applying a defined set of principles, such as movement and force.	a. Structure and arrange various content and components to convey purpose and meaning in different media arts productions, applying sets of associated principles, such as balance and contrast.	a. Create content and combine components to convey expression, purpose, and meaning in a variety of media arts productions, utilizing sets of associated principles, such as emphasis and exaggeration.	a. Experiment with multiple approaches to produce content and components for determined purpose and meaning in media arts productions, utilizing a range of associated principles, such as point of view and perspective.	a. Coordinate production processes to integrate content and components for determined purpose and meaning in media arts productions, demonstrating understanding of associated principles, such as narrative structures and composition.	a. Implement production processes to integrate content and stylistic conventions for determined meaning in media arts productions, demonstrating understanding of associated principles, such as theme and unity.	a. Consolidate production processes to demonstrate deliberate choices in organizing and integrating content and stylistic conventions in media arts productions, demonstrating understanding of associated principles, such as emphasis and tone.	so da e to demonstrate deliberate choices in organizing and integrating content and stylistic conventions in media arts production, demonstrating understand ng of associated principles, such as and	a Sy t es ze content, processes, and components to express compelling purpose, story, emotion, or ideas in complex media arts productions, demonstrating mastery of associated principles, such as hybridization.
	b. Attempt and share expressive effects, freely and in guided practice, in creating media artworks.	b. Make changes to the content, form, or presentation of media artworks and share results.	b. Practice and identify the effects of making changes to the content, form, or presentation, in order to refine and finish media artworks.	b. Test and describe expressive effects in altering, refining, and completing media artworks.	b. Practice and analyze how the emphasis of elements alters effect and purpose in refining and completing media artworks.	b. Demonstrate intentional effect in refining media artworks, emphasizing elements for a purpose.	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. Appraise how elements and components can be altered for intentional effects and audience, and refine media artworks to reflect purpose and audience.	b. Improve and refine media artworks by intentionally emphasizing particular expressive elements to reflect an understanding of purpose, audience, or place.	b. Refine and modify media artworks, improving technical quality and intentionally accentuating selected expressive and stylistic elements, to reflect an understanding of purpose, audience, and place.	b. Refine and modify media artworks, honing aesthetic quality and intentionally accentuating stylistic elements, to reflect an understanding of personal goals and preferences.	b. Refine and elaborate aesthetic elements and technical components to intentionally form impactful expressions in media artworks for specific purposes, intentions, audiences and contexts.	b. Intentionally and consistently refine and elaborate elements and components to form impactful expressions in media artworks, directed at specific purposes, audiences, and contexts.

CREATING

Construct

Media Arts

PRODUCING — **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(s): How are complex media arts experiences constructed?

Pre K (MA:Pr4.1.PK)	Kindergarten (MA:Pr4.1.K)	1st (MA:Pr4.1.1)	2nd (MA:Pr4.1.2)	3rd (MA:Pr4.1.3)	4th (MA:Pr4.1.4)	5th (MA:Pr4.1.5)	6th (MA:Pr4.1.6)	7th (MA:Pr4.1.7)	8th (MA:Pr4.1.8)	HS Proficient (MA:Pr4.1.I)	HS Accomplished (MA:Pr4.1.II)	HS Advanced (MA:Pr4.1.III)
With guidance, combine different forms and content, such as image and sound, to form media artworks.	With guidance, combine arts forms and media content, such as dance and video, to form media artworks.	Combine varied academic, arts, and media content in media artworks, such as an illustrated story,	Practice combining varied academic, arts, and media content into unified media artworks, such as a narrated science animation.	Practice combining varied academic, arts, and media forms and content into unified media artworks, such as animation, music, and dance.	Demonstrate how a variety of academic, arts, and media forms and content may be mixed and coordinated into media artworks, such as narrative, dance, and media.	Create media artworks through the integration of multiple contents and forms, such as a media broadcast.	Validate how integrating multiple contents and forms can support a central idea in a media artwork, such as media, narratives, and performance.	Integrate multiple contents and forms into unified media arts productions that convey consistent perspectives and narratives, such as an interactive video game.	Integrate multiple contents and forms into unified media arts productions that convey specific themes or ideas, such as interdisciplinary projects, or multimedia theatre.	Integrate various arts, media arts forms, and content into unified media arts productions, considering the reaction and interaction of the audience, such as experiential design.	Integrate various arts, media arts forms, and academic content into unified media arts productions that retain thematic integrity and stylistic continuity, such as transmedia productions.	Synthesize various arts, media arts forms and academic content into unified media arts productions that retain artistic fidelity across platforms, such as transdisciplinary productions.

Integrate — **Integrate**

PRODUCING

Anchor Standard 5: Develop and refine artistic techniques and work for presentation.

Enduring Understanding: Media artists require a range of skills and abilities to creatively solve problems within and through media arts productions.

Essential Question(s): What skills are required for creating effective media artworks and how are they improved? How are creativity and innovation developed within and through media arts productions? How do media artists use various tools and techniques?

	Pre K (MA:Pr5.1.PK)	Kindergarten (MA:Pr5.1.K)	1st (MA:Pr5.1.1)	2nd (MA:Pr5.1.2)	3rd (MA:Pr5.1.3)	4th (MA:Pr5.1.4)	5th (MA:Pr5.1.5)	6th (MA:Pr5.1.6)	7th (MA:Pr5.1.7)	8th (MA:Pr5.1.8)	HS Proficient (MA:Pr5.1.I	HS Accomplished (MA:Pr5.1.II)	HS Advanced (MA:Pr5.1.III)	
Practice	a. Use identified skills, such as manipulating tools, making choices, and sharing in creating media artworks.	a. Identify and demonstrate basic skills, such as handling tools, making choices, and cooperating in creating media artworks.	a. Describe and demonstrate various artistic skills and roles, such as technical steps, planning, and collaborating in media arts productions.	a. Enact roles to demonstrate basic ability in various identified artistic, design, technical, and soft skills, such as tool use and collaboration in media arts productions.	a. Exhibit developing ability in a variety of artistic, design, technical, and organizational roles, such as making compositional decisions, manipulating tools, and group planning in media arts productions.	a. Enact identified roles to practice foundational artistic, design, technical, and soft skills, such as formal technique, equipment usage, production, and collaboration in media arts productions.	a. Enact various roles to practice fundamental ability in artistic, design, technical, and soft skills, such as formal technique, production, and collaboration in media arts productions.	a. Develop a variety of artistic, design, technical, and soft skills through performing various assigned roles in producing media artworks, such as invention, formal technique, production, self-initiative, and problem-solving.	a. Exhibit an increasing set of artistic, design, technical, and soft skills through performing various roles in producing media artworks, such as creative problem-solving and organizing.	a. Demonstrate a defined range of artistic, design, technical, and soft skills, through performing specified roles in producing media artworks, such as strategizing and collaborative communication.	a. Demonstrate progression in artistic, design, technical, and soft skills, as a result of selecting and fulfilling specified roles in the production of a variety of media artworks.	a. Demonstrate effective command of artistic, design, technical and soft skills in managing and producing media artworks.	a. Employ mastered artistic, design, technical, and soft skills in managing and producing media artworks.	Producing
	b. Use identified creative skills, such as imagining freely and in guided practice, within media arts productions.	b. Identify and demonstrate creative skills, such as performing, within media arts productions.	b. Describe and demonstrate basic creative skills within media arts productions, such as varying techniques.	b. Demonstrate use of experimentation skills, such as playful practice, and trial and error, within and through media arts productions.	b. Exhibit basic creative skills to invent new content and solutions within and through media arts productions.	b. Practice foundational innovative abilities, such as design thinking, in addressing problems within and through media arts productions.	b. Practice fundamental creative and innovative abilities, such as expanding conventions, in addressing problems within and through media arts productions.	b. Develop a variety of creative and adaptive innovation abilities, such as testing constraints, in developing solutions within and through media arts productions.	b. Exhibit an increasing set of creative and adaptive innovation abilities, such as exploratory processes, in developing solutions within and through media arts productions.	b. Demonstrate a defined range of creative and adaptive innovation abilities, such as divergent solutions and bending conventions, in developing new solutions for identified problems within and through media arts productions.	b. Develop and refine a determined range of creative and adaptive innovation abilities, such as design thinking, and risk taking, in addressing identified challenges and constraints within and through media arts productions.	b. Demonstrate effective ability in creative and adaptive innovation abilities, such as resisting closure, and responsive use of failure, to address sophisticated challenges within and through media arts productions.	b. Fluently employ mastered creative and innovative adaptability in formulating lines of inquiry and solutions, to address complex challenges within and through media arts productions.	
	c. Use media arts creation tools freely and in guided practice.	c. Practice, discover, and share how media arts creation tools work.	c. Experiment with and share different ways to use tools and techniques to construct media artworks.	c. Demonstrate and explore identified methods to use tools to capture and form media artworks.	c. Exhibit standard use of tools and techniques while constructing media artworks.	c. Demonstrate use of tools and techniques in standard and novel ways while constructing media artworks.	c. Examine how tools and techniques could be used in standard and experimental ways in constructing media artworks.	c. Demonstrate adaptability using tools and techniques in standard and experimental ways in constructing media artworks.	c. Demonstrate adaptability using tools and techniques in standard and experimental ways to achieve an assigned purpose in constructing media artworks.	c. Demonstrate adaptability using tools, techniques and content in standard and experimental ways to communicate intent in the production of media artworks.	c. Demonstrate adaptation and innovation through the combination of tools, techniques and content, in standard and innovative ways, to communicate intent in the production of media artworks.	c. Demonstrate the skillful adaptation and combination of tools, styles, techniques, and interactivity to achieve specific expressive goals in the production of a variety of media artworks.	c. Independently utilize and adapt tools, styles, and systems in standard, innovative, and experimental ways in the production of complex media artworks.	

PRODUCING

Anchor Standard 6: Convey meaning through the presentation of artistic work.
Enduring Understanding: Media artists purposefully present, share, and distribute media artworks for various contexts.
Essential Question(s): How does time, place, audience, and context affect presenting or performing choices for media artworks? How can presenting or sharing media artworks in a public format help a media artist learn and grow?

	Pre K (MA:Pr6.1.PK)	Kindergarten (MA:Pr6.1.K)	1st (MA:Pr6.1.1)	2nd (MA:Pr6.1.2)	3rd (MA:Pr6.1.3)	4th (MA:Pr6.1.4)	5th (MA:Pr6.1.5)	6th (MA:Pr6.1.6)	7th (MA:Pr6.1.7)	8th (MA:Pr6.1.8)	HS Proficient (MA:Pr6.1.I)	HS Accomplished (MA:Pr6.1.II)	HS Advanced (MA:Pr6.1.III)	
Present	a. With guidance, share roles and discuss the situation for presenting media artworks.	a. With guidance, identify and share roles and the situation in presenting media artworks.	a. With guidance, discuss presentation conditions and perform a task in presenting media artworks.	a. Identify and describe presentation conditions and perform task(s) in presenting media artworks.	a. Identify and describe the presentation conditions, and take on roles and processes in presenting or distributing media artworks.	a. Explain the presentation conditions, and fulfill a role and processes in presenting or distributing media artworks.	a. Compare qualities and purposes of presentation formats, and fulfill a role and associated processes in presentation and/or distribution of media artworks.	a. Analyze various presentation formats and fulfill various tasks and defined processes in the presentation and/or distribution of media artworks.	a. Evaluate various presentation formats in order to fulfill various tasks and defined processes in the presentation and/or distribution of media artworks.	a. Design the presentation and distribution of media artworks through multiple formats and/or contexts.	a. Design the presentation and distribution of collections of media artworks, considering combinations of artworks, formats, and audiences.	a. Curate and design the presentation and distribution of collections of media artworks through a variety of contexts, such as mass audiences, and physical and virtual channels.	a. Curate, design, and promote the presentation and distribution of media artworks for intentional impacts, through a variety of contexts, such as markets and venues.	Present
	b. With guidance, share reactions to the presentation of media artworks.	b. With guidance, identify and share reactions to the presentation of media artworks.	b. With guidance, discuss the experience of the presentation of media artworks.	b. Identify and describe the experience and share results of presenting media artworks.	b. Identify and describe the experience, and share results of and improvements for presenting media artworks.	b. Explain results of and improvements for presenting media artworks.	b. Compare results of and improvements for presenting media artworks.	b. Analyze results of and improvements for presenting media artworks.	b. Evaluate the results of and improvements for presenting media artworks, considering impacts on personal growth.	b. Evaluate the results of and implement improvements for presenting media artworks, considering impacts on personal growth and external effects.	b. Evaluate and implement improvements in presenting media artworks, considering personal and local impacts, such as the benefits for self and others.	b. Evaluate and implement improvements in presenting media artworks, considering personal, local, and social impacts such as changes that occurred for people, or to a situation.	b. Independently evaluate, compare, and integrate improvements in presenting media artworks, considering personal to global impacts, such as new understandings that were gained by artist and audience.	

Media Arts

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 Question(s): How do we 'read' media artworks and discern their relational components? How do media artworks function to convey meaning and manage audience experience?

	Pre K (MA:Re7.1.PK)	Kindergarten (MA:Re7.1.K)	1st (MA:Re7.1.1)	2nd (MA:Re7.1.2)	3rd (MA:Re7.1.3)	4th (MA:Re7.1.4)	5th (MA:Re7.1.5)	6th (MA:Re7.1.6)	7th (MA:Re7.1.7)	8th (MA:Re7.1.8)	HS Proficient (MA:Re7.1.I)	HS Accomplished (MA:Re7.1.II)	HS Advanced (MA:Re7.1.III)	
Perceive	a. With guidance, explore and discuss components and messages in a variety of media artworks.	a. Recognize and share components and messages in media artworks.	a. Identify components and messages in media artworks.	a. Identify and describe the components and messages in media artworks.	a. Identify and describe how messages are created by components in media artworks.	a. Identify, describe, and explain how messages are created by components in media artworks.	a. Identify, describe, and differentiate how message and meaning are created by components in media artworks.	a. Identify, describe, and analyze how message and meaning are created by components in media artworks.	a. Describe, compare, and analyze the qualities of and relationships between the components in media artworks.	a. Compare, contrast, and analyze the qualities of and relationships between the components and style in media artworks.	a. Analyze the qualities of and relationships between the components, style, and preferences communicated by media artworks and artists.	a. Analyze and synthesize the qualities and relationships of the components in a variety of media artworks, and feedback on how they impact audience.	a. Analyze and synthesize the qualities and relationships of the components and audience impact in a variety media artworks.	Perceive
	b. With guidance, explore media artworks and discuss experiences.	b. Recognize and share how a variety of media artworks create different experiences.	b. With guidance, identify how a variety of media artworks create different experiences.	b. Identify and describe how a variety of media artworks create different experiences.	b. Identify and describe how various forms, methods, and styles in media artworks manage audience experience.	b. Identify, describe, and explain how various forms, methods, and styles in media artworks manage audience experience.	b. Identify, describe, and differentiate how various forms, methods, and styles in media artworks manage audience experience.	b. Identify, describe, and analyze how various forms, methods, and styles in media artworks manage audience experience.	b. Describe, compare, and analyze how various forms, methods, and styles in media artworks interact with personal preferences in influencing audience experience.	b. Compare, contrast, and analyze how various forms, methods, and styles in media artworks manage audience experience and create intention.	b. Analyze how a variety of media artworks manage audience experience and create intention through multimodal perception.	b. Analyze how a broad range of media artworks manage audience experience, create intention and persuasion through multimodal perception.	b. Survey an exemplary range of media artworks, analyzing methods for managing audience experience, creating intention and persuasion through multimodal perception, and systemic communications.	

RESPONDING	Anchor Standard 8: Interpret intent and meaning in artistic work. Enduring Understanding: Interpretation and appreciation require consideration of the intent, form, and context of the media and artwork. Essential Question(s): How do people relate to and interpret media artworks?												
	Pre K (MA:Re8.1.PK)	Kindergarten (MA:Re8.1.K)	1st (MA:Re8.1.1)	2nd (MA:Re8.1.2)	3rd (MA:Re8.1.3)	4th (MA:Re8.1.4)	5th (MA:Re8.1.5)	6th (MA:Re8.1.6)	7th (MA:Re8.1.7)	8th (MA:Re8.1.8)	HS Proficient (MA:Re8.1.I)	HS Accomplished (MA:Re8.1.II)	HS Advanced (MA:Re8.1.III)	RESPONDING
Interpret	With guidance, share reactions to media artworks.	With guidance, share observations regarding a variety of media artworks.	With guidance, identify the meanings of a variety of media artworks.	Determine the purposes and meanings of media artworks, considering their context.	Determine the purposes and meanings of media artworks while describing their context.	Determine and explain reactions and interpretations to a variety of media artworks, considering their purpose and context.	Determine and compare personal and group interpretations of a variety of media artworks, considering their intention and context.	Analyze the intent of a variety of media artworks, using given criteria.	Analyze the intent and meaning of a variety of media artworks, using self-developed criteria.	Analyze the intent and meanings of a variety of media artworks, focusing on intentions, forms, and various contexts.	Analyze the intent, meanings, and reception of a variety of media artworks, focusing on personal and cultural contexts.	Analyze the intent, meanings, and influence of a variety of media artworks, based on personal, societal, historical, and cultural contexts.	Analyze the intent, meanings and impacts of diverse media artworks, considering complex factors of context and bias.	Interpret
RESPONDING	Anchor Standard 9: Apply criteria to evaluate artistic work. Enduring Understanding: Skillful evaluation and critique are critical components of experiencing, appreciating, and producing media artworks. Essential Question(s): How and why do media artists value and judge media artworks? When and how should we evaluate and critique media artworks to improve them?												
	Pre K (MA:Re9.1.PK)	Kindergarten (MA:Re9.1.K)	1st (MA:Re9.1.1)	2nd (MA:Re9.1.2)	3rd (MA:Re9.1.3)	4th (MA:Re9.1.4)	5th (MA:Re9.1.5)	6th (MA:Re9.1.6)	7th (MA:Re9.1.7)	8th (MA:Re9.1.8)	HS Proficient (MA:Re9.1.HS.I)	HS Accomplished (MA:Re9.1.HS.II)	HS Advanced (MA:Re9.1.HS.III)	RESPONDING
Evaluate	With guidance, examine and share appealing qualities in media artworks.	Share appealing qualities and possible changes in media artworks.	Identify the effective parts of and possible changes to media artworks, considering viewers.	Discuss the effectiveness of and improvements for media artworks, considering their context.	Identify basic criteria for and evaluate media artworks, considering possible improvements and context.	Identify and apply basic criteria for evaluating and improving media artworks and production processes, considering context.	Determine and apply criteria for evaluating media artworks and production processes, considering context, and practicing constructive feedback.	Determine and apply specific criteria to evaluate various media artworks and production processes, considering context and practicing constructive feedback.	Develop and apply criteria to evaluate various media artworks and production processes, considering context, and practicing constructive feedback.	Evaluate media art works and production processes with developed criteria, considering context and artistic goals.	Evaluate media art works 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.	Independently develop rigorous evaluations of, and strategically seek feedback for media artworks and production processes, considering complex goals and factors.	Evaluate

Media Arts

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.
Enduring Understanding: Media artworks synthesize meaning and form cultural experience.
Essential Question(s): How do we relate knowledge and experiences to understanding and making media artworks? How do we learn about and create meaning through producing media artworks?

	Pre K (MA:Cn10.1.PK)	Kindergarten (MA:Cn10.1.K)	1st (MA:Cn10.1.1)	2nd (MA:Cn10.1.2)	3rd (MA:Cn10.1.3)	4th (MA:Cn10.1.4)	5th (MA:Cn10.1.5)	6th (MA:Cn10.1.6)	7th (MA:Cn10.1.7)	8th (MA:Cn10.1.8)	HS Proficient (MA:Cn10.1.I)	HS Accomplished (MA:Cn10.1.II)	HS Advanced (MA:Cn10.1.III)	
Connecting														Connecting
Synthesize	a. Use personal experiences in making media artworks.	a. Use personal experiences and choices in making media artworks.	a. Use personal experiences, interests, and models in creating media artworks.	a. Use personal experiences, interests, information, and models in creating media artworks.	a. Use personal and external resources, such as interests, information, and models, to create media artworks.	a. Examine and use personal and external resources, such as interests, research, and cultural understanding, to create media artworks.	a. Access and use internal and external resources to create media artworks, such as interests, knowledge, and experiences.	a. Access, evaluate, and use internal and external resources to create media artworks, such as knowledge, experiences, interests, and research.	a. Access, evaluate and use internal and external resources to inform the creation of media artworks, such as experiences, interests, research, and exemplary works.	a. Access, evaluate, and use internal and external resources to inform the creation of media artworks, such as cultural and societal knowledge, research, and exemplary works.	a. Access, evaluate, and integrate personal and external resources to inform the creation of original media artworks, such as experiences, interests, and cultural experiences.	a. Synthesize internal and external resources to enhance the creation of persuasive media artworks, such as cultural connections, introspection, research, and exemplary works.	a. Independently and proactively access relevant and qualitative resources to inform the creation of cogent media artworks.	
	b. With guidance, share experiences of media artworks.	b. Share memorable experiences of media artworks.	b. Share meaningful experiences of media artworks.	b. Discuss experiences of media artworks, describing their meaning and purpose.	b. Identify and show how media artworks form meanings, situations, and/or culture, such as popular media.	b. Examine and show how media artworks form meanings, situations, and/or cultural experiences, such as online spaces.	b. Examine and show how media artworks form meanings, situations, and cultural experiences, such as news and cultural events.	b. Explain and show how media artworks form new meanings, situations, and cultural experiences, such as historical events.	b. Explain and show how media artworks form new meanings and knowledge, situations, and cultural experiences, such as learning, and new information.	b. Explain and demonstrate how media artworks expand meaning and knowledge, and create cultural experiences, such as local and global events.	b. Explain and demonstrate the use of media artworks to expand meaning and knowledge, and create cultural experiences, such as learning and sharing through online environments.	b. Explain and demonstrate the use of media artworks to synthesize new meaning and knowledge, and reflect and form cultural experiences, such as new connections between themes and ideas, local and global networks, and personal influence.	b. Demonstrate and expound on the use of media artworks to consummate new meaning, knowledge, and impactful cultural experiences.	Synthesize

Anchor Standard 11: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding

Enduring Understanding: Media artworks and ideas are better understood and produced by relating them to their purposes, values, and various contexts.

Essential Question(s): How does media arts relate to its various contexts, purposes, and values? How does investigating these relationships inform and deepen the media artist's understanding and work?

	Pre K (MA:Cn11.1.PK)	Kindergarten (MA:Cn11.1.K)	1st (MA:Cn11.1.1)	2nd (MA:Cn11.1.2)	3rd (MA:Cn11.1.3)	4th (MA:Cn11.1.4)	5th (MA:Cn11.1.5)	6th (MA:Cn11.1.6)	7th (MA:Cn11.1.7)	8th (MA:Cn11.1.8)	HS Proficient (MA:Cn11.1.I)	HS Accomplished (MA:Cn11.1.II)	HS Advanced (MA:Cn11.1.III)
Connecting													
Relate	a. With guidance, relate media artworks and everyday life.	a. With guidance, share ideas in relating media artworks and everyday life, such as daily activities.	a. Discuss and describe media artworks in everyday life, such as popular media, and connections with family and friends.	a. Discuss how media artworks and ideas relate to everyday and cultural life, such as media messages and media environments.	a. Identify how media artworks and ideas relate to everyday and cultural life and can influence values and online behavior.	a. Explain verbally and/or in media artworks, how media artworks and ideas relate to everyday and cultural life, such as fantasy and reality, and technology use.	a. 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.	a. Research and show how media artworks and ideas relate to personal life, and social, community, and cultural situations, such as personal identity, history, and entertainment.	a. Research and demonstrate how media artworks and ideas relate to various situations, purposes and values, such as community, vocations, and social media.	a. Demonstrate and explain how media artworks and ideas relate to various contexts, purposes, and values, such as democracy, environment, and connecting people and places.	a. Demonstrate and explain how media artworks and ideas relate to various contexts, purposes, and values, such as social trends, power, equality, and personal/cultural identity.	a. 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.	a. Demonstrate the relationships of media arts ideas and works to personal and global contexts, purposes, and values, through relevant and impactful media artworks.
Relate	b. With guidance, interact safely and appropriately with media arts tools and environments	b. With guidance, interact safely and appropriately with media arts tools and environments.	b. Interact appropriately with media arts tools and environments, considering safety, rules, and fairness.	b. Interact appropriately with media arts tools and environments, considering safety, rules, and fairness.	b. Examine and interact appropriately with media arts tools and environments, considering safety, rules, and fairness.	b. Examine and interact appropriately with media arts tools and environments, considering ethics, rules, and fairness.	b. Examine, discuss and interact appropriately with media arts tools and environments, considering ethics, rules, and media literacy.	b. Analyze and interact appropriately with media arts tools and environments, considering fair use and copyright, ethics, and media literacy.	b. Analyze and responsibly interact with media arts tools and environments, considering , , and social med a.	b. Analyze and responsibly interact with media arts tools, environments, legal, and technological contexts, considering ethics, media literacy, social media, and virtual worlds.	b. Critically evaluate and effectively interact with legal, technological, systemic, and vocational contexts of media arts, considering ethics, media literacy, social media, virtual worlds, and digital identity.	b. Critically investigate and ethically interact with legal, technological, systemic, and vocational contexts of media arts, considering ethics, media literacy, digital identity, and artist/audience interactivity.	b. Critically investigate and strategically interact with legal, technological, systemic, and vocational contexts of media arts.
Connecting													

ATTACHMENT #6

Contract Decision Matrix

Vendors	Total Cost	Hours	Background	Decision Description
Martinez Design	40,000	$50 per hour Not to exceed 800 hours for the 2023-24 academic year	Impact Design; Designer in Residence at Los Angeles Unified School District; Design Thinking; Design for Social Innovation and Impact; Digital Design, Digital and Multi-Media Production, Graphic Design, Makerspace designer;	This vendor's skills and experience aligns with ESUMS overall career readiness vision for the Digital Media Arts and Technology Department and the Future Forward theme of ESUMS for the 2022-2023 school year. The program offerings and curriculum being created by the vendor include: student development of the skills, mindset needed for the workplace of the future; providing extensive professional development to the staff in the department; preparing students to acquire industry certifications; helping students engage in real world and personally meaningful projects; integrating a multidisciplinary approach to computer science and computational thinking, connecting to all subjects from literature to the arts. We selected Martinez Design Collective, LLC because: • She has the skills and qualifications to help us realize our vision of aligning the ESUMS Digital Media Arts and Technology Department courses and curriculum with current innovation and industry trends. • Her experience encompasses a wonderful blend of projects that have been completed for corporations, NGO's,

ATTACHMENT #6

				universities, school districts, libraries and city government. It is a challenge to find someone that has experience working across multiple sectors and disciplines and that has over 20 years experience working with and in public schools - including New Haven Public Schools. She most recently served as a consultant with the second largest school district in the country (Los Angeles Unified School District).
Horvath	60,000	Not to exceed 40 hours per week	Business administration, marketing, consulting and project management, substitute teacher	This vendor is more focused on the business side of things, with a focus on leadership, project management, entrepreneurship, technology and marketing. His focus would be based on the book "7 Habits of Highly Effective People" which was written in 1989 and does not align with our Future Forward focus with 21st century skills.
Milestone C	10,15 K Per curriculum	Not specified	Drones, robotics, software design	This vendor is more geared toward our Engineering department rather than the direction of our Digital Media Arts and Technology Department. Vendor's primary product is a prepackaged curriculum, based on single subjects more aligned to physical and computer engineering.

ATTACHMENT #7

Quote Number Two

Company 2: Milestone C

This quote is based on a follow- up conversation with David Cornelias on Wednesday 5/24/23 where I re requested the quote for their services. His offer was still not a redesign of the department and was more focused on supplying particular courses at $10- $15K per course. The courses he offered were also more focused on topics that we cover in our engineering program rather than our DMAT department.

ATTACHMENT #7 3rd Vendor

June 6, 2023

Dear Medria,

I am writing with renewed enthusiasm about the potential opportunity to contribute to the dynamic team at ESUMs. Understanding the importance of flexibility, I am open to adapting my skillset to your specific needs and am ready to draft a formal proposal, should you require it for any initiative, project, or program.

Capabilities and Expertise My range of expertise covers the following areas: • General Business • Management/Leadership • Project Management • Marketing • Entrepreneurship • Artificial Intelligence (in general and its application in K12) • US History/Social Studies

Whether it involves teaching or supporting new or existing initiatives, I am prepared to deliver value in numerous ways.

Certifications Though I am not currently certified to teach in Connecticut, my recent experience includes several months of teaching US History at a local high school. If deemed necessary, I am open to securing an alternative CT teaching certification while working at ESUMs. Furthermore, my qualifications include a certificate from Harvard for teaching in Higher Education. In addition to my academic pursuits, I am willing to coach ESUMs boys and/or girls basketball teams, building on my 24 years of experience coaching middle school students in West Haven.

Compensation My preferred work schedule would be seven hours per day on Tuesdays, Wednesdays, and Thursdays, at a rate of $80 per hour (no benefits required), for the 36-week school year. The role I would undertake could involve teaching or collaborating with teachers on a particular initiative, program, or project. I am open to adjusting these specifics based on your needs and constraints. I currently reside in West Haven, conveniently located just a few minutes away from the school.

Background Over the past 35 years, I have been fortunate to work with public schools in New England and nationwide, helping education leaders and their teams leverage technology to enhance teaching and learning in the classroom. I have been privileged to work with renowned organizations such as IBM, Teachers College, and Apple Inc. I also bring board-level experience, having served as an elected Board of Education member for eight years, with the last two years as Chairperson. My academic credentials include an MBA from UConn and an Ed. M. in Education from Teachers College, Columbia University.

As someone who discovered his passion and calling early in my career, it would be an honor to continue working to provide students with an excellent education, empowering them to explore, discover, and achieve their full potential.

I welcome any questions you may have or an opportunity to meet and discuss further. Please do not hesitate to contact me.

Best regards,

Howard Horvath

203-721-0422 / hdhorvathjr@gmail.com

Quote For Skills 21

$25 per student enrolled in the course

Roughly 250 X 25 = 6250

$2750 for 5 half day sessions on sight co-teaching/ pd sessions package

The curriculum is more geared toward a Capstone project class.