Learning through Digital Media

Creative practice is of inherent value. Indeed in the 21st century, fluency with creative practice is an essential skill.

Dr. Kwang-Wu Kim, President, Columbia College Chicago
About the Center for Community Arts Partnerships at Columbia College Chicago

Columbia College Chicago, an urban institution committed to open access, opportunity and excellence in higher education, provides innovative degree programs in the visual, performing, media and communication arts to more than 10,000 undergraduate and graduate students. The Center for Community Arts Partnerships (CCAP) was established in 1998 to carry out the College’s commitment to community engagement. CCAP creates deep, reciprocal, mutually beneficial partnerships across the Chicago metropolitan region to extend the learning environment for underserved children and youth as well as for college students and faculty. Specifically, CCAP creates models of best practices in learning in and through the arts, designed to improve young people’s academic achievement, social/emotional learning, college readiness, and civic engagement.

About the Convergence Academies

In January 2013, the Center for Community Arts Partnerships at Columbia College Chicago launched the Convergence Academies, an initiative funded by the U.S. Department of Education Investing in Innovation Fund. The project partners closely with the Chicago Public Schools (CPS) district to create and implement a whole-school reform model within two high-need neighborhood schools. The project’s model integrates digital media into formal classroom curriculum, informal learning activities outside the classroom, and school-wide learning experiences.

As a model demonstration project, the Convergence Academies initiative incubates new teaching and learning strategies that can significantly increase the skills, knowledge and agency that students need to thrive in a 21st century networked society. With a focus on media and news literacy, information quality, and youth-centered media production, students and teachers in the Convergence Academies acquire fluency in using creative technologies and networks across disciplines to critically analyze, create and share media and information. A central goal of the Convergence Academies initiative is to help nourish a more civicly engaged, thoughtful, critical and socially active youth citizenry.

The Convergence Academies is putting the framework of connected learning into practice at an unprecedented level by:

- Bringing real world relevance to the culture, climate and curriculum of schools;
- Building teacher capacity to design deep student-centered learning through inquiry-based projects; and
- Designing learning pathways that bridge in and out of school experiences.
Background

The Convergence Academies initiative aims to create a whole-school reform model designed to raise student achievement through a curricular and instructional focus on digital media and technology. “Digital media” refers to technologies that allow users to communicate and create content in digital formats, including photography, film and video, interactive games, audio, animation, and social media. This focus will increase technology and media skills that both teachers and students need to succeed in the 21st century, as well as build students’ competencies and college/career readiness skills such as media literacy, critical thinking, problem solving and collaboration.

We define “media literacy” as the ability to be a critical consumer of media, a responsible digital citizen in social media, and a powerful producer of original media content. We describe this combination as “Convergence,” borrowing a concept from new media theorist Henry Jenkins described in his seminal book, Convergence Culture: Where Old and New Media Collide (2006) and his pioneering white paper “Confronting the Challenges of Participatory Culture: Media Education for the 21st Century” (2009).

Project Schools

The Convergence Academies initiative is working in two high-need neighborhood Chicago Public Schools from Fall 2013 through December 2015: Morrill Math and Science School, a K-8th grade elementary school in the Chicago Lawn community area on the southwest side; and Tilden Career Community Academy, a 9th-12th grade high school located in the New City community area on the south side.

<table>
<thead>
<tr>
<th>Age Group: ages 5-19</th>
<th>Ethnicity/Race: 52% African American, 44% Latino, 2% white, 1.2% Asian, 0.1% Native American, 0.6% other</th>
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<tbody>
<tr>
<td>Gender: 50% male, 50% female</td>
<td>Other Characteristics: 96.6% low-income, 19% in special education, 24% limited English proficient</td>
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Our Mission

At its core, the Convergence Academies initiative aims to:

- Increase student learning and engagement across all literacy systems;
- Build teacher capacity to design powerful learning experiences that are aligned to Common Core State Standards;
- Incubate innovative approaches in connected learning;
- Create college and career pathways along a K-13 digital media curriculum continuum.

The Convergence Academies initiative aims to raise student achievement by enhancing students’ and teachers’ 21st century skills, including proficiency with new technologies and social/digital media. In the Convergence Academies, students learn by participating in real life inquiry-based projects in and out of the classroom. By strengthening the capacity of teachers to design deeper learning experiences that integrate digital media and align to Common Core State Standards (CCSS), the Convergence Academies initiative is enabling teachers to better prepare the next generation of students to thrive in the 21st century knowledge society.

Sustainability and enduring change are achieved when teachers take ownership of how 21st century teaching and learning practices are applied in their classrooms and schools.
Our Model: Teacher as Designer

The Convergence Academies Professional Learning Model prepares teachers to become designers of powerful learning experiences. Teachers learn to think like a designer through the development of Convergence Units in collaboration with professional digital media artists, or Digital Media Mentors (DMMs), and Media Integration Specialists (MIS). Teachers will participate in professional learning sessions with a focus on the UbD (Understanding by Design) framework, effective instructional practices in literacy and mathematics development, and integration of digital media tools.

Program Components

- **Connected Learning** pathways are created for students using a catalog of digital badges as well as challenges posed by our own Digital Atelieristas and teachers through iRemix.

- **Real world and relevant project-based learning** in tandem with peer networks makes learning in school more relevant and connected to 21st century systems.

- **Digital Media Mentors** work hand in hand with teachers as mentors, coaches, and instructional supports to help design and implement media integrated units.

- **The Digital Atelier** in each school’s library will house autonomous spaces for media consumption and creation, including a fully outfitted MakerStation at the elementary school and a multimedia learning lab at the high school.

- **The iRemix Social Learning Network** will incentivize online digital portfolio production for students and build a professional community of practice among teachers.
Because of Convergence, I now am able to have technologies, artists and opportunities that both my students and I did not have before. It is an exciting time to learn, to teach, and to collaborate with others.

—Guadalupe Rivera, 3rd Grade Bilingual Teacher, Morrill Math & Science School

**Connected Learning**

Drawing on *Connected Learning* research that shows that meaningful and impactful learning occurs when it is “socially connected, interest-driven, and oriented towards educational opportunity” (Ito et al., 2012), the Convergence Academies initiative aims to increase student learning by cultivating a dynamic media ecology that bridges learning across home, the classroom, peer networks, and the world at large. The digital media instructional model of this project will engage students more deeply in their learning, increase their achievement in core content, improve their academic college readiness, build their ability to create and analyze media, and develop important 21st century competencies in communication, collaboration, and creation.

The Convergence Academies model integrates digital media into formal classroom curriculum, while connecting youth to activities outside the classroom through activation of authentic, real world networks and literacy systems. Students learn new tools to be able to participate in various communities in both face to face and virtual environments.
These opportunities to learn and interact in diverse literacy systems are made possible when teachers design Convergence Units that enable students to participate in opportunities to critically consume, connect, and create knowledge through digital media production. Teachers can empower students to learn the following skills and competencies through connected learning experiences that address the “3C’s”:

- **Consume:** Students are able to conduct research to locate text and visual resources, evaluate the quality of information, evaluate the reliability of information sources, and critically analyze text and visual media.
- **Connect:** Students are able to engage with diverse individuals, thoughtfully critique and discuss others’ work and ideas, and collaborate with others online and in-person.
- **Create:** Students learn specific pre-production, production and post-production skills in various media arts, including photography, film/video, audio, graphic design, web design, game design, and journalism. They should be able to write, annotate and edit content, both text and visual, in order to create pieces that synthesize, advocate, provoke, express, and report.

**Real World and Relevant Project Based Learning**

The Convergence Academies model draws on the Essential Supports framework developed by the Consortium on Chicago School Research at the University of Chicago. By analyzing CPS data over a 20-year period, Bryk et al. (2010) found that five “essential supports” were necessary to significantly improve schools over time: (1) leadership as the driver of change, (2) instructional guidance, (3) professional capacity, (4) student-centered learning climate, and (5) parent and community involvement. We have identified six core elements of digital media that provide a pedagogical and philosophical framework for Convergence which are infused across all five of the essential supports areas. These are:

*Collaboration*
*Authentic participation*
*Play*
*Choice of expression*
*Critical response*
*Iterative learning*

These “pillars” draw from evolving definitions of 21st century skills and new media literacies, promoted by thinkers such as James Gee and Henry Jenkins. The pillars not only represent best practices in digital media education, they also map closely to the skills articulated in the Common Core State Standards. These six pillars inform all aspects of the school and form the basis of strategies to address each essential support: the pillars not only provide *instructional guidance* by providing a common vision of learning throughout the school, they also support the development of a *student-centered learning climate*. 
The six pillars inform the structure and content of activities to increase teacher professional capacity, and represent a different way of thinking and learning that strong leadership will drive across the school.

Digital Media Specialists

Through the Convergence Academies, teachers will receive over 100 hours of professional development opportunities per year. Many of these learning experiences are centered on a new form of instructional and curricular design. By collaborating with a Digital Media Mentor (DMM) and a Media Integration Specialist (MIS), teachers are provided the kind of one-on-one coaching they need to develop and implement project-based, digital media-integrated units into daily instruction. In addition, teachers are afforded opportunities to participate in professional learning communities that focus on assessment of student work and data-driven reflection and iteration.

How it Works

The Media Integration Specialist (MIS) matches a Digital Media Mentor (DMM) with a teacher based on the DMM's expertise and the learning outcomes articulated in a teacher's proposed unit plan. The teacher and DMM co-design the unit plans, and the DMM coaches the teacher on the use of digital media.

Teachers and DMMs develop curricular unit plans and assessment, instructional tools using the Understanding by Design (UbD) framework (Wiggins and McTighe, 2005). Learning outcomes (e.g., Common Core State Standards), conceptual understandings and essential questions drive the development of authentic assessment systems that inform the design of learning opportunities for all students. Intended learning outcomes drive the integration of digital media tools and technology.

The Digital Atelier

The word “atelier” is derived from the Reggio Emilia model of early childhood education and the French word for “workshop” or “studio.” Originally developed in Italy after World War I, the Reggio Emilia model centers on the atelier, which is traditionally organized to allow children the space, time and resources to focus on a particular project or tool. Play, creativity, and the visual arts are foregrounded in the space. The child is positioned as the “protagonist” or leader of her own learning.
The adults are also learners or researchers, continuously observing and iterating the space based on the child’s needs. Adults in the space are referred to as “atelieristas” or guides who have strong backgrounds in integrating the arts into learning environments. Ateliers allow the child a space to thrive and engage in exploratory learning experiences. Teachers participate in the space to observe and document students interactions in the space. The teachers work closely with the atelierista to review and analyze what was learned from the observations and how these observations inform instruction within the classroom space. In the Reggio space, “teachers know how to listen to children, how to allow them to take initiative, and yet how to guide them in productive ways.” (Edwards, Gandini and Forman, 1994).

The Convergence Academies re-imagines the atelier as a digital media space that serves as a physical manifestation of the values of play, exploration, and autonomous learning for students within K-12 settings. Housed within each school environment, the Digital Atelier serves as an incubator for new ideas about how learning can occur in a school environment, connecting in school and out of school learning and projects. Tools in the space include complex creative software (e.g. Adobe Creative Suite), interactive games and media, online learning platforms and alternative assessment systems (e.g. digital badges).
Additionally, a MakerStation is incorporated into the Digital Atelier. A MakerStation is a “hands-on learning lab that serves to enhance core concepts from the classroom curriculum, but does so in a manner that allows students to personalize these concepts through the deliberate act of expressive creating” (Ciampaglia and Richardson, 2013). Learners engage in the process of creating programmable objects such as robots and moveable objects. Through a process of ideation, creation, and innovation, students integrate the concepts they have learned in the classroom with personal interests to produce new knowledge about math, science, and creative problem solving.

Through the Digital Atelier MakerStations, students will learn to apply concepts and information from school curriculum in real world, 21st century contexts. Students become makers and learn by doing (Ciampaglia and Richardson, 2013) A long term goal of the Digital Atelier is to catalyze a spreadable concept and process for designing in school spaces that can mentor students and teachers to think about learning in new ways.

![Digital Media Mentor Eden Unluata shows Morrill Elementary students how to work with Squishy Circuits](image)

Social Learning Platform

The Convergence Academies is integrating the iRemix platform, a customizable cloud-based social learning network for primary and secondary education, into its model. The iRemix social learning network provides the Convergence Academies students and teachers with a rich set of learning and social features, including an integrated badge infrastructure, a leaderboard, a forum for debates and artifact-based rubrics. The platform is fun, easy to use and safe. Students use iRemix to build a digital portfolio, receive feedback on their work by Digital Media Mentors and teachers, and access learning pathways. iRemix is based on research from the Digital Youth Network, a digital literacy program for Chicago youth that encompasses both in-school and out-of-school education settings and is developed by educators.
What Does a Convergence Unit Look Like?

- A Physics teacher at Tilden collaborates with a video artist to have students create sportscast videos explaining Newton’s laws of motion.

- An American Studies class produces documentaries about “The American Dream – Myth or Reality?”

- A special education Reading Workshop uses graphic design to create alternative book covers for short stories.

- A freshman Reading Workshop creates “This I Believe” podcasts.

- A first grade class explores family economics by conducting market research and creating a consumer guide for their parents that they can access on their smart phones.

- A second grade science and reading class creates an iBook about weather systems to share information with other student meteorologists while posing questions about the impact of climate change on their everyday lives.

- A fourth grade Social Studies class creates documentaries to tell little-known stories about the inception of Chicago.

- A seventh grade science class creates podcasts to make the concepts of genetics more accessible to non-scientists.
Project Outcomes

Convergence Academies is both a place-based designed learning environment and a relationship-based coaching model that activates and empowers teachers as designers of new pedagogical approaches using digital media tools in order to increase student achievement in the age of convergence. The goal is to build and document a replicable model and process that:

- Enacts a connected learning framework inside a high-need, under-resourced public school environment;
- Builds digitally-supported learning pathways between classroom curriculum, out-of-class time, and informal learning experiences that support college and career readiness;
- Provides professional learning programs for teachers so that they can enhance their capacity to design project-based digital media integrated learning experiences for their students;
- Guides scaffolded learning experiences along a scope and sequence from K-13 through a digital media curriculum continuum.
I know how to teach my students the skills of research, but to turn that into a real documentary is daunting. That is why I am so excited to be able to work with the Convergence Academies. With this support, I am designing really great projects that my students will remember for years and years.
— Elaine Cox, Social Studies Teacher at Tilden Career Community Academy

**Significance and Impact**

The Convergence Academies initiative represents an exceptional approach to making teaching and learning relevant in the 21st century. Because of the growing omnipresence of technology, the content, life skills, and teaching methodology imparted through the project have the potential to connect deeply with students and make their learning relevant. Educational policy is increasingly recognizing the urgency of addressing students’ skills in technology and media in order to prepare them for college and careers. Proficiency in technology has become a requirement to succeed in the 21st century workforce. In a rapidly changing technological environment where media is proliferating and the ability to create media is more accessible, educators are recognizing the need to incorporate media literacy into all students’ education. Not only do educators have an ethical responsibility to help young people gain social competencies for participation in new media, business leaders and educators agree that today’s knowledge-based economy requires skills in problem solving and analysis; strong communication and interpersonal skills; flexibility, creativity, and innovation; and teamwork and collaboration. These are all skills that are nurtured by learning in and through the arts, including digital media arts. Through the process of working on complex digital media projects individually and in groups, in and out of class, students will improve skills in communication, teamwork, planning, presentation, and project management.

The most important change at my school since we became a Convergence Academy is a focus on creativity. My students are receiving the resources and training to unleash their creativity and understand its role in their lives and futures.
— Rahul Gupta, English Teacher, Tilden Career Community Academy

Even two decades after the term “digital divide” was coined, low-income and minority populations still have less access to technology. The Convergence Academies initiative is working to eliminate the digital divide by serving predominantly low-income African American and Latino students, creating a pipeline of diverse young people who are skilled in technology and media. Our emphasis on digital learning makes learning relevant through its teaching methodology. Teachers are increasingly being encouraged to embed
technology and digital media into all aspects of their teaching and school presence. However, technology by itself is not a transformative presence in the school, and its potential is only realized when teachers and principals are willing and able to use it meaningfully in curriculum and instruction. Learning through digital media, especially through project-based learning, lends itself naturally to student-centered teaching practices and has the potential to transform teachers’ instructional practices in other areas.

Our focus on digital media as the basis for curriculum and instruction is an exceptional approach to whole school reform. There are only a few models of media-centered schools, and these are for the most part new schools or charter schools, not intended to turn around existing schools struggling with performance. Using digital media to revitalize an existing school, working with current leadership and teachers, is an exceptional approach. CPS has developed Technology Academies, which in four years have shown promise in increasing student achievement but these elementary schools embed various kinds of technology that are not centered around a theme and the level of student use is determined by teacher comfort level. The Convergence Academies model focuses specifically on digital media, provides expectations and support to teachers, and is meant to increase critical thinking in addition to technical skills.

By engaging teachers and digital media artists in whole school professional learning communities, the Convergence Academies aims to turn around low-performing schools: The professional development (PD) provided in this project is exceptional because it does not provide a top down form of PD but instead creates professional learning communities at each school, a structure that has been shown to be effective in enhancing teachers’ effectiveness, increasing teachers’ satisfaction and morale, contributing to greater likelihood of systemic change, and ultimately having an impact on student achievement. The project provides opportunities for artists and teachers to work side-by-side to support students’ learning, which includes collaborative planning, coaching, group reflection sessions, and observations by coaches and peers.

Evaluation and Research

The project is being evaluated using an interrupted time series design. A pre-post design will investigate school-level changes in students’ academic achievement, self-reported knowledge and skill levels in creating and responding to digital media content, and college and career readiness. A pre-post design will also examine school-level changes in teachers’ instructional practice. To track, measure and monitor progress towards outcomes, CCAP will collect and analyze the following data sets:

- State standardized test scores that measure changes in math and reading achievement;
- Graded rubrics and performance assessments, both formative and summative, for all students;
- Pre and post knowledge surveys for students that measure desired outcomes for gains in knowledge and skills in information fluency, media literacy, and digital media arts production;
- Pre and post knowledge surveys for teachers that measure confidence in integrating technology and digital media, knowledge of digital media and integration strategies, and level of implementation of integrated curriculum;
- Student exemplars, units and artifacts by teachers, Convergence staff and the Advisory and the Review Teams;
- Interviews and focus groups with students and teachers;
- Observations of classroom and the Digital Atelier;
- Student attendance and time spent in the Digital Atelier;
- Backend analytics from the social learning platform showing quantitative and qualitative data on student participation and engagement in both formal classroom directed learning and self-directed learning;
- Attendance in Professional Learning trainings, meetings, workshops, coaching sessions, etc.
Partnerships

The Convergence Academies initiative is a partnership between the Center for Community Arts Partnerships at Columbia College Chicago and Chicago Public Schools’ Office of Professional Learning. The initiative is supported in part by the U.S. Department of Education Investing in Innovation (i3) Fund; Chicago Public Schools; Adobe Foundation, JPMorgan Chase Foundation; the McCormick Foundation, the John D. and Catherine T. MacArthur Foundation; Pearson; and Pearson Foundation.

Additional partnerships include:

- **Archeworks** – Consultation on design of Digital Ateliers through strategic planning services of a multi-person team of highly skilled and experienced architects, engineers and designers.

- **Chicago Hive Network** – Assistance with building learning pathways for students through digital badging, students workshops in new media and professional development.

- **Digital Youth Network** – Licensing and customization of the iRemix platform for Convergence Academies teachers and students.

- **Lego Education Academy** – Professional development training in Lego’s education resources that are being used in the Digital Atelier MakerStations.

- **Plug-In Studio** – The Plug-In Studio is a collaborative research and pedagogical project developed by Kerry Richardson and Steven Ciampaglia. Kerry Richardson is a teaching artist with extensive experience in collaborative community arts; she is an Adjunct Assistant Professor in Film, Video, New Media, and Animation at the School of the Art Institute of Chicago. Dr. Steven Ciampaglia is an Assistant Professor of Art + Design Education at Northern Illinois University; his research areas are community arts, art + tech, and media arts education.

Convergence Academies has completely shifted my thinking about planning, instruction, and assessment. Digital media integration has substantially increased engagement because students have a more defined purpose and audience.

—Jamie Tyson, Special Education Teacher, Grades 4-5, Morrill
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References