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Emerging Technologies in Art Education

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EMERGING TECHNOLOGIES IN ART EDUCATION

by

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EMERGING TECHNOLOGIES IN ART EDUCATION

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Western Michigan University, 2014

The purpose of this study is to determine the emerging technologies in visual arts education and the impact they will make on the future of visual arts education in a K-12 setting. Research was done through a literature review. As a result, it was found that integrating technology into the visual arts is beneficial to both student and teacher on many levels.

The research will cover how these technologies affect best practices in teaching. Also how these technologies influence student learning. You will find the history of how technology has been implemented in art education, to give the reader and myself a deeper understanding of the developments in technology in visuals art education. A section touches on the developing trends in technology in education. The most relevant and practical applications for technology in a K-12 visual arts classroom are explained as well. Research for this thesis was completed using academic resources. This is an important topic to research because current trends in education are leaning toward integrating technology into every content area. It is important to focus on the positive benefits that technology can bring to the K-12 visual arts classroom.

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<div align="center">Molly A. Marshall</div>

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INTRODUCTION

Educational technology researcher, Rushton Hurley once stated, "When others will see what students do, they want it to be good. When I, as their teacher, am the only audience for their work; they want it to be good enough". Technology can be woven into all parts of our K-12 educational system in every subject, it is imperative to teach students to be global citizens for many reasons; through technology we are able to accomplish this. It is important to blend technology into the visual arts for many reasons. Global education is vital in a world of social networking and online connectivity. If we ignore these vital ways to connect with students, we are creating a learning environment that is not assessable and user friendly toward the learner. Many schools are adopting a one to one environment, and the visuals arts classroom can benefit from integrating technology into their classrooms. By opening doors through use of technology in our classrooms, we are creating connections for students to become engaged and take charge of their own learning. This literature review and compilation of findings help to solidify that technology should be a part of every classroom in a K-12 setting.

REVIEW OF LITERATURE

History of Technology in Art Education

Learning has been intertwined in our existence for a very long time. Technological tools that were used were paper, manuscripts, and chalkboard slates which then moved onto pencil and paper. Then in the 1920's audiovisual age, information age, computer age, and digital age. Merriam Webster defines technology as: "–*n* The use of science in industry, engineering, etc., to invent useful things or to solve problems. A machine, piece of equipment, method, etc., that is created by technology." In current K-12 education, a pencil is not always viewed as a major technological tool. Because we have advanced very far with technology, these tools do not seem relevant. Today, technology tools that are relevant are Google Chrome Books, iPads, digital cameras, and many other advanced devices.

It is important to understand the history of technology in education to understand the importance of incorporating technology in K-12 education. To illustrate the history of these technological advances Tina Costanza (2012) outlines the highlights:

1651 - John Dury invented the modern library.

1795 - Nicolas-Jacques Conte creates the basis of the modern pencil by mixing graphite with clay and pressing the material between two half-cylinders of wood.

1868 - Christopher Sholes invents the first typewriter with a QWERTY keyboard.

1950 - the first computer used for instruction, a flight simulator trains MIT

pilots.

1959 - the IBM 650 becomes the first commercially available digital computer. With a memory of 2kb, it costs $5000,000.

1967 - the first handheld calculator is invented by Texas Instruments.

1977 - Apple Computer begins selling the first personal computer the Apple II.

1977 - the first personal computers enter schools.

1981 - 18% of U.S. public schools have one or more computers for instruction.

1985 - Oregon Trail becomes the first educational game to be widely adopted by schools.

1991 - the availability of computers in schools is one for every eighteen students.

1994 - despite only 3% of schools having Internet access, President Clinton challenges the nation to connect every school to the web.

1996 one in twelve students in formal educational settings have computer access.

1997 - distance learning is offered by 78% of public four-year higher education institutions.

2000 - there is one computer for every five students in school.

2004 - 54% of K-12 schools have laptops available to students.

2005 - 94% of schools have a classroom with internet access.

2007 - nearly one in five college students takes at least one class online.

2008 - Poll Everywhere launches, allowing teachers to live poll students in the classroom via submissions from text, email and Twitter.

2009 - the University of Southern California's online Masters of Arts in Teaching program, the MAT@USC, become the first online degree program to include real time elements, like live sessions, breakout rooms and collaborative learning.

2011 - as a part of a pilot program NYC public schools ordered 2000 iPads for teachers and students.

Since then, there have been other advances. These advances have impacted teaching and learning in positive ways.

Defining Best Practices in Art Education

Multiple different people can define good or great teaching in multiple different ways. Defining "best practices" in art education helps us to understand universal traits or characteristics of excellence in teaching. Oxford Dictionary defines, Best practice as: "–*n* Commercial or professional procedures that are accepted or prescribed as being correct or most effective." In the field of education, understanding best practices helps to define instructional methods that have been proven as effective learning tools and have been proven by research. To define good teaching, Thomas Angelo (1993) identifies 14 principles of good teaching and their use in a classroom (see Table 1):

Principle	Use in Classroom
Students are actively engaged in learning	Students teach other students, collaborate, hands-on work, and are motivated by the teacher.

Teacher focuses attention by making it clear what is to be learned and the priorities of subject elements.	Teacher tells students initially what they are going to learn and why it is important for them to know the material.
Teacher sets high, but realistic goals	Some of these goals are formulated from test data and your assessment of student knowledge.
Teacher meaningfully connects new information with prior knowledge	"Yesterday we learned about primary and secondary colors. Today we are going to use what we've learned by _____."
Teacher helps students unlearn erroneous knowledge and bias	The teacher assesses the success of the lesson and then reteaches if necessary.
Teacher organizes subject content in meaningful ways that are personally and academically appropriate, and is aware of their own learning style (meta-cognition)	Sometimes the organization of subject matter changes dynamically as the teacher teaches. Each group of students is different.
Teacher gives timely and specific feedback to students.	The teacher roams the room and looks over the student's shoulder to make sure they understand and then gives immediate feedback. Examination results are reviewed and retaught if needed.
Teacher knows in advance the standards to be used in assessment and evaluation, and the nature of that assessment.	The teacher hands out the rubric for the lesson ahead of time so students know exactly what constitutes an "A."
Teacher invests adequate time and quality with a focused effort.	The teacher plans for a longer lesson, and then shortens it by priorities if students need more time.
Teacher finds real-world applications in many contexts so that students transfer what they are learning.	"If you become an art director, you will need to have thorough knowledge of the elements of design."
Teacher perceives and adopts high expectations of achievement.	Let students know your expectations and ask them what they expect from the course.
Teacher balances instruction so that all learners are challenged.	Because novice learners need more time, give more challenging material to high achievers while you spend more time with remediation.
Teacher clearly perceives the value in what is to be learned.	Explain to students why it is important to know the material. The value of the material should also motivate both students and teacher.
Teacher interacts frequently with learners and other teachers.	

Table 1: Thomas Angelo Identifies 14 Principles and Use in Classroom

By utilizing these in a classroom, teachers are able to improve on the art of teaching.

In Michigan, teachers are evaluated based on a system, which defines best practices in a general sense, it is not identified by specific content area. In the Byron Center Public School system, an online software called STAGES, is used to identify certain areas and to help in the evaluation process of teachers. This is one way that teachers are held accountable for utilizing best practices in their profession. Nickels Intermediate School Principal, T.Trout, states best practices in STAGES were developed using a variety of rubrics and models based on the work of Charlotte Danielson and Robert Marzano (personal communication, July 15, 2014). By having this system set up, it is a general guide for teachers to help them to see what the district considers best practices.

How Technology Affects Best Practices in Teaching

Once best practices have been defined it is simple to see that incorporating technology into the classroom can enhance teaching practices in many ways. However it can also hinder student's learning and teachers if it is not used properly. T.Trout states, I think technology can often be misused in the classroom. It should be used as a tool to enhance learning targets. This is best practice. Sometimes, the technology becomes the focus instead of the learning targets. The only exception would be if the learning target is a technology standard. (personal communication, July 15, 2014).

By incorporating technology into the K-12 classroom, teachers are able to enhance their teaching in many ways. Some of the ways are that they are able to connect with their students in different ways, save time on planning and curriculum design, accommodate for students in new ways, help teachers to collaborate with one another, and many more.

Reasons Why Technology is used in Education

Multiple reasons can be shown as to why it is important to incorporate technology into our K-12 educational system. Mr.Tapscott, author of many books on technology, has many views on this topic that have been validated by many other sources as well. Tapscott created a term, "Net Generation", which describes people who were born between January 1977 and December 1997. Tapscott describes specific traits that all Net Generation population embrace, "The eight norms are: 1) freedom; 2) customization; 3) scrutiny; 4) integrity; 5) collaboration; 6) entertainment; 7) speed; and 8) innovation" (Chapter 3). The qualities that Tapscott describes are extremely important for success in the art classroom.

For example, the practice of scrutinizing is extremely important in developing student's critical thinking skills. One way educators practice this is by performing Visual Thinking Strategies (VTS) sessions with their students. According to the official VTS website (2014), "Visual Thinking Strategies (VTS) is a method initiated by teacher-facilitated discussions of art images and documented to have a cascading positive effect on both teachers and students". During a typical VTS session, students are using different thinking skills such as: remembering, understanding, analyzing, and evaluating. Students also compare and contrast what they see and have discussions with peers about their thoughts. There are situations when students need to argue their side of the story and give supporting details to back up their thoughts. According to the website (2014):

VTS provides a way to jumpstart a process of learning to think deeply applicable in most subjects from poetry to math, science and social studies. Art is the

essential first discussion topic because it enables students to use existing visual

and cognitive skills to develop confidence and experience, learning to use what

they already know to figure out what they don't; they are then prepared to explore

other complex subject matter alone and with peers.

Students also need to scrutinize their own work through in class critiques and portfolio

reviews. A tool that is commonly used to help students do this is having students write

artist statements. Artist statements are written in many different formats. Often a student

will answer questions that are posed about their art or they describe the creation process

of their work.

Tapscott accounts that the Net-Generation population are also collaborators and

states that they place great importance on this skill. This is a common practice with

contemporary artists to collaborate on projects or work. By sharing this information in the

classroom, students are able to see examples of contemporary artists who collaborate

with other artists. Smith (2012) states, "Collaborative methods of practice are

increasingly the norm in contemporary art. Such works prioritize process over object

production and technical proficiency, as well as social engagement and community over

artistic autonomy. At the same time, the spheres of contemporary art and activism are

increasingly intertwined." There are many examples of successful artists who collaborate.

One example of this type of collaboration is though a website called the sketchbook

project (www.sketchbookproject.com). By visiting this site artist are able to find other

artists to work with to create art.

Net Generation students also thrive on freedom. Being able to create a classroom environment that gives students access to choice is a teaching method called "Choice Based Art" or "Teaching for Artistic Behavior (TAB)". The official TAB website (2014) states, "If you offer your students choice of materials while providing ample time and space for them to pursue their own ideas most of the time, then you are a choice-based art educator". A typical TAB classroom provides different materials and a plethora of choice in how the student chooses to create. According to the official TAB website (2014):

Choice-based art education regards students as artists and offers them real choices for responding to their own ideas and interests through the making of art. This concept supports multiple modes of learning and teaching for the diverse needs of students. The learning environment provides resources and opportunities to construct knowledge and meaning in the process of making art. Choice-Based Art Education utilizes multiple forms of assessment to support student and teacher growth.

Many teachers have taken these methods and applied them in their classroom. By creating these classroom, environments teachers are providing opportunities for students to become innovators and creators. This is another aspect of being a Net Generation learner that is considered important according to Tapscott.

In a world where information is easy to access from multiple sources, learners strive to know the validity of information they access. Net Generation students want to know that what they are being taught has integrity and is based on truth. Net Generation

students also expect to get their information fast, almost immediately. There is an expectation that they are able to research instantly. Technology can give them the ability to do this. Having access to technology gives students instant and boundless access to information. Teaching them ways to determine the value in the information is one of the challenges that teachers will face when navigating this.

Opposing Views & Challenges

Critics of incorporating technology into education have varying views on why it should be left out of our educational system. Many believe that it distracts from creating positive bonds between teacher and students, and in turn between students and their peers. Many believe that it is not necessary to be a productive member of society after a K-12 experience. Author Swiniarski (2006) states, "Just as personal interaction is key to human relationships, so, too, is individual attention the foundation of the teacher-student relationship. Therefore, the question begs: how far should teachers go when it comes to technology?" (p.1). The concerns that people have over incorporating technology into education are outweighed immensely by the reasons and benefits to include technology in education.

There are certain challenges with incorporating technology into the classroom that are relevant. In the NMC Horizon Report: 2013 K-12 Edition, it is stated that the significant challenges are:

1. Ongoing professional development needs to be valued and integrated into the culture of the schools. 2. Too often it is education's own practices that limit

broader uptake of new technology. 3. New models of education are bringing

unprecedented competition to traditional models of schooling. 4. K-12 must

address the increased blending of formal and informal learning. 5. The demand

for personalized learning is not adequately supported by current technology or

practices. 6. We are not using digital media for formative assessment the way we

could and should (p.9-10).

By addressing these concerns in certain ways, technology can be effectively integrated

into our K-12 educational systems.

Benefits of Technology in Education

There are many different ways that technology can benefit both student and

teacher in a K-12 setting. It is beneficial for students to have access to technology in their

education and also for teachers in their profession. Technology benefits students in the

following ways; it gives them the opportunity to solve complex problems, increases

collaboration and communication, helps to engage students in learning, gives them tools

to compete in global work places, allows for the ability to use analytical thinking, and

gives students the ability to create digitally. Teachers benefit from technology by using it

as a time saver for professional development, connecting with other colleagues in their

field, advocacy or communicating what is going on in their classroom, lesson planning,

grading, acquiring assessment data, and creating presentations for their classroom.

I have experienced the benefits first hand in my own career as an art educator.

One way to use technology to save time is by utilizing a Learning Management Systems

(LMS) to organize curriculum. LMS are a place where teachers can house information for themselves and students, there are many other functions like testing and polls in LMS. Educators no longer need to surf through files cabinets looking for handouts or lesson plans, they can instead be organized and categorized in a LMS. I have also used LMS to give pre and post testing in my classroom. By doing this, it removes the time consuming grading portion of testing, because the LMS does this automatically. LMS will also collect data from the tests for you and organize it in graphs and charts that are easy to read and study.

Connecting with colleagues using Professional Learning Networks (PLN) has helped me to grow as a professional on many levels as well. Having access to other teachers that are currently working in the field is beneficial in many ways. This gives you access to ask questions and share ideas with peers. For example, if you are stuck on examples of artists to teach about in a certain time period or a specific concept, you can simply pose the question in a private forum for art teachers on Facebook and minutes later will have multiple ideas to research, discover, and share with students.

Another benefit of incorporating technology into the K-12 classroom is that you are helping students reach high levels of thinking. According to Bloom's Taxonomy (see Figure 1), allowing students to create is one of the highest levels of thinking. By allowing access to technology in the classroom, students are able to gain access to creating in new and accessible ways. By using technology to enhance their experiences of creating, you are allowing them to think in new ways.
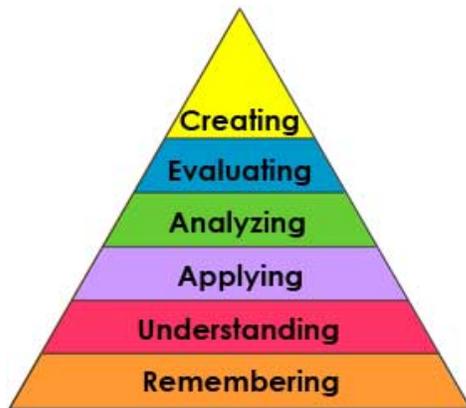
Figure 1. Updated Bloom's Taxonomy

METHODOLOGY

To obtain the information needed to validate the importance of incorporating technology into K-12 classrooms, the primary research method was obtaining information from Scholarly Books/Journals/Websites. Secondary sources, including scholarly articles, books, and websites, in addition to discussions with informed colleagues and peers.

CURRICULAR CONTENT

Current Technological Applications Appropriate for the K-12 Art Curriculum

There are multiple technology tools and applications that are appropriate for a K-12 visual arts classroom. In my findings, you will find an explanation of the current tool or application both for teacher and student use. I will also identify the benefits of the technology and how it applies to learning in general and specifically to the K-12 visual arts classroom. You will also find specific applications for use in a K-12 environment listed.

Portfolios

Digital portfolios are a collection of work of an individual. They usually house multiple images or writings together in one place in a professional and attractive way. Teachers benefit from having students build online portfolios by being able to grade work more efficiently, having work ready to show to prospective colleges, and are able to track growth in a effective way. By allowing others access to their portfolios through the internet, students communicate with a global audience, and are able to get feedback from peers worldwide. This can help students to direct their leaning in different ways. Students can learn to collaborate, which is a tool they will need to successfully work well with others. By utilizing online portfolios students are able to become reflective learns who are able to scrutinize their own work.

Available Portfolio Tools:

- Carbonmade.com

- Coroflot.com

- DeviantART.com

Blogging

Blogging was created in the late 1990s. According to Johnson (2011), "In 1997, Jorn Barger blended the words "Web" and "log" and created the term "weblog" to descried an online journal for one's thoughts, feelings, and ideas. In 1999, online journal author Peter Merholz shortened the term to "blog"" (p.42). Blogging has multiple uses in a K-12 classroom that benefit both teacher and student. Johnson (2011) states, "They can be excellent communication tools for parents, students, and colleagues. Students can

access them for research, or for private or public communication with teachers. Blogs encourage students to engage in meaningful writing targeted to a specific audience that is published in a public forum"(p.42). Teachers are able to use blogs to advocate for their programs, announce current events, track growth in students, and much more. Blogs are an excellent way to track what learning has been taking place in a classroom, as well for individual students.

In a visual arts classroom, a teacher can photograph current student work and communicate "I CAN" statements and current learning targets to parents and students (see Table 2). Veteran teacher, art education blogger and curriculum developer Heather Crockett explains (2013):

In a nutshell, I CAN statements are simple sentences designed by the teacher or the department. (Secondary folks often choose something a little different, such as "As an artist, I will…) Either way, these statements are based off the power standards or learning objectives from the curriculum, but they are *written in student-friendly language*. I CAN statements break down lofty objectives into learning targets students can read and understand. They cover specific learning for each lesson, and there can be more than one I CAN statement for each Power Standard. The neat thing about I CAN statements is that if they are used consistently and accurately, they can help students become more responsible for their learning and more reflective of their own work. I CAN statements also easily transition into assessments and allow for students and teachers to have a better discussion of their work.

Visual arts teachers can also post award winners and other events going on in their classroom to a global audience. Students in a visual arts classroom can use blogging to record leanings, photograph work and write artist statements.

Power Standard:	I CAN statements:
The student will draw based on observation.	• I CAN draw a contour line. • I CAN identify positive and negative space. • I CAN draw what I see.

Table 2: I Can Statements Example Table

Available Blogging Tools:

- Weebly.com

- Glogster.edu

- Blogger.com

- WordPress.org

Connected Learning

Connected learning is learning that has no walls; it is learning that is done out of the classroom digitally. Being able to make a phone call, and not only hear the person you are connecting with, but also being able to see them, has helped to make connections happen far and wide. There are certain calling applications that only have voice capabilities. Skype and Face Time are free, popular, and easily accessible applications that also include the video function. One use of connected learning is to set up a pen pal experience for students. In the district that I work in, one of the elementary art teachers did just this. Erin Albanese (2013) explains:

The 100 Byron Center third grade students are getting to know 30 students in Ghana through letters and video recordings shared between the schools. Ambroso and her longtime friend, third grade student Fiona McGhee writes to her African pen pal Courtney Young, who teaches art at the African School, started the correspondence as a way to make overseas connections.

By making these connections, students are not only able to learn about other countries and cultures, but actually make real world connections.

Another scenario where learning can occur though connected learning, comes from another visual arts teacher in my district, Janine Campbell. Janine was able to make a connection with an artist that she had introduced to her students through Twitter. She was able to get the artist to connect with her classroom using Skype. Campbell (2012) explained:

Today my students were lucky enough to spend some time with Noli Novak, an artist they studied for their last project via Skype. She creates landscapes and portraits using both Stippling (tiny dots) and Collage (cut paper) methods to get a range of value and color. In addition to hearing about what inspires her work, how she came to be an artist, and how she makes the photo-realistic work she creates, some students were able to share their pieces inspired by her work. It was a great exchange, and I am very appreciative that she was generous with her time. This was a definite highlight for me this school year and I am sure that those students can say the same!

Due to cost and distance, this type of learning would not be able to take place without these tools.

Available Connected Learning Tools:

- Skype.com

- Face Time on apple devices

- Google Voice

- Facebook Messenger

Brainstorming/Mind Mapping

Brainstorming has been around for a very long time and has been used as a tool to help students structure their thoughts. Author Johnson (2011) states:

Mind maps are powerful tools that help students organize their thoughts. Traditional mind maps, also called graphic organizers, have been used in the classroom for many years in the form of Venn diagrams, bubble maps, flow maps, and maps for organizing the writing process. The web-based mind-mapping tools have taken the traditional pencil and paper version and made some significant improvements. Not only so the shapes and test looks much neater (for a messy artist such as myself), but a key feature encourages the core skill of collaboration. Online mind maps allow multiple students to work on maps together so that multiple users can brainstorm and "think about thinking" together. Because the software keeps a copy of previously saved versions, invited users can view and edit the diagrams without altering prior work. This makes for a safe, easy, and

collaborative environment (p.64).

By providing online types of brainstorming you are opening up potential for collaboration. Teachers can also use these brainstorming and mind mapping tools as methods for assessing students.

Available Brainstorming and Mind Mapping Tools:

- Weebly.com

- Glogster.edu

- Blogger.com

- WordPress.org

Learning Management Systems

Learning Management Systems (LMS) have multiple uses in and out of the classroom. LMS can be used to store course materials and curriculum. Educators can store electronic worksheets, website links for reference for students and teacher, quizzes, tests, photo albums, external tools, discussions, and much more. Educators can also manage class lists, grades, attendance, and analytics in many different forms of LMS. LMS can be used to connect with students remotely in and out of a traditional classroom. By giving students this access, teachers are opening many more opportunities for students to learn in different ways. By creating an online atmosphere and virtual course, instructors are able to reach students in many different ways. There are multiple benefits. For example, if a student is absent, they are able to check the LMS to see what they have missed, if a student wants to relearn or recheck the content they have constant access to

the course materials.

Available Learning Management Systems:

- Edmodo.com

- Schoology.com

- Moodle.net

- Blackboard

Video

While use of video has been around for many years, there are many new and emerging ways to utilize video in the classrooms both for teacher and student. Many videos can be used in a visual arts classroom to demonstrate a specific technique or teach students about the history of art or another art concept. It is also appropriate to have students create video in the classroom to teach each other certain concepts. Students are able to create digital stories using software to create and teach certain concepts.

Available Video Tools:

- iMovie, Teachertube.com

- YouTube.com

- Vimeo.com

- Animoto.com

Gaming

While sometimes viewed as a distraction from academic pursuits, gaming can be very beneficial in the classroom. Because of the increased popularity in gaming among

the K-12 students, it is a way to engage students in their learning and help them to see learning as enjoyable. According to a recent Pew Research Center survey, "ninety-three percent of teens ages 12-17 go online, and seventy-eight percent of them play online games" (Zhao, Lei, & Ni, in Jones & Fox, 2009, p.8). There are also many benefits to utilizing gaming in a K-12 classroom environment, that are spelled out by, (Zhao et al., 2009):

> First off, online gaming encourages interactions, which provide an avenue for self-expression and constructive activity that enable the players to demonstrate their own creativity and individuality. Normally lackluster students would become energetic and excited while playing games with others, going out of their way to assist others, all while trying to improve their experience with other group members.
>
> Second, cooperation in teams or groups is an indispensable component for many games. For example, both World of Warcraft and Everquest allow for guild and group creation, giving gamers a chance to unite in their own little clan and work together to achieve goals. Many places in World of Warcraft absolutely require groups such as these simply because the levels of the monsters are so high. Cooperation is a must, and online games are doing everything they can to support it. Third, students engage in active learning in game playing. In his book Don't bother me Mom—I'm learning, Prensky elaborated five levels of learning children engage in when playing games: to learn how to do something, to learn what to do to fulfill a task or achieve a goal, to learn why to take a particular

action with an understanding of relationships between things, to learn where things happen with an understanding of context relativity, and to learn whether to do something with moral judgments and principles (Prensky, 2005, p64-70). These five levels of learning and the strategies gained in game playing are essential to learning in classrooms and in real life (p.8).

Available Gaming Tools:

- Gamestarmechanic.com

- BrainPop.com

- Artsology.com/games.php

Digital Photography and Photo Editing

Using digital cameras, students are able to capture images of the world around them. By using a digital camera, students are able to take multiple images and delete images they are not satisfied with. This method is much more efficient than older traditional methods which require photographers to utilize potentially harmful chemicals and time consuming developing processes. Utilizing digital cameras and photo editing also allows for students to have the ability for exploration. Students can also choose to manipulate the digital image to create their art. Photo editing is used to manipulate images based on the artist vision of what they are trying to create. Digital cameras and photo editing are much more accessible to students than traditional photography. Traditional photography requires having access to the expensive and space consuming equipment of a traditional film darkroom. Among these reasons, one of the top reasons

using digital cameras and photo editing is beneficial in the classroom, is that this is what is currently being used in professional industries.

Teachers can use digital photography to aid in making demonstrations or handouts to teach to their visual learners. They can also use them to take photos of the learning that is taking place in their classroom and then use the images on their blog or in a newsletter that is being sent home to parents and community members.

Available Photo Editing Tools:

- Sumopaint.com

- Tagxedo.com

- Gimp.com

- Picnik.com

- BeFunky.com

Art History

History has been traditionally taught though slides, textbooks, and lectures. By incorporating technology into teaching art history, educators are able to give a new life to the content. This is an excellent way to help a new generation of students find a connection to the artist and present.

Many educators have found success using websites to share images with students giving them visual examples of historical paintings, drawings, and sculptures. Artstor is an excellent example of an online digital image library for the arts and sciences. The Metropolitan Museum of Art also has an online collection. The collection houses close to four hundred thousand high quality digital images of art past and present for use in the

classroom. Google Art Project gives students access virtually to many different collections of art from all over the world. Using Google Art Project allows students the ability to virtually tour close to one hundred and thirty different museums and close to four hundred collections of art. Simply using their computer and a web browser, students can "visit" many different parts of the world through these virtual museums and collections without having to physically travel.

Available Art History Tools:

- The Art Zone: nga.gov/kids/zone/zone.htm

- Museum of Modern Art in NYC: moma.org/interactives/destination/#

- Google Art Project

- Artstor.org/index.shtml

- Metmuseum.org/collection/the-collection-online

Animation

Utilizing animation in a K-12 classroom is an excellent way for students to use their creative problem solving skills. Author Laura Bates (2013) explained the following as benefits to build certain skills in students by using animation in the classroom, "Communication Skills, Building Bridges, Self-expression, Technical Skills, and Presentation Skills." By utilizing these tools in a K-12 classroom, you are able to teach certain skills that students need to be successful in their current and future learning. By utilizing animation in the classroom, students are also able to create stories.

High school art teacher Ian Sands uses animation in his classroom to help students to learn about the process of collaboration. In a blog posting about using animation,

Sands (2013) states, "To kick off a new unit in animation, I thought it would be fun to have the Computer Art class try animating other artist's work. I sent out a request for artwork to my Professional Learning Network via Twitter (you can follow me @iansands)". Sands was able to obtain drawings from several different elementary schools from across the country and then his students were able to turn the drawings into animations.

Available Animation Tools:

- Doink.com

- Fluxtime.com

- Goanimate.com

- KerProof.com

- Sketchstar.com

- FlipBook: benettonplay.com/toys/flipbookdeluxe/guest.php

- Zimmer Twins http://zimmertwinsatschool.com/movie/starters

- Anim8or: http://www.anim8or.com/index.html

- GoAnimate for Schools

- Myths and Legends: http://creator.myths.e2bn.org/

Screencasting

By utilizing screencasting, teachers are able to record what they are doing on a computer screen for later use. Educators are able to record what is seen on their computer screen with audio narration. In the end, the instructor will have a movie that is instructional and accessible for students to view. Using screencasting is an excellent way

to create tutorials on certain technology tools. You are able to place the links for the finalized screen casts in Learning Management Systems for students to access at any point in their learning. Screencasts are also excellent for the K-12 teacher who needs to be out for the day, they are able to share the link with their students and still virtually be in the room teaching their students.

Available Screencasting Tools:

- Screencastomatic.com

- Techsmith.com

- Quicktime

Social Media

Being able to connect with students outside of the regular classroom hours, can often be important. By utilizing social media sites in classroom instruction, educators are able to build communication through a format that is often very familiar to K-12 students. (Silus, Kailanto, & Tervakari 2011) state:

Utilization of social media services for educational purposes has also become increasingly popular. Social media enhanced learning systems allow students to participate in educational online communities by creating, manipulation and sharing content online, communication and exchanging opinions, connecting with each other, establishing opinions, connecting with each other, establishing social networks and creating communities for different needs. In community groups, students can collaboratively e.g. chat, write news, manage events, write blogs

posts and edit wiki pages and share resources (files, images, videos etc.) (p.21).

Twitter is one example of a social media tool. By using Twitter, teachers are able to share thoughts and ideas globally. Johnson states, "Twitter is what is known as micro-blogging: pairing down thoughts, ideas, actions, etc., into messages that are restricted to 140 characters or less"(p.86). Twitter is an excellent way to create a Professional Learning Network (PLN), by following other teachers and professionals that are interested in the same subjects and content that you are. By connecting socially in this way, educators are able to broaden your resources and views. Using Twitter to connect with students is an excellent tool as well. There are many ways instructors can connect with students using Twitter. For example, teachers can have students follow your Twitter handle, and then post web links for them to view, or create pop quiz questions for them to answer. Students are able to connect with other professional artists by following them and sending them Tweets on Twitter. This is a way for students to see contemporary artists at work. Using social photo sharing sites is also an excellent way to advocate for your program by sharing current events and activities. Overall, introducing social media into a classroom can be beneficial in communication between teacher and student.

Available Social Media Tools:

- Twitter.com

- Instragram.com

- Facebook.com

CONCLUSION

In conclusion, it has been determined that it is important to have a variety of technology for use in a K-12 classroom. Allowing teachers to have access to technology benefits them in many ways. By allowing teachers access to technology, they are able to teach using best practices. Allowing students access to technology benefits them in many ways as well. By giving students access to technology, educators are allowing them to function well in the Net Generation. Each of the technology tools outlined have benefits for both teacher and student and have been proven as beneficial in a K-12 art classroom.

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APPENDIX

Heather Crockett   9:20 PM 7.24.2014

to me

Molly,
Thank you for contacting me. I am flattered that you want to include my table and give
you my permission to do so. I would love to learn more about your thesis or read it when
you finish. It sounds interesting.

Thanks again and good luck with your work.

Sincerely,

Heather Crockett

Educational Director
The Art of Education

heathercrockett@theartofed.com
816.588.6016

Overbaugh, Richard   10:33 AM 7.25.2014
to me

Hi Molly,
Yes, you can use the excerpt--I'm tickled you find it useful, we originally just did that for
one of our classes but it has been popular since then. Thanks for asking!
Rick Overbaugh

From: Molly Marshall [mollymarsh@gmail.com]
Sent: Thursday, July 24, 2014 1:14 PM
To: Overbaugh, Richard
Subject: Request for Permission to Use Image in Masters Thesis