How can the use of iPad photography applications affect student perception of their creativity and engagement in their art?

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Upper Canada College, 2013



Abstract

In art education, iPads have been heralded as a tool that might change the landscape of art and design. The applications available on the iPad allow students the opportunity to create, modify and extend their artistic ideas beyond the traditional mediums. Yet, how do these applications impact student perception of their own creativity and engagement? Working with a group of 42 grade four students, I explored how students felt when working with two different iPad photography applications (Photoshop Express and Hipstomatic). From surveys and small-group interviews, the students expressed great degrees of satisfaction and engagement with their work. They believed using the iPad applications allowed them to collaborate with their peers, approach their work from different angles, take risks with the artwork, and add detail. For most students, using the iPads provided them with a tool that helped foster and extend their feelings of creativity. This small study provides some insight into the impact of iPad applications as tools for creation and the creative experience.

Introduction

On the Apple in Education website, a bold headline stares out above an image of an iPad, "The device that changed everything, is now changing the classroom." This powerful sentiment is being heard and responded to- Apple sold over 8 million iPads in 2012 to schools and other educational institutions worldwide. There are over 20,0000 educational applications available through the Apple Ap Store, and more being added on a regular basis. There is a clear drive to incorporate tablet-based technologies into our teaching practice. The visible enthusiasm and interest in using the iPads is clear from scanning students who are working with these digital tools. Yet, there is limited scholarly research to describe exactly how the iPad is changing the classroom, and more importantly, how we, as educators, can use these tools to enrich our students' learning.

In September 2013, our primary school is moving to a 1 to 1 program. Students from SK to grade 3 will have access to their own iPad, and grades 4 through 7 will have their own laptop. It is a very exciting initiative, but like with any new change, there are feelings of trepidation. How will these new digital tools impact our teaching and our students' learning?

I am the Primary Art teacher for grades SK to 5. In my teaching practice, I use an inquiry-based approach to develop skills within the art classroom. Up until this school year, the Primary art program has limited its use of digital technologies. Partly it was due to logistical issues- limited resources and undependable wireless network made teaching art with the iPads challenging. But really, the absence of the digital world in the art classroom was more of a teaching philosophy- the classroom teachers have fully integrated digital technologies into the classroom and I believed that the art room could be a "digital-free zone". I believed that the digital technologies would limit my students' creativity, and not enhance it.

In the past year, as part of my preparation for this research project, I explored the ways different art teachers around the world incorporate digital technologies into their art programs. While I have seen some teachers who prescribe iPads as an antidote for the early finishers, I have also been exposed to incredible teaching ideas where the students' guided exploration of digital technologies has provided them with an avenue for profound levels of originality, flexibility and experimentation. I realized that the iPads would not necessarily detract from the inquiry-based art program, but rather they could enhance student engagement and possibly student confidence.

There are numerous iPad applications that foster artistic exploration. Some applications allow for a great degree of flexibility in manipulating the application to create an original piece. Applications like Photoshop Express allow the user to manually adjust the appearance of any photo. Other applications use more of a "do it for you" approach, where the user has a limited degree of choice in creating their artistic work. An application like Hipstomatic applies a camera filter that automatically adjusts the settings itself.

As I began to imagine ways to use the iPads in the classroom, I wanted to explore: How do these two different kinds of applications might affect the students' self-perception of their creativity and engagement in making their art?

Literature Review

In its report *Tough Choices or Tough Times*, the National Center for Education and the Economy pointed out that if we, as educators, want to create successful students of the 21st century, we must foster creativity in our classrooms (2006).

The definition of what it means to have creative potential is no longer equated solely to an artistic potential, rather it is considered the capacity to create original and useful interpretations (Runco, 2008). As educators adopt this broader definition of creativity, there is a need to develop a pedagogy of creativity that will provide learning experiences and spaces which allow for the incubation, generation and reflection of original ideas (Loveless, 2007).

As educators work to broaden their understanding of creativity, there is a push to look at how to develop and assess creative thinking skills. Candace Hackett Shively (2010) examined Guilford's model of Divergent Thinking (1950) to demonstrate how the concept of creativity can be broken down into assessable skills. Guilford's four skills that interact to encourage creative thinking are fluency (ability to come up with several ideas), flexibility (ability to approach the task from different angles), originality (ability to come up with very usual and unique ideas) and elaboration (ability to add detail and embellish ideas). These components of creativity are often fostered in instances where student collaboration and inquiry is promoted (Fasko, 2000).

The rapid influx of digital technologies into education has provided powerful tools for developing the creativity of learners (Dale, 2008). There have been many explorations into the role of digital technologies in stimulating and capturing creative activity (Loveless, 2007). Digital technologies not only provide a medium for communicating, researching and collaborating, they can also act as an integral part of creative production (Dale, 2008).

In 2010, Apple introduced a device that would be described as a "paradigm breaker" in the world of computing (Levy, 2010). The iPad, originally coined as a tool for media consumption, quickly became a tool for content creation. While there is little peer-reviewed research on the use of iPads in fostering creativity, an online search for iPad creative applications reveals that millions are using the iPads as a creative tool. International artists, such as David Hockney and Jorge Columbo, have gained global esteem for their iPad artworks. Artists are shifting from their traditional tools in favour of digital handheld devices (iphones, iPads, iPods).

The iPad has become rapidly prevalent in the classroom. Between April and June of 2012, Apple sold 1 million iPads to educational institutions (Ogg, 2012). As iPads enter the classroom, teachers of all disciplines are investigating how to integrate these technologies into their curriculum. Art educators have expressed great interest in the unique opportunities afforded by digital technologies as they view ICT as providing tools that extend visual arts "beyond clay, crayons and paint" (Brown, 2002- as cited in Phelps and Maddison, 2008). While there is limited scholarship around the useage of iPads in visual art education, online educational communities have extensive discussions around the use of iPads in the art classrooms (ArtEducators 2.0, Ning). One teacher and blogger described the iPad as "the most innovative and dynamic tool in art education" (Fuglestad, 2011).

Digital tools, such as the iPad, provide a medium for exploring, recording and saving ideas, manipulating line and colour and modifying and incorporating images (Phelps and Maddison, 2008). As well, these technologies allow students who may not possess the skill with the traditional media an opportunity to focus more on the message and less on the execution of the art work (Wood, 2004). Mistakes can be easily corrected, resulting in increased experimentation and lessen student anxiety (Wood, 2004). Given these qualifiers, digital technologies such as the iPad should encourage creative growth.

Yet, among both educators and artists alike, there is debate that some digital technologies can actually distract from and limit the process normally associated with creative thought (Beaven, 2012; Phelps and Maddison, 2008). While there are a wide variety of arts-based applications available for educators (Fuglestad, 2011), not all applications allow students to be active participants in making choices to create their artwork. With these types of applications, is the creative process remaining in its' initial stages, with the user having no desire to elaborate further on the ideas? (Beaven, 2012; Ziegler, 2012).

As iPads become more integrated into education, and arts education specifically, it is

worthwhile to investigate how, and if, the different types of iPad applications foster a sense of creativity in the students.

Research Context

Upper Canada College is an independent school in Toronto, Ontario. There are 1130 students at our school. The school is physically divided into two buildings- the Upper School (grades 8 through 12) and the Preparatory School (Kindergarten through grade 7). All the students follow an eight-day school cycle.

My research focused on the students in Primary, specifically the grade four students. There are two classes of 22 students in grade four. As the Primary Art teacher, I see these students twice for during an eight-day cycle, for a total of two hours per cycle.

I selected the grade four students because they spend the first term working on a study about Canada- *Oh Canada!* I felt that we could create a strong link in art to their *Oh Canada!* unit by exploring the work of the Group of Seven and creating landscape photos with similar visual effects. With the tablet, there are many photography applications to explore. As well, with the exception of two new students, all the grade four boys had used iPads regularly in grade three.

All the grade four students were invited to participate in the study, and 42 boys returned the signed waiver forms. From the 42 participants, six boys were randomly selected to take part in a pre/post interview.

The Action

Adopting digital technologies into our practice has been very much a part of our professional development. With the one-to-one iPad program beginning in 2013-2014, there has been an effort to investigate how boys use the technologies and how these technologies impact their learning. This shift provides an opportune time to consider the ways in which digital technologies impact the boys' feelings of creativity and engagement in their work.

Data Collection

I wanted to my students' voices to be paramount in my research and I chose to use a qualitative approach to my research.

I employed a mixed-method approach to the qualitative research as I wanted to capture as many different student voices as I could, and within the limited confines of my teaching time. All students were able to take part in one online survey, a small group of students participated in the focus group and all students responded to a written reflection after the activity was complete. It had originally been my hope to take field notes, but given the high energy level in my class, it proved to be a challenge beyond the microphone capacity of my iPad.

I attempted to gather my data in a way that would allow me to analyze the presence of Guilford's four skills of creativity (fluency, flexibility, originality and elaboration) as well as Fasko's belief that creativity is fostered where collaboration and inquiry is present (2000).

Online surveys

I created three different online surveys: one for Photoshop Express, one for Hipstomatic and one for students doing a non-digital art activity. The intent on having the three surveys was to see if there was any notable contrast between the student perception of creativity and engagement in the different activities.

With the exception of two questions, all the questions in the survey were close-ended questions. The students had to complete all questions in the survey in order for it to be submitted.

Pre/Post Focus Group

I wanted to allow for a more open-ended dialogue around creativity and the iPads. For this conversation, I randomly selected six boys to participate in an interview prior to our research project, and a post-research interview. I chose to use a focus group because one of my primary goals in this research project was to capture student perception. The online surveys helped me get a better sense of trends throughout the two classes, but the focus group allowed for richer conversation around the use of iPads in art class.

Originally, I had hoped to do a more open-ended focus group discussion, but given the age (9 years old) of my respondents, their homeroom teachers advised me to give them questions and/or sentence prompts to help elicit their answers.

I provided all the boys with a copy of the questions at the interview. All boys were invited to answer the questions they wanted to respond to. I videotaped and transcribed their responses. There was certainly some overlap in their responses, I wonder if I had interviewed each boy separately, there would have been more diversity. Or in contrast, the boys might have needed the collaborative interview to be able to build on each others'

ideas.

Discussion of results

Both the idea of using the iPads and exploring photography were new additions to the grade four art curriculum. None of the boys had used the iPads to take photos as part of a classroom activity. Through their cheers and claps when the research project was announced, the enthusiasm was clear. Their response was not surprising given the research pointing at student engagement with digital technologies (Jahnke, 2012; Culen and Gasparini, 2013; Taylor and Carpenter, 2007)

Pre-Interview findings

In the small group interview of six boys, all the boys showed a high degree of comfort using the iPad. As well, all six boys felt confident about their creative abilities- I described creativity as being a risk-taker, focusing on detail and having original ideas (these were criteria we had come up with as a class at the start of the school year).

As hinted at by the initial enthusiasm of the class response, all six boys were interested in using the iPad in art. Most boys felt the iPad would allow them to be more original. Two boys described the iPad as putting "a new twist on art", and three boys mentioned "fun" as a factor for wanting to use the iPad in art class. All six boys believed the iPad would allow help them take more risks with their artwork: "I feel more comfortable taking risks on the iPad because you can always erase or delete it... you don't have to stick with one thing." All the boys expressed comfort in the idea that they could "undo" their choices when working on the iPad.

In the pre-interview, all boys spoke to their belief that the iPad would give them more flexibility in creating their artwork. Having flexibility is one of Guilford's criteria (1950) for creative thought. Candace Hackett Shively described creative flexibility as being able to look at a task from many angles (2010). One boy compared the iPad to a pencil- "I think the iPad is good for risks because if you take a risk with a pencil crayon, you can't erase it but with an iPad you can undo it". They were excited about the choices available to them in the iPad applications- "You can make your pencil thinner or thicker, and there are lots of different colours", "you can find colours that would be hard to make by yourself". One boy also mentioned that the iPad might help him come up with his artwork faster.

In the pre-interview, no boy expressed concern or disinterest in working with the iPads. They were excited about the opportunity to explore and experiment with their artwork.

Based on informal class conversation, the online survey findings, class reflections and observations, the sentiments of these six boys seemed to be widely held by the other participants.

On-line survey findings

Out of 42 participants, 28 boys participated in the online surveys. Difficulties with network access, accessibility of the surveys and time constraints made it challenging to have all the boys complete the online surveys. There were two different surveys- one for Photoshop Express and one for Hipstomatic- 14 boys completed the Photoshop Express survey and 14 boys completed the Hipstomatic survey.

The majority of the boys felt comfortable using the two photography applications. Their high level of comfort may have been a reflection of the brief class lessons and activities I had done to show the different features of the applications. While I use an inquiry-based model in the art room, I was wary to have the boys explore the applications on their own. Research has indicated that simply allowing the boys to randomly explore the programs would not necessarily heighten their engagement and creative process (Plowman and Stephen, 2005). For that reason, we spent two class lessons prior to the research project exploring the different applications together.

Prior to beginning the research project, I believed that Hipstomatic, with the "shake, point and shoot" freedom, may help the boys come up with their ideas faster. But when asked how easy it was to come up with their idea, there was not a discernible difference between the two applications- most of the boys felt that their ability to come up with an original idea was no different than usual. While there was no difference in the number of images produced by boys using Hipstomatic versus those using Photoshop Express, the boys felt more comfortable taking a risk with Hipstomatic. With the random filters, the boys were able to choose the subject of the photography but had little input into its final appearance. This limited number of choices may have contributed to their feelings of comfort around trying something different or taking a risk. When asked about their preference in using filters or manipulating their own image, there was absolutely no difference- half of the boys preferred using filters, while the other half of the boys wanted to edit their own image.

As part of the online survey, I did ask the boys about their feelings of collaboration. Collaboration in student learning is one factor in enhancing the creative process (Fasko, 2000). Although all students surveyed indicated that they had collaborated, more students felt that like sharing their ideas when working with Photoshop Express than when working with Hipstomatic . The boys surveyed on the iPads felt much higher levels of collaboration

than those boys working without iPads.

As a class, we discussed how one could add detail to a photograph. We looked at the concept of composition, as well as photo editing techniques (such as camera angle, cropping, targeted colouring, changing exposure etc.) that would help add detail to an image. The ability to add detail is one of Hackett Shively's criteria for evaluating the creative process (2010). Almost half of the boys surveyed felt that they could add more detail than normal using the iPads.

As Wood (2004) mentioned in her research, the ability to correct and undo "mistakes" helped lessen the student anxiety around creating work- many boys expressed that they had choice about what they wanted to do with their image and that they were more comfortable taking risks with the iPad than without it.

With engagement being an essential part of the creative process (Amabile, 1999), I asked the boys in the online survey how interested they felt in their work. The majority of all boys surveyed expressed a high level of engagement in their work.

At the end of the activities, all the boys surveyed said that they would not do anything different if they were to repeat the activity. All boys expressed a high degree of satisfaction with their photographs and with the exception of one boy out of the entire study group, all the boys were interested in using the iPads in art again.

Observations

The boys were very excited to work with the iPads. Because of the number of iPads, boys who were using Hipstomatic had to work in partners. Without my direction, the boys seemed to gravitate into groups when working with Photoshop Express. They were able to sit anywhere in the art room, but most of the boys would congregate on the carpet where they could talk and share ideas with their peers.



Unlike other art classes, the boys working with the iPads seemed more willing to seek out advice from peers about how to achieve certain techniques. When offering advice or exploring different tools, the most commonly heard expression among these boys was, "You can just undo it". The flexibility offered by the iPad applications to "undo" an unwanted change seemed to inspire more sharing and hands-on learning than with our traditional art projects.

Post-interview findings

The six boys who initially had interviewed at the start of the process, met again to talk about their experience using the iPads.

They continued to maintain their belief that using the iPad made them feel more creative- "I think iPads make you feel more creative because there are no limits"; "There is no line to cross of how much colour you want or how far you can keep going"; "If you screw up, you can add different colours and there are lots of options to make you have new ideas".

Like the participants in the online surveys, they felt more comfortable taking risks on the iPads. The appeal of being able undo their work was repeated by all six interviewees. Only one boy preferred to take risks without the iPad because he felt that using paper posed more of a challenge. It is interesting that most boys surveyed equated the ease of use with a heightened sense of creativity and comfort.

Unlike the online survey results, all six boys preferred being able to edit their photographs

themselves than using filters- "I liked editing it myself because on the filter you can't exactly choose, you just need to keep shaking it (the camera) to get what you want", "I liked editing it myself because there was a lot more choice with what you want to do and there is more control". As well, all boys felt more engaged in the process of creating the art when they used Photoshop Express- "I like Photoshop Express more because it has more options than Hipstomatic".

The boys were mixed in their opinions if the iPad could help students be more creative. One boy spoke about "the boundaries are more than on paper, and sometimes, all the playing around gets stuff sort of spoiled". Another boy felt that ability to have choice would improve a student's creativity. Their relative inexperience with the iPad may have also impacted their perception of it as a tool to enhance creativity as one boy said, "Sometimes you can't find exactly what you want and that was frustrating, but when you can find what you need it helps a lot".

Perhaps the most interesting moment of the research came for me when the interview group was asked the following question- *If you found out a photographer had used hipstomatic to create his picture, would you consider him an artist?* All the boys answered an emphatic "no". I found their response in contrast to their experience as it was evident from the online surveys and their own interview responses that most boys felt that the two iPad applications helped them take risks, be more engaged and add more details. The boys in the interview agreed that the iPad was the "artist", because they were just making use of the application's filters. For these boys, they still valued the process of being involved in each step of creating the artwork. As one boy put it, using random filters felt like "cheating, like you didn't come up with the idea yourself". Their sentiments echo a wider debate in the art community as more artists turn to digital technologies. As an art teacher, this caused me to consider what kinds of art we share and discuss in class. Perhaps more exposure to contemporary artists would broaden their belief of what constitutes art and who can be an artist.

Like the boys who participated in the online survey, all the students were interested in continuing to use the iPads in art.

Conclusion

When I return to Candace Hackett Shively's model for evaluating creativity (2010), she cites the presence of flexibility, fluency, elaboration and originality. From the boys' interview and online responses, the iPad when used as a tool to take photographs provided many opportunities to develop their creativity.

Again and again, the students appreciated the ability to redo, undo, try again, delete, erase and copy when creating their artwork. Digital technologies provide a far more flexible creation space than a traditional art project.

I was a little surprised at the number of images the students worked with. I thought that with the ease of working on the iPad, the students would be more prolific. The degree in fluency of ideas was not markedly different from a more traditional art project. During my observations, I did notice that for some boys, they became so focussed on undoing their work, that they had some difficulty finishing during the class period. With more experience with the applications, the boys would likely be able to overcome this hurdle as they became more familiar with the tools and filters.

Visually, the pieces created in Photoshop Express appeared to have more detail. Yet, as mentioned, the boys believed that they were able to add all the detail they desired through both photography applications. The iPad applications, with the multitude of tools and filters, allowed the boys many opportunities to elaborate on their work. Every single student who explored the iPad photography applications both finished their work and employed at least two to three different filters or techniques.

Determining the boys' sense of originality in their work was difficult. Since many of the boys were taking photographs of similar subjects, there was potential for the work to look very similar. From a visual standpoint, the work created with Photoshop Express tended to look very different (even with similar subjects) than what was created with Hipstomatic. The ability to have control over the tools did enhance the boys' feelings of originality in their work.



Fasko (2000) argued that creativity happens when students are engaged and part of an inquiry process. The iPad applications used for this project were ideal tools in fostering a creative environment. The wonder and engagement in creating their work was oobvious to anyone who came in the classroom. As the research project was underway, many other students in different grade levels came to ask when it was "their turn". Both applications allowed for exploration- in Hipstomatic, the exploration was more of a random "oh wow!" when an interesting filter was used, and in Photoshop Express, the exploration was more of a guided inquiry as the boys taught each other how to use the different tools.

Originally, I had begun this research project to investigate how different applications could impact students' engagement and creativity. In the process of conducting the research, I realized that for many students the act of "creating" is a huge contributor to their perception of creativity and engagement (Jahnke, 2012). Both Hipstomatic and Photoshop Express allowed the students to create an image. Arguably, with Hipstomatic, the boys had less control over the appearance of their image, yet, this did not lessen their feelings of creativity.

As iPads and other tablets continue to be introduced into classrooms, it is critical that educators evaluate how these tools are being used. There are a great number of applications that allow for drills and skill reinforcement. While these applications may hold a place in teaching and learning, hopefully, they will not overshadow those iPad

applications that allow for creating.

While I used to argue for a "digital-free" zone in the art room so that students to explore and create with tangible materials, watching the students work with the iPad applications convinced me otherwise. Content-creation applications, such as Hipstomatic and Photoshop Express, provide students with tools to enhance their creative vision. These applications help students sidestep some of the challenges posed by more traditional tools to release their creativity. The iPad photography applications allowed the students to create images that would have formally required a university-level understanding of darkroom manipulation. To these artists, the iPad is just another tool to empower their creative energy.

Reflection Statement

As I worked on the research project throughout this year, I continued to search for scholarly articles that investigated the efficacy of iPads in our classrooms. While there are several blogs, websites, and magazine articles devoted to discussions around the ways to integrate iPads into the classroom, I found very little hard research to support this rapid wave of these digital tools into the educational world. The student engagement in using the iPads was undeniable, but I would be interested to do a similar project next year when students are using iPads on a more regular basis in their classrooms. Would they still feel as enthusiastic about the tool?

The research project did reveal some of the hurdles that need to be addressed before we can fully integrate these digital tools into the classroom. Typical digital technology complaints- internet access and students forgetting to save work were not surprising. The biggest hurdle I can forsee is around ways to share student work. I used the file sharing program, Dropbox, to allow students to send me their photographs. Dropbox worked, but it was cumbersome and could be difficult when working with multiple classes and many different art projects. I explored many different options how students could share their digital photographs, but I could not find one that was easy and accessible to the whole school community. In the end, I printed off all their photos. It felt a little ridiculous to be printing off hard copies when the entire process had been completed digitally. Sharing student work with school community is essential- as a tool for assessment, for reflection and for goal setting. The use of digital technologies in our classrooms is going to demand innovative, affordable and practical solutions to sharing digital works.

The final area for reflection came as I began to question colleagues about how they used iPads in their classrooms. The majority of teachers used iPads to develop skills, and

occasionally, as tools to keep students occupied. Very few teachers employed iPads as a tool for content creation. After completing my research project, I have been convinced on how iPads can change the way I teach- but that is when these tools are used for creation, not gaming and rote learning. I believe that teachers need to commit to exploring applications that allow for content creation, and trying to use these within their programs. Opportunities for professional development and building professional learning communities around exploring how iPads support creativity will benefit all teachers.

Resources:

Beaven, Kate (2012). "Instagram is debasing real photography". Retrieved 20 September, 2012 from:

http://www.guardian.co.uk/technology/2012/jul/19/instagram-debasing-real-photography

Bonnington, Christina (2013). "Can the iPad Rescue a Struggling American Education System?" *Wired Magazine*. Retrieved 08 April, 2013 from: http://www.wired.com/gadgetlab/2013/03/tablets-revolutionizing-education/

Dale, Crispin. (2008). iPods and Creativity in Learning and Teaching: An Instructional Perspective. *International Journal of Teaching and Learning in Higher Education*. 20 (1) 1-9. Retrieved 05 September 2012 from: http://www.isetl.org/ijtlhe/pdf/IJTLHE20(1).pdf

Fasko, Daniel (2000). Education and Creativity. *Creativity Research Journal* 13 (4) 317-327. Retrieved 19 October 2012 from: http://deved.org/library/sites/default/files/library/education_and_creativity.pdf

Fuglestead, Tricia. (2011) "iPads in Art Education". Retrieved 30 August, 2012 from: http://ipadsinart.weebly.com/

Gasparini, Andrea and Alma Culen (2013). "The iPad in a Classroom: A Cool Personal Item or Simply an Educational Tool?" Retrieved 12 April 2013 from: http://www.thinkmind.org/index.php?view=article&articleid=achi_2013_8_40_20302

Levy, Stephen (2010). "How the Tablet will change the world". *Wired Magazine*. Retrieved 10 September 2012 from: http://www.wired.com/magazine/2010/03/ff_tablet_levy/

Loveless, Avril. (2007). "Report 4 Update: Creativity, technology and learning- a review of recent literature". *Futurelab*. Retrieved 10 September 2012 from: http://archive.futurelab.org.uk/resources/documents/lit_reviews/Creativity_Review_update.

Ogg, Erica (2012). "How Apple is replacing Macs with iPads at School". Retrieved 18 September 2012 from:

http://gigaom.com/apple/how-apple-is-replacing-macs-with-ipads-at-school/

Phelps, Renata and Carrie Maddison (2008). "ICT in the secondary visual arts classroom: A study of teachers' values, attitudes and beliefs". *Australiasian Journal of Education Technology* 24(1), 1-14

Plowman, Lydia and Christopher Stephen (2005). "Children, Play and Computers in pre-school education". *British Journal of Educational Technology* 36(2), 145-157. Retrieved from: https://dspace.stir.ac.uk/bitstream/1893/458/1/Plowman%20BJET.pdf

Runco, Mark. (2008) "Creativity and Education". Retrieved 21 June 2012 from: http://www.coe.uga.edu/torrance/files/2010/08/2008 New Horizons Education.pdf

Shively, Candace Hackett (2010). "Dimensions of Creativity: A Model to Analyze Student Projects." Retrieved 19 October 2012 from: http://www.teachersfirst.com/istecre8/

Taylor, Pamela and B. Stephen Carpenter (2007). "Mediating Art Education: Digital Kids, Art, and Technology". *Visual Arts Research*. Vol. 33, No. 2(65), Child Art After Modernism, pp. 84-95.:

Wood, Joyce. (2004). "Open minds and a sense of adventure: How teachers of art and design approach technology". *The International Journal of Art and Design Education*, 23(2), 179-191

Ziegler, Chris and Dieter Bohn. "Instagram is the best, Instagram is the worst". Retrieved 22 September, 2012 from:

http://www.theverge.com/2012/4/9/2928975/instagram-filters-ping-counterping

Appendices

Focus Group Interview Questions

FOCUS GROUP QUESTIONS

Pre:

- 1) How comfortable do you feel using the iPad? (scale of 1 to 5)
- 2) Have you created artwork before using the iPad? (if yes, what applications do you/have you used)
- 3) Would you like to use the iPad in art? Why or why not?
- 4) Do you think you feel more or less comfortable taking risks on the iPad? Why?
- 5) Based on the following criteria, (note Guilford's four skills on class board), would you describe yourself as creative? (how creative would describe yourself: scale of 1 to 5)
- 6) We talked as a class that creativity is a skill you could work on, do you think the iPad could help you be more creative? Why or why not?
- 7) When you are working in art, would you rather be given the ideas to come to your result OR would you rather experiment to discover your own results?

Post:

- 1. Based on the following criteria (note Guilford's four skills on class board), would you describe yourself as creative? (1 to 5)
- 2. Did using the iPad make you feel more creative? (yes/no) Explain.
- 3. Did you prefer to use a filter or edit the photograph yourself? Why? Why not?
- 4. Which application made you feel more engaged with your art? Why?
- 5. Would you prefer to use applications that helped you changed and modified your ideas (like hipstomatic)? Or applications where you choose how you would change and elaborate on your ideas (like Photoshop Express)?
- 6. Would you like to use the iPad more in art? Why or why not?
- 7. If you could use play around with one application- Hipstomatic or Photoshop Express, which would you choose? Why?
- 8. Do you think you feel more comfortable taking risks on the iPad? Why or why not?
- 9. If you found out that a photographer used hipstomatic to create his picture, would you think he was still an artist?
- 10. We talked as a class that creativity is a skill you could work on, do you think the iPad could help other kids be more creative? Why or why not?

Surveys

Hipstomatic Survey

Please read the questions and the responses carefully before you answer. If you aren't sure, ask Ms. O'Brien.

* Required

How easy was it for you to come up with your ideas today?

- 1- Not easy at all
- 2- Sort of easy
- 3- No different than usual
- 4-Easier than usual

How comfortable did you feel using Hipstomatic application?

- 1- Not comfortable
- 2- Sort of comfortable
- 3- No different than usual
- 4-Very comfortable

Did you feel you had choice about what you could do with your image?

- Yes
- No

Were you able to create the image you wanted to?

- Yes
- No

How many images did you take before you found the one you were happy with?

- I only took one image
- 2 to 5
- 6 to 10
- More than 10

How much detail were you able to add to your work today?

- 1- Very little detail
- 2- Some detail
- 3- No different than normal
- 4- I was able to add lots of detail

How engaged did you feel in your artwork today? Engaged: how interested you felt in working on your art

• 1- Not interested

2- Some interest 3- No different than normal • 4- I felt more engaged than normal Did the iPad application, Hipstomatic, make you feel more engaged with your work? Engaged: how interested you felt in working on your art Yes Nο How did the application make you feel MORE or LESS engaged in your work? Engaged: how interested you felt in working on your art Did the iPad application, Hipstomatic, impact your interest in your artwork? Yes No Did you share your ideas with the people in your group today? Yes No Did the iPad application, Hipstomatic, make you want to share your ideas? Yes No

How easy was it for you to create an image you were satisfied with?

- 1- I am still not satisfied with my image.
- 2- I had some difficulty creating the image I wanted.
- 3- It was not difficult to create the image I wanted.
- 4- I found it very easy to create the image I wanted.

How comfortable did you feel taking a risk today in art? Taking a risk- Trying something different or

exploring a new idea

- 1- I did not feel comfortable trying something different
- 2- I felt a little uncomfortable trying something different
- 3- I felt comfortable trying something different
- 4- I felt very comfortable trying something different

Did the iPad application, Hipstomatic, help you take a risk today with your artwork? Taking a risk-

Trying something different or exploring a new idea

- Yes
- No
- No difference

How different do you think your work is from other people?

- 1- I do not think it looks different
- 2- I think it looks sort of different, with some similar ideas
- 3- I think it looks different

Do you feel the iPad application, Hipstomatic, helped you create more original artwork?

- No, I think Hipstomatic did not help
- No, I think Hipstomatic made it look similar to other peoples' work.
- Yes, I think Hipstomatic made it look more original

Do you feel the iPad application, Hipstomatic, helped you create more original artwork?

- No, I think Hipstomatic did not help
- No, I think Hipstomatic made it look similar to other peoples' work.
- Yes, I think Hipstomatic made it look more original

Did you prefer manipulating your own image (with Photoshop express) or having a filter (with Hipstomatic)?

- I liked how Hipstomatic used random filters
- I preferred editing my own image with Photoshop Express

If you were going to do this activity again, would you do anything different?

Would you like to use the iPads in art again? Explain why or why not. *

Photoshop Express

Please read the questions and responses carefully. If you are not sure, please ask Ms. O

How easy was it for you to come up with your idea today?

- 1- Not easy at all
- 2- Sort of easy
- 3- No different than usual
- 4- Easier than usual

How comfortable did you feel using Photoshop Express?

- 1- Not comfortable
- 2- Sort of comfortable
- 3- No different than usual
- 4- Very comfortable

Did you feel you had choice about what you could do with the landscape image?

- Yes
- No

Were you able to create the image you wanted to?

- Yes
- No

How many images did you play with today before you got the image you wanted?

- I only worked with one image
- 2 to 4
- 5 to 7

8 or more

How much detail were you able to add to your work today?

- 1- Very little detail
- 2- Some detail
- 3- No different than normal
- 4- I was able to add lots of detail

How engaged did you feel in your artwork today?

- 1- Not interested
- 2- Some interest
- 3- No different than normal
- 4- I felt more engaged than normal

Did the iPad application, Photoshop Express, impact your engagement? Engagement: How interested you felt in working on your artwork

- Yes
- No

Did you share ideas with the people in your group today?

- Yes
- No

Did the iPad application, Photoshop Express, make you want to share your ideas?

- Yes
- No

How easy was it for you to create an image you were satisfied with?

- 1- I am still not satisfied with my image.
- 2- I had some difficulty creating the image I wanted.
- 3- It was not difficult to create the image I wanted

• 4 - I found it very easy to create the image I wanted.

Did the iPad application, Photoshop Express, impact your interest in your artwork?

- Yes
- No

How comfortable did you feel taking a risk today in art? Taking a risk- Trying something different or exploring a new idea.

- 1- I did not feel comfortable trying something different.
- 2- I felt a little uncomfortable trying something different.
- 3- I felt comfortably trying something different.
- 4- I felt very comfortable trying something different.

Did the iPad application, Photoshop Express, help you take a risk? Taking a risk- Trying something different or exploring a new idea.

- Yes
- No

How different do you think do you think your work is from other people?

- 1- I do not think it looks different.
- 2- I think it looks sort of different, with some similar ideas
- 3- I think it looks different

Do you feel the tools helped you create more original artwork?

- No, I think the tools did not help
- No, I think the tools made it look similar to other peoples work
- Yes I think the tools helped me

If you were going to do this activity again, would you do anything different?

Would you like to use the iPads in art again? Explain why or why not.

Torn Paper Landscape (non-digital)

* Required

How easy was it fo	you to come u	p with your idea? *
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- 1- Not easy at all
- 2- Sort of easy
- 3- No different than usual
- 4- Easier than usual

How comfortable did you feel using the tools (paper, scissors, glue)? *

- 1- Not comfortable
- 2- Sort of comfortable
- 3- No different than usual
- 4- Very comfortable

How engaged did you feel in your artwork today? *Engaged- how interested you felt in working on your art

- 1- Not interested
- 2- Some interest
- 3- No different than usual
- 4- I felt more engaged than normal

Did the tools (papers/scissors/glue) you were using impact your engagement? *

- Yes
- No

Did you share ideas with the people in your group today? *

- Yes
- No

Did the tools (paper/scissors/glue) make you want to share your ideas more with your group? *

- Yes
- No

How easy was it for you to create an image you were satisfied with? *

- 1- I am still not satisfied with my image
- 2- I had some difficulty creating the image I wanted
- 3- It was not difficult to create the image I wanted
- 4- I found it very easy to create the image I wanted

Did the tools (paper/scissors/glue) impact your interest in your artwork today? *

- Yes
- No

How comfortable did you feel taking a risk in art today? *Taking a risk- Trying something different or exploring a new idea.

- 1- I did not feel comfortable trying something different
- 2- I felt a little uncomfortable trying something different.
- 3- I felt comfortable trying something different.
- 4- I felt very comfortable trying something different.

Did the tools (paper/scissors/glue) help you take a risk? *Taking a risk- Trying something different or exploring a new idea.

- Yes
- No

How different do you think your artwork is from other people? *

- 1- I do not think it looks different
- 2- I think it looks sort of different, with some similar ideas
- 3- I think it looks different

Do you feel the tools helped you create more original artwork? *

- No, I think the tools did not help
- No, I think the tools made it look similar to other peoples work
- Yes, I think the tools helped me.

Were you able to create the image you wanted to today? *

- Yes
- No

How much detail were you able to add to your work today? *

- 1- Very little detail
- 2- Some detail
- 3- No different than normal
- 4- I was able to add lots of detail

If you were going to do this activity again, would you do anything different? *

Student description of the Project

Group of 44: UCC Landscapes

OUTSIDE: You will choose one of the Norval landscape shots to import into **Photoshop Express**. Using the different tools, you will edit the photograph to represent the natural part of UCC. Think of the mood you want the photo to evoke.





INSIDE: Using the iPad, with a partner, you will go around the inside of the Prep. You will use **Hipstomatic** to take an image of something inside that represents the man-made part of UCC. No people, please. You and your partner will both take your OWN photos- but make sure to collaborate and share ideas about what you want to take.

Criteria:

- -Your photographs should be original, and not identical to anyone else's.
- -Try many different ideas, don't stop at one! Save all your ideas in iPhoto- at the end of the class, choose which one you want to keep- and delete the others.
- -If you are working with Hipstomatic, take note of how many photos you took before you found the image you wanted.