

Integrating Technology, Art, and Writing: Creating Comic Books as an Interdisciplinary Learning Experience

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Abstract

Although commonly considered something that is for “after school” and best left out of the K-12 curriculum, the creation of comic books incorporate several skills from multiple academic curricula. This paper outlines two summer programs, one offered to ages nine through 15 year olds and another offered to 15 through 18 year olds. The programs teach students how to create their own digital comic book and emphasize proper writing skills, storyline development, fine arts skills, and the use of scanning, graphic design software, and page-layout design.

Overview

Although originating in the very late 1800s, comic books hit their stride as a media in the 1920s and 1930s. Thus, reading comic books has long been something that school-aged kids spend their free time doing, but the actual creation of comics for these same children hasn't been possible until the availability of multimedia software and hardware to the public and to schools. Often thought of as a pastime, comic book development incorporates several skills from multiple academic curricula. Creative writing, storyline development, various fine arts skills, graphic design, document layout, and computer literacy are all involved with comic book creation. Students are also motivated to learn when it comes to comic books!

Papert (1993) postulates that when individuals design or create things that are meaningful to them (or those around them), some of the most powerful learning occurs. In the last decade or so, computers have been developed which have the capacity for high-level creation. Music, graphics, video, simulations, web pages, and games are all creations that can be produced using our current computer technology.

Technology has also integrated well with both the fine arts and English language arts. Kaagen (1998), Garner (1990), and Livermore and McPherson (1998) all investigate the use of technology in art in K-12 schools, both in the U.S.A. and abroad. Lawn (1998) explores art and technology in higher education and finds the need for the use of mission statements when combining the two fields. Sistek-Chandler (2003), Groeber (2003), and McDonnell (2003) all discuss various aspects of writing and technology, including strategies for writing, literacy software, and rubrics.

Few have investigated or explored technology, fine arts, and English language arts. In her work, Scali (1991) presents classroom projects that integrate technology, fine art, aesthetics, writing, and science. Marshall (1998) describes how technology is interwoven through the various fine arts curricula at Minnesota State Arts High School. Despite these examples, few have combined and written about the interdisciplinary combination of technology, writing, and art. The current program was an attempt to further this important learning experience.

Designed for nine to eighteen year old male and female students, the program targets individuals with an interest in comic books and a penchant for writing stories and/or drawing. It occurs during the summer, when students have a break from school, and encompasses approximately 40 hours of instruction and lab time. Two versions of the program are taught within the context of two separate educational initiatives. One version of the program is offered during “Upward Bound” to 15 and 18 year old students over the course of five weeks. The other version of the program is taught during “Summer Safari” to nine through 15 year olds over one intensive week.

Upward Bound is sponsored by the United States Department of Education, within the Office of Postsecondary Education. It began in 1964, with monies from the Economic Opportunities Act. Currently, it is, along with Talent Search and Student Support Services, one of the federally sponsored educational opportunity initiatives comprising the “TRIO” Programs. Upward Bound provides support, in the form of workshops, classes, and programs, to individuals preparing for college. To be eligible to participate in Upward Bound, a student needs to be from a low-income family, a family in which no parent holds a bachelors degree, and/or a first-generation military veteran. Literature, foreign language, composition, laboratory science, and math instruction must be provided in any Upward Bound program. Many other types of courses or experiences are also available (United States Department of Education, 2004).

Summer Safari is a program sponsored by Plattsburgh State University College Auxiliary Services in

Plattsburgh, New York. It is a not-for-profit initiative and is entirely self-supporting (supplies and instructor fees are supported by registration fees). Instructors are chosen for their expertise in specialty areas and a wide variety of educational enrichment courses and workshops are offered through the program. As its name indicates, Summer Safari is only offered during limited weeks during July and August when students are released from school for an extended break in upstate New York. It is available for five to 15 year olds with no economic or educational prerequisites, but specific courses may be geared for a much more narrow age range.

The objectives of the current program are included below.

Upon completion of the program, students are able to:

- develop a story line for a comic book character or group of characters;
- write dialog for their comic characters, using proper grammar, sentence structure, and cohesive ideas;
- sketch rough drafts, or “thumbnails” of their comic characters either by hand;
- illustrate their stories through conventional methods of pencil and paper;
- scan pictures and save them, in the proper format, onto a disk and the hard drive of a computer;
- color comic characters and scenes using a graphic design software such as Adobe Photoshop;
- construct a portfolio of their work on their comic book, documenting the various stages of development;
- and
- reflect on the process of creating their project either through a written essay or verbal presentation.

The highlight of this multidisciplinary workshop is the seamless, integration of writing, fine arts, and computer technology to facilitate learning of curricula in each discipline. Students completed projects virtually without even being aware of all the content and skills they were attaining. They were too busy having fun to even consider that they were learning. As well, with a final-day presentation and display in the local comic book shop, stakeholders in the community are able to instantly see the results and value of a program of this nature.

Method

Participants

As per the delivery of the workshops, the participants were grouped into two separate programs. The first program, Summer Safari, consisted of 11 males and one female, aged nine-14, while the demographics of the second program, Upward Bound, was comprised of three males and seven females, aged 15-18 years old. Although both groups utilize the same tools and followed very similar instructions, Upward Bound is geared towards introducing the participants to career possibilities, whereas Summer Safari is used to introduce and encourage the wonderful world of comic books as an art form.

Participants are expected to have some prior knowledge before participating in these programs. They must know what a comic book is, show that they have some artistic abilities, and have acceptable writing skills.

Materials

A group orientation, incorporating DVD interviews on how professionals create comic books, was given on the first day. This was then followed by a distribution of supplies. These supplies included specialized paper that measures 11”x17” with a work area marked off by “non-repro” blue lines; regular pencils, rulers and erasers; regular 9”x11” drawing paper; tracing paper and lined paper for brainstorming, script writing and [for Upward Bound only] journal entries. Participants were also given Crow Quill Pen Holders and various size Nibs to use with India ink for outlining and shading and Opaque White to make any necessary corrections.

Paper portfolios were also distributed to the students so they could carry their artwork and supplies back and forth to the workshops. Carrying the portfolio also gave each student a sense of “eliteness”. Portfolios visibly communicate to the general public that the individual carrying a portfolio as a “tool-of-the-trade” is in fact a creative and artistic individual. This acts as a confidence builder for many of the participants.

Heavy reading assignments were required for the Upward Bound participants to be able to gain a better understanding of the concepts behind the techniques. Examples from anatomy books and excerpts from “how-to” books published by DC Comics, owned by Turner/Time Warner Corporation where distributed. For the Summer Safari, reading material was lighter, yet very informative. Publications, such as “Wizard: The Comics Magazine,” and “Sketch” contain short articles on drawing techniques, inking pages layouts, digital coloring, anatomy, as well as what is needed to put together a well-organized portfolio to showcase to comic book companies.

Since both programs involved the use of technology, participants were also given a list of comic book websites (www.marvel.com, www.dccomics.com etc) as well as a list of online resources (www.bluelinepro.com

www.wizarduniverse.com, etc.). Several of the resources provided have tutorials for many of the techniques incorporated in this workshop.

Procedures

Each unit of the program covered a sequential topic that is necessary for creating comic books. The modules were covered in a linear fashion and students were not allowed to skip a unit and progress to the next without finishing all previous units. The units are outlined below:

Unit 1: students flesh out their storylines and sketch initial drawings of their characters. They use the tracing paper to transfer their best images to the specialized paper.

Unit 2: students outline their drawings with India Ink using specialized nibs and pens.

Unit 3: students scan their comic book pages and save them onto a floppy disk/zip disk/CD or a computer hard drive.

Unit 4: students digitally color, detail, and retouch their drawings using a graphics program such as Adobe Photoshop.

Unit 5: students finish digitizing their comics and begin compiling their portfolios (both digital and hard copy) for presentation the next day. The newly created comic books are presented to the class as well as any parents/guardians/guest who wish to view the creations. Each student takes home both a digital and a hard copy version of their comic book. For those who give permission, their comic books are also displayed in the local comic book shop for the community to view and appreciate.

Due to the one-week, Monday to Friday from 9am-3pm, schedule for the Summer Safari program, each unit of this workshop took from a day to a day and a half. Conversely, Upward Bound is a program that runs for five weeks. Their scheduling consisted of one hour on Mondays and Tuesdays and two hours on Wednesdays thru Fridays. As a result, the day-to-day schedule of the Summer Safari program was then applied to a by-the-week schedule for Upward Bound.

In both programs, participants learned what goes on behind the scenes of creating a comic book. This involves brainstorming ideas; writing stories; developing character descriptions and page layouts; the art of “inking” a page; and utilizing technology to scan the “inked” page and color the page via graphic design software.

Criterion Measures

A 16-item Teacher/Course Evaluation Survey assessed both sets of participant’s satisfaction with various aspects such as materials, content, instructor, etc. of the workshop in which they participated. The survey was one traditionally used to assess courses in the Upward Bound program and no modifications were made to it. Permission to use the identical survey in the Summer Safari workshop, for purposes of comparison, was obtained from the Summer Safari Director. The survey consisted entirely of selected-response items, with five response choices. Sample items from the survey are below:

Please rate the following items:

Item	Excellent	Good	Fair	Poor	Bad
3. The instructor makes the subject interesting.					
15. The materials were relevant.					

Data Analysis

Mean scores for the Teacher/Course Evaluation Survey were tabulated on a five- to one-point scale (Excellent = 5 points, Good = 4 points Fair = 3 points, Poor = 2 points, and Bad = 1 point). Means were tabulated for both groups, Summer Safari and Upward Bound, individually and collectively.

Results and Implications

Results of the Teacher/Course Evaluation Survey are discussed below by mean scores for Upward Bound, Summer Safari, and overall mean scores per item. There were 10 respondents for Upward Bound, 14 for Summer Safari, and 24 responses overall.

As shown in Table 1 below, overall both Upward Bound and Summer Safari students rated the instructor highly. Upward Bound participants scored item one “the instructor has thorough knowledge of the subject,” item nine “the instructor shows respect for students,” and item 10 “the instructor provides an atmosphere in which students feel free to ask questions,” with a 5.00. Summer Safari participants rated both item one “the instructor has thorough knowledge of the subject,” and item 13 “the instructor has a sense of humor,” with a 4.58. These scores

would indicate that, in part, participants enjoyed the courses due to the individual that taught them. As one would expect, having knowledge of the subject matter (in this case comic books), was found to be important. However, an instructor possessing a sense of humor was also found to be highly valuable by both age and grade groups comprised by Summer Safari and Upward Bound. This finding is supported by well-established instruction and lesson design models (Sullivan & Higgins, 1983). Some learning theories also discuss the use of humor as a motivational technique when teaching. Clearly, some of the success of the comic book workshops described here has to do with the instructor's use of humor with the target age groups.

Both Upward Bound and Summer Safari participants also scored item 15, "the course materials were relevant," highly with scores of 4.50 and 5.00 respectively. This indicates that although these courses were given in the summer, participants found that the assigned supplementary readings were of value. Asking participants from ages 9-18 to read materials in preparation for a course may seem like homework and is often met with resistance, especially in the summer. If participants feel that the reading materials are important for a course in which they show interest, the results here reveal that they will find them of value and likely resist completing this task less.

Interestingly, and perhaps most importantly for these participant groups is that Upward Bound students rated item 16 "the course information will help me in the coming year," with a 3.0 while Summer Safari students rate the same item higher with a 3.75. This finding is particularly intriguing when considering the age level of Upward Bound is 15-18 years old and the age level of Summer Safari is nine to 14 years old. Upward participants are clearly much closer to entering and preparing for college than are Summer Safari students. As well, overall Upward Bound students rated the course more positively than Summer Safari students (4.60 compared to 4.48). This would indicate that although Upward Bound students enjoyed the course more than did the Summer Safari students, they felt it was less applicable to their immediate future and education. Perhaps younger participants such as the Summer Safari individuals felt that they had more school and summer time to explore creative, "off-beat," areas such as comic book art and story-writing before getting down to the "serious" business of college. If this is the case, it is interesting that both younger and older K-12 students perceive college as an institution in which creative and unique interests cannot be explored.

Table 1 *Responses to Teacher/Course Evaluation Survey*

Item	Excellent		Good		Fair		Poor		Bad	
	UB	SS	UB	SS	UB	SS	UB	SS	UB	SS
1. The instructor has thorough knowledge of the subject.	5.00	4.58	0.0	.33	0.00	0.00	0.00	0.00	0.00	0.00
2. The instructor is well organized.	5.00	1.67	0.0	2.00	0.00	.50	0.00	0.00	0.00	0.00
3. The instructor makes the subject interesting.	4.50	3.75	.40	.67	0.00	.25	0.00	0.00	0.00	0.00
4. The instructor keeps appointments.	4.00	3.33	.80	.33	0.00	.50	0.00	.17	0.00	0.00
5. The instructor is on time for class.	3.00	2.08	2.00	1.67	0.00	.25	0.00	.17	0.00	0.00
6. The instructor answers questions completely and carefully.	4.50	4.17	.40	0.00	0.00	.25	0.00	0.00	0.00	.08
7. The instructor is willing to give extra help when needed.	5.00	3.75	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00
8. The instructor encourages student participation.	4.50	2.92	.40	.67	0.00	.25	0.00	0.00	0.00	0.00
9. The instructor shows respect for students.	5.00	3.33	0.00	1.00	0.00	.25	0.00	0.00	0.00	0.00
10. The instructor provides an atmosphere in which students feel free to ask questions.	5.00	3.33	0.00	.67	0.00	.50	0.00	0.00	0.00	0.00

11. The instructor is sensitive to students' feelings.	4.50	2.50	.40	2.00	0.00	0.00	0.00	0.00	0.00	0.00
12. The instructor compliments students who have done well.	4.50	2.50	.40	1.67	0.00	.25	0.00	0.00	0.00	0.00
13. The instructor has a sense of humor.	5.00	4.58	0.00	0.00	0.00	0.00	0.00	.17	0.00	0.00
14. The instructor is able to relate well to students.	4.50	2.50	.40	1.33	0.00	.50	0.00	0.00	0.00	0.00
15. The course materials were relevant.	4.50	5.00	.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16. The course information will help me in the coming year.	3.50	3.75	1.20	1.33	0.00	.25	0.00	0.00	0.00	0.00
TOTAL Mean Scores	4.60	4.48	2.48	1.28	0.00	.31	0.00	.04	0.00	.01

*N.B. UB = Upward Bound, SS = Summer Safari.

Conclusions

With growing initiatives such as a “No Child Left Behind” impacting more stringent curricula, perhaps PreK-12 teachers are either directly or indirectly impressing upon their students to “stick to the program” in order to be successful in school. Students may interpret that there is no room to explore outside interests in school any longer and extrapolate that impression through to college. What a shame it would be if the youth of today no longer think that there is room to explore creative interests in their school curricula.

Mitchel Resnick (2002) states that while the 1980s included an “Industrial Society” and the 1990s incorporated a “Knowledge Society,” he looks to the new millennium to produce a “Creative Society.” He posits that our society’s “success in the future will not be based on how much we know, but [rather] on our ability to think and act creatively.” Clearly, our children are the key to this type of societal shift, especially as childhood is one of the most creative times in our lives. Programs such as the one described here, which are multidisciplinary, integrate technology, and teach valuable academic and creative skills need to be celebrated and treasured.

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