An Instructional Design Approach for Integrating Digital Storytelling into the Classroom using iMovie

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Abstract: The purpose of this project was to train teachers and students on methods of using iMovie for digital storytelling in the classroom. The teacher training was conducted as an interactive 2 hour workshop with hands on practice in the spring of 2007. Teachers participating in the workshop received computer training on the use of iMovie for creating short digital movies for classroom curriculum integration. The project was evaluated by implementing the digital storytelling techniques gained in the workshop within an 8th grade Social Studies classroom specifically focusing on students studying the Holocaust. The purpose of the integration was to provide an enhancement to individual report writing and oral presentation by creating a visual story and presentation using images, text, and music.

Introduction

Digital storytelling represents a particularly powerful method of personal expression that can intensify a student’s perspective on issues and topics presented within the classroom curriculum. The inclusion of basic digital video editors in the Windows and Apple operating systems have allowed for the easy use and implementation of digital forms of storytelling by teachers and students in the regular classroom environment. With teacher training in the basic operation of programs such as Windows Movie Maker or Apple’s iMovie students can easily create technology enhanced videos in conjunction with traditional written assignments and oral presentations. (Bull & Kajder, 2004)

The creation of digital stories can be effectively implemented by using a series of sequential steps that facilitate the best use of the often limited time that is available on school computers. Maximization of instructional time occurs when the storytelling tasks are well framed, specific, and include the writing an initial script, planning of a storyboard, group discussion and feedback, and efficient use of digital video editing software. (Lambert, 2006)

Although modern digital editors offer a plethora of special effects and transitions, the effective digital story uses only a few images, a few words, and even fewer special effects to clearly and powerfully communicate intended meaning. An accompanying soundtrack of music can enhance and underscore the underlying story by adding complexity and depth to the narrative. Allowing students to actively participate in discussions, group activities, and presentation of ideas and viewpoints allows for the creation of powerful forms of personal expression that are relevant to curriculum content and can be used as effective enhancements traditional forms of written expression. (Kajder et al, 2005)

Although images and music can enhance and underscore student videos by adding complexity and depth to the underlying story it is important to address copyright when music and images are taken from Internet or copyrighted sources. The use of the Internet to obtain images for teaching and student projects within the classroom is permissible within certain guidelines and proper attribution. (Talab & Butler, 2007) The Technology, Education, and Harmonization Act of 2001 states that no more than 5 images by a single artist or photographer and not more than 15 images or 10% of a collection of images may be used from an Internet or copyrighted source. Up to 10%
It is important to note that although using digital storytelling in the classroom can enhance student projects, the storytelling itself should remain solidly grounded in the curriculum with the focus being on the writing and communication process rather than the overuse of technical or special effects. Students should create their digital stories from their own point of view in a form that captivates the attention, interest, and emotion of the targeted audience. The digital story should add to and compliment traditional forms of assessment in the classroom and should not be viewed as a replacement for student writing and oral presentation skills. Using technology effectively under these guidelines has the capacity to amplify the student’s voice and allows for the creation of powerful forms of personal expression that are relevant to student learning and curriculum content.

Analysis

The initial teacher workshop on using technology to create digital stories grew out of professional development training workshops for teachers working for the Department of Catholic Schools in San Francisco, CA. The purpose of the workshops was to implement effective methods of technology integration into the classroom environment that included student work, interdisciplinary projects, and the development of mentors that can transfer knowledge in technology proficiency onsite to additional faculty and staff. The achievement of this goal was based on the major premise that technology integration occurs through ongoing technology embedded professional development. In response to feedback surveys completed at the end of each workshop it was established that teachers had a high interest in the use of technology for the creation of student presentations of relevant content learned in the classroom as a method of enhancing written assignments and oral reports (Bell, 2006).

The instructional objective of the digital storytelling project was to implement teacher training on methods of integrating digital video editing technology into the classroom. The primary goal was to enable students to create alternatives or enhancements to traditional written assignments by creating digital stories using technology currently available in their classrooms and technology labs. The pedagogical considerations included time constraints on accessing technology resources, copyright issues in the use of images and music from the internet, and establishing practical methods and skill development on the use of digital editing software by teachers and students. The timeline of the project included a 2 hour teacher training workshop followed by an implementation of digital storytelling skills into an 8th grade social studies classroom conducted in one hour sessions once a week over a six week period using the school’s technology lab.

Design and Development

The instructional strategy for the project used a procedural task analysis approach incorporating psychomotor skills (using toolbars, mouse, keyboard etc.) and intellectual skills (choosing content, selecting images and music). The instructional content included printed guide sheets with step by step instructions and visual representations on using iMovie to create digital stories, time management techniques, creating storyboards and scripts, as well as obtaining images and music from internet sources following appropriate attribution guidelines. The media used included Mac G5’s installed with iMovie, iPhoto, MSOffice, and Internet connection. An LCD projector was used to facilitate instruction, demonstrations, and presentations. The behavioral outcome focused on the efficient use of digital media software and how to transfer this practical knowledge to students creating digital stories in the classroom. Evaluation encompassed resolving issues and concerns that arose during the implementation process. The instructional sequencing was broken up into procedural steps and sub-steps to reach each instructional goal for both the teacher training and classroom implementation. A break down of the task analysis for creating a digital story using iMovie and integrating digital storytelling into the classroom are as follows:
Task Analysis for creating a digital story using iMovie

- **Goal**: Learners will be able to create a brief 2-3 minute video using still images and music.

  **Prerequisite**: Learner has basic skills using keyboard and mouse.

  - 1.0 Importing and editing images using iPhoto.
    - 1.1 Copy photo folder to desktop.
    - 1.2 Open iPhoto.
    - 1.3 Use mouse to drag image folder directly into iPhoto.
    - 1.4 Choose view, select sort images, choose sort by title.
  - 2.0 Import/Editing images into iMovie.
    - 2.1 Open iMovie, select new project, name, and save to desktop.
    - 2.2 Import images from iPhoto by dragging photo folder into iMovie.
    - 2.3 Set image time length in seconds, choose Ken Burns effect.
  - 3.0 Creating titles and transitions.
    - 3.1 Choose Titles, type of title, type of text, and text action.
    - 3.2 Choose text type to appear over image, add text to each slide.
    - 3.3 Choose transitions and drag in between slides in timeline.
  - 4.0 Add music to movie.
    - 4.1 Select music and drag and drop directly into timeline.
    - 4.2 Music can also be added from File, import dropdown menu.
  - 5.0 Save movie as a compressed QuickTime movie.
    - 5.1 Choose Share from the File menu.
    - 5.2 Select QuickTime and choose Compress for CD-ROM, save.

  

  A detailed set of instructions with images representing visual actions to text was provided for reference during actual workshop.

Task Analysis for integrating digital storytelling into the classroom

- **Goal**: Students will be able to plan and create a short digital movie representing content within the classroom curriculum.

  **Prerequisite**: Students have foundation in curriculum content, basic computer skills.

  - 1.0 Creating a script.
    - 1.1 Information gathered using classroom/internet resources.
    - 1.2 Script is summarized into essential elements of story to be told.
    - 1.3 Script written in brief statements to accompany images for movie.
  - 2.0 Gathering images using Google image search.
    - 2.1 Create a folder on the desktop to save gathered images.
    - 2.2 Select image size: “large” and conduct key word image search.
  - 3.0 Creating a storyboard.
    - 3.1 Open MS Word (no insert table to control image and text).
    - 3.2 Create a storyboard by inserting images and typing text.
    - 3.3 Sequence images and text in sequential order of planned movie.
  - 4.0 Group discussion and feedback.
    - 4.1 Students share their storyboards with peers for feedback.
    - 4.2 Teacher provides feedback approval before creating movies.
  - 5.0 Creating digital story with images, text, and music using iMovie.
    - 5.1 Save and Print storyboards for group review.

Project design incorporates collaboration between teacher and technology coordinator for cross curricular technology/classroom integration.
Implementation

The 2 hour digital storytelling workshop for teachers was taught with a practical application approach focusing on skills teachers could use directly in the classroom. Teachers were taught in a whole group setting with guided practice and group interactive work. Participants were provided with printed resource materials and a resource CD that contained an example script, music, and a collection of images to be used in creating a digital story. Using the printed guide sheets, direct verbal instruction, and visual examples participants used iPhoto and iMovie to complete the tasks of importing, sequencing and editing images, creating titles and transitions, importing music, and finally rendering the completed movies into a compressed QuickTime movie format for presentation.

The follow up integration of digital storytelling into the classroom curriculum was implemented within the same school where the teacher training took place. As part of the eighth grade curriculum students were required to write and present an oral report on the impact and implications of the holocaust as a crime against humanity. A plan was developed to integrate digital storytelling into the curriculum under the guidance of the school’s technology coordinator and the eighth grade social studies teacher who had successfully completed the workshop on digital storytelling using iMovie. Students were expected to conduct valid research to build a solid foundation for creating a short video using images, text, and music to present their perspectives on the holocaust as a crime against humanity. The stories students created could be about the Holocaust but could also include other perceived forms of crimes against humanity (e.g. child abuse, dictators, mass genocides etc.) The technology integration unit was justified within the 8th Grade curriculum as a Social Studies/Literature/Technology cross-curricular unit. There was a focus on the Social Studies standards of making students more globally aware by bringing their attention to crimes against humanity both historically and currently.

Students worked in groups of 2-3 to conduct research using the Internet, books, and materials provided by the teacher. The research was completed in conjunction works of literature on the holocaust (Night by Elie Wiesel and The Diary of Anne Frank) in order for the students to gain a sense of personal perspective on the Holocaust. Once the research was completed students created a script composed of brief sentences identifying the essential elements of the story to be told. Students then searched for appropriate images to accompany their scripts using a Google image search. References to image sources were recorded and later added to the final credits of the completed movies. The script and images and were then combined into storyboards using MSWord to give the students an idea of how their movie would be sequenced when integrated into iMovie. Students actively collaborated with each other as well as received feedback from their teachers to revise for content and image representation.

Students then followed similar procedures on creating a digital story using iMovie as outlined in the teacher workshop. The completed movies were presented in a whole group setting for peer review and teacher evaluation. Students were evaluated on content, appropriated images, flow and emotional impact, as well as appropriate application of digital movie editing techniques.

Evaluation

Issues and concerns when creating digital stories using video editing software can arise with gathering images from the Internet, scaling and timing of images, using text verses audio narration, transitions and special effects, adding music, and saving movies into compressed file formats. The following is a discussion on how to effectively address these issues before and during the implementation of a digital storytelling project.

When gathering images using the Internet it is important to limit the amount of images students collect to enable the story to be presented within a manageable time frame of 2-3 minutes. Usually setting a maximum of 10-15 images for each video is enough to completely convey the message presented in a digital story. This also reduces the memory size necessary to efficiently render and transfer the digital story between digital media devices for presentation and evaluation.

Scaling the images for the correct aspect ratio and resolution to avoid image pixilation in video presentations can also be an issue. When searching for images using Google the search should be refined to search for large or extra large images only. Larger image files are more easily scaled in video editors reducing the common
problem of image pixilation caused when small images are expanded to larger screen formats. It is also important to select the actual image you wish to use from the Google search by following the image link directly to the web site where the image is located. This will allow access to the full size image, not just the small thumbnail provided in Google, as well as the website in which the image is located for citation and proper attribution.

When importing images into iMovie it is important to lengthen the amount of time the image appears on the screen to at least 10 seconds. This allows for enough time for the text accompanying the image to appear on the screen and for the insertion of brief transitions between the images in the timeline. Although an image appearing on a screen for as long as 10 seconds may seem excessive, one must keep in mind that the image must transition in, the text must appear on the screen long enough to be read, the image itself must be allowed to appear alone in its full context, and then transition out. This effect allows the message and the image content to have a full effect on the viewing audience.

Use of a text narrative in a digital story is often more efficient than an audio narrative due to the difficulty of recording audio in a large classroom setting. Although many computers have built in microphones for recording voice, the background noise and audio quality can be relatively poor and distract from the quality of the digital story. Students can record voice audio separately, but this would require more time and equipment (e.g. separate audio recording devices) than can be practical for completing the project. The choice of text colors and font size for the text narrative should ensure visibility against the image background and be easy to read once the movie is rendered. The time text appears over the image should adjusted for enough time to be read and then fade to allow the accompanying image to convey impact and meaning. Unnecessary text animation should be limited, as not to be overly distracting to the overall story.

It is important that transitions be added only after the sequencing of images and addition of the text narrative is complete. Rearranging images after transitions are inserted breaks the transition links between images and can shorten the amount of time images and text display. This can result in images and text appearing too briefly to be fully viewed and read by the viewing audience. The choice of simple fades and dissolves, rather than some of the more elaborate transitions offered in iMovie, can be more effective for transitioning between images as they provide a transitional effect that does not distract or detract from the digital image. Adding fancy or complex transitions also requires adjustment in image time length to ensure the images remain synchronized with the narrative. This can be troublesome as it requires more complex editing skills that may be beyond the basic skill level for the students working with iMovie.

Minimal special effects should be used in student movies to avoid the distracting nature that these effects can have on the overall story being presented. There is an excess of complex special effects offered in iMovie that students, if given the opportunity, will add to every image in their story. For the purpose of this project and the more serious nature of the subject matter, students were allowed to use only basic effect applications such as the “Ken Burns” effect for motion and black and white or sepia tones for image color consistency.

Once the video component of the project is complete students can begin importing music into their movies. Students can create their own music using Apple’s Garage Band, which is included with all Mac operating systems, or import music from personal CD’s, the Web, or iTunes. Having students create their own music is ideal because it avoids issues with copyright infringement. As with images, be sure students give attribution in the final credits to all copyrighted music collected for their project.

The final step of rendering the movie into QuickTime format for Mac’s or WMV format for pc’s makes the files easily transferable to flash drives, CD’s, or uploaded to web pages. If the computer has rewritable DVD drive the completed movie can be burned a DVD disk. For the students is this project the movies were converted to QuickTime for efficient storage and the videos were viewed directly from iMovie on the computer lab’s LCD projector for presentation, feedback, and evaluation.
Conclusion

It is important to emphasize that the digital storytelling project was implemented in direct conjunction between technology coordinator and the social studies teacher. The project was solidly grounded within the curriculum and was in congruence with the social studies and technology content standards appropriate for the grade level. The technology coordinator maintained expertise in the design, development, and implementation of using iMovie to create the digital videos while the content expertise and classroom teaching was under the direction the social studies teacher. It is equally important that the teacher received training on the appropriate use of the technology (iMovie) for future project development as well as to understand the relevant aspects and effective methods of designing and implementing digital storytelling into the classroom.

In summation the effective digital story uses only a few images, a few words, and even fewer special effects to clearly and powerfully communicate intended meaning. Students should create their digital stories from their own point of view and in a form that captivates the attention, interest, and emotion of the targeted audience. The story should focus on the essential elements of the topic, have a pacing that flows naturally, and be limited to 2-3 minutes to keep the project construction time manageable. With proper training teachers can effectively implement digital story telling into their classroom curriculum while adding a valuable form of personal expression students can utilize for constructing and presenting relevant content knowledge.

References


