Multimedia
Makes Its Mark

The benefits and drawbacks of including multimedia-rich projects in your curriculum.

Student development of multimedia products fits naturally into a constructivist learning environment and facilitates the development of higher-order thinking skills. It is also an exciting way for students to actively participate in their learning.

High-quality multimedia products make use of technology to further the understanding of a topic in ways that traditional media cannot accomplish. Learners tend to naturally explore topics in a nonlinear manner, selecting portions of the topic that pique their interests and delving deeper into some aspects of the topic.

Multimedia Mania Awards

ISTE's Special Interest Group for Hypermedia/Multimedia (Hyper-SIG) sponsors the Multimedia Mania (MM) awards program (http://ced.ncsu.edu/mmania/). During 2002 and 2003, I was co-chair of the MM program with Lisa Grable; I am currently vice president of HyperSIG. Students work collaboratively to develop projects dealing with an area of study in the standard curriculum for their state or country, then work with their teachers to submit the projects to the contest. Winning projects have adhered closely to the judging rubric published on the Web site. They are judged in several rounds by an international panel.

To gain a better understanding of the benefits and barriers of allowing students to create multimedia as a

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teaching strategy, I interviewed teachers who were awarded first place in the awards program in 2002–03. When the teachers made presentations and talked informally about the MM program, they were very positive about the effects the contest has on students, even if they do not win.

In some cases the instructional technology facilitator (ITF) is the primary contact for the project and worked with all of the content area teachers in the school to help teachers and students implement the program. In these cases, I interviewed the ITF. In other instances, the teacher interviewed is either the classroom teacher in a self-contained classroom (elementary) or a subject area teacher (middle and high school).

Benefits of Multimedia Projects

Teachers identified many benefits for their students and for themselves.

Students learned to collaborate, sometimes as a whole class, to complete their projects. They took on roles as observers, data collectors, and photographers. They became excited about research, posed questions and theories, and then tested their hypotheses through extensive data collection. And shared their excitement with others through the finished project.

These projects allowed all students the opportunity to delve into topics usually reserved for those students in academically gifted programs. Virginia Royals, 2002 middle grades winner and instructional technology specialist at Graham Middle School,

2002 upper grades winner from the Accelerated Technology School in Lexington, North Carolina, said, "This made their work seem even more 'real world' … and inspired them to perceive their work as a 'professional' endeavor."

Brenda Frisk, 2003 upper grades winner from Jasper Place High School in Edmonton, Alberta, believes that the use of professional-quality software that students may use outside of school is a benefit to students.

Teachers mentioned that the emphasis on getting permission for copyrighted material within students' work was beneficial to the students' understanding of how copyright and permissions work.

Finally, teachers said the students gained knowledge and applied critical thinking skills when working on the projects. The projects facilitated the integration of many subjects, including science, math, language arts, and art.

Teachers also saw benefits for themselves. Several teachers mentioned experiencing a new outlook on and a renewed interest in teaching. "I learn something new every day from my students," said Frisk.

Teachers also believed they were able to get to know the students better and see them in various school environments. Royals summed it up: "I got to know the students better than when involved in other projects. I met the parents in a different environment. I discovered the learning strengths of students." For example, she continues, "I didn't know that some of the students were good artists until we were involved in the project."

Barriers for Teachers

Many teachers, although glad to have incorporated these types of projects into their curriculum, identified some drawbacks and barriers they needed to overcome. They offer these to help other teachers interested in having students create multimedia projects

Graham, North Carolina, stated that it is not necessarily the traditional gifted student who creates the highest quality product. Students use various talents as they work with teams to create a multimedia project, and the combination of student strengths leads to high-quality multimedia projects.

Teachers stated that involvement in the project gave students an audience, a purpose, and a direction. In the research dealing with the writing process, broadening the audience and writing for a purpose helps students write better. Creating multimedia is similar. When students are creating pieces for viewing by a broad audience, they are much more attentive. They feel their work has meaning and that others value it. Ruth Hartsook,

hit the ground running. None of the teachers saw these barriers as anything more than minor hindrances, not show stoppers.

Most of the barriers mentioned involved technical difficulties with software, hardware, or networks because of lack of teacher support across a school and the absence of other teachers using the same tools to answer questions or discuss ideas.

Time constraints were another barrier mentioned by several of the interviewees. Not only does it take time to learn about technology, it also takes time to stay abreast of the latest technology as students are most interested in the latest and greatest. Teacher training is critical and it must be current and relevant. Then time is needed to incorporate new knowledge and own it. Hartsook suggested that teachers be given credit for infusing new technologies into their teaching, whether for administrative tasks or curriculum enhancement.

Several teachers mentioned that keeping up with requests and permissions to use media from other sources was a logistical barrier. In some cases, the teacher created a database to manage this process and students kept it up to date. Hartsook, for example, said the database "helped immensely." Students were asked to keep a word processor open as they gleaned information from Web sites so they could "cut and paste" the URL with a description into a document to be saved and printed later. This organization helped students and teachers keep up with the materials used.

Student Perspectives

Some teachers interviewed elicited responses from students concerning their involvement in the MM program. They offered a surprising and refreshing perspective on how students respond to such a project.

One student said he really enjoyed the classroom atmosphere while

working on the project. He felt the class was a huge success because of the way it was structured. He also mentioned that he devoted a great deal of time to the project outside of class, but implied that it was because of his interest in the project rather than any teacher-imposed criteria. He stated that he would have literally spent his entire day at the technology center, if the schedule had permitted it!

Another student said he enjoyed working in a group because everyone with whom she was involved responsibly managed the workload. It is important for teachers to strive to match students within groups and to help determine if all are "pulling their own weight." Even though peer pressure may be significant in encouraging students to fully participate in group projects, they often need assistance in time management to complete their portion of the assigned tasks.

The involvement in a large project such as the multimedia project gave the students an opportunity to fulfill the requirements of the course while combining their knowledge into a real-world project. One student says, "To be honest, I don't know why other classes don't do the same thing." His position is that each class has a common goal in mind for the students and combining student efforts to produce a real product exemplifies what they have learned and gives a more accurate assessment of their knowledge.

Conclusion

Based on the comments by teachers, ITFs, and students, it is evident that the incorporation of multimedia projects developed by students has many more benefits than barriers. And when these barriers are acknowledged, they are much easier to overcome. We can learn from other teachers' and students' experiences by allowing enough time for the projects, maintaining flexibility, and developing organizational tools to scaffold

students when they gather data and materials.

Janet Barnstable, 2003 middle grades winner from Percy Julian Middle School in Oak Park, Illinois, states, "It was a great experience. They had fun while creating an educational project. They learned a lot about their community's environmental concerns and were able to help their school create a recycling program."

Barnstable continues, "I'll never teach again without being a facilitator of a project-based class in which students collaborate and communicate with others to produce [high-]quality, multimedia-rich work!"

Royals said, "Students become the teachers" when they prepare such products. Royals encourages other teachers to use the projects in their teaching; sometimes, the creators present them to their fellow students.

I found it particularly interesting that students believed that working on a sustained large-scale multimedia project to analyze and synthesize information on a self-selected topic within the curriculum provided an in-depth understanding as opposed to "easy memorization." An inquiry-based approach leading to a product emphasizing analysis and synthesis of information should be our highest educational goal. With this methodology we are teaching students to be creative, productive citizens in a democratic society. It seems that wrapping this methodology around a multimedia project can be an effective means for promoting the type of learning we strive for in students. This can be fun and exciting not only for students but also for teachers and administrators observing education at its best.

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