

ETHEMES:

An internet instructional resource

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Abstract: This paper describes a major initiative to support teachers in integrating Internet resources into the instructional process while shifting their instruction to a more constructivist approach. This paper also presents the background of this initiative and results of a study to determine teacher perceptions of this initiative. Referred to as eThemes, this service accepts requests from teachers, finds Web sites that meet the requirements specified in the requests, and creates an archive of quality Internet resources for easy access and searching. It minimizes teachers' resource-seeking time and maximizes their resource-using time in their instruction to enhance teaching practice and student performance.

1 BACKGROUND

eThemes is a resource through the eMINTS National Center. eMINTS stands for enhancing Missouri's Instructional Networked Teaching Strategies. The eMINTS National Center is a collaborative education program sponsored by the Missouri Department of Elementary and Secondary Education (DESE) and the University of Missouri System Office of Academic Affairs. The eMINTS National Center serves as a resource base for Missouri schools and districts as well as for educators from across the United States who wish to collaborate with eMINTS staff and with one another to replicate the eMINTS instructional model (high-quality teaching powered by technology) within their educational systems. eMINTS transforms schools into places for learning where teachers and students use multimedia tools to better understand the world, work together, and achieve at new and higher levels.

The eMINTS National Center programs include professional development experiences for all educators (teachers, administrators, educational

technology specialists, and library media specialists) who are interested in implementing the eMINTS instructional model in their schools or districts.

The eMINTS instructional model is a set of research based strategies grounded in constructivist theory. The model supports educators in integrating technology and best teaching practices to create a learning community where teachers and students explore and create knowledge together using a variety of resources. Teachers facilitate student learning through the use of essential questions that stimulate thinking; build curiosity, create connections, and generate long lasting knowledge through issues that matter to students.

In a school that is fully implementing the eMINTS instructional model, observers will see students working collaboratively to solve real-world problems through teamwork and hands-on activities. Teachers guide and coach students in the creation of unique products that show deep student understanding of complex concepts.

The eMINTS program is focused on teaching and learning. The program's goal is to provide the necessary support to teachers as they learn to integrate technology into their teaching. Teachers are asked to think about their teaching in ways that are different for many of them. They are asked to reconstruct the way they teach their district's curriculum so that it is inquiry-based, centered around student needs, involves more than one discipline or subject area, and teaches their students to work in collaborative way. Teachers have reported that their efforts have resulted in improved student performance, increased parental involvement, and enriched instructional effectiveness.

As a part of eMINTS, the eThemes program serves the function of providing technology-rich Internet resources for eMINTS teachers to use in their teaching. The eThemes program is a not-for-profit organization, funded through the University of Missouri-Columbia, with an annual budget for salary and benefits for the one full-time coordinator and two graduate assistants. A carry-forward budget is used for expenses. The program serves teachers in over 220 public school districts across Missouri and Utah while continuing to add more states.

eThemes is an extensive database of content-rich, age-appropriate resources organized around specific instructional themes. eThemes resources are created and maintained by University of Missouri-Columbia College of Education staff and graduate students from the School of Information Science and Learning Technologies. Although only teachers approved by the eMINTS program may make resource requests, all educators are encouraged to search our extensive database of more than 900 existing eThemes for use in their classrooms. Any educator can access eThemes resources <http://www.emints.org/ethemes>.

Official eMINTS teachers (<http://www.emints.org/about/policies/teacher.shtml>) and library media specialists in their schools may request new eThemes topics using a convenient online form. Next, eThemes Resource scouts, who are University of Missouri-Columbia graduate students trained in navigating the Internet, search for child-safe, age-appropriate Web sites about the topic. Scouts write a short description about sites matching the requested criteria. The eThemes coordinator double checks the sites and assigns related educational standards to the new resource.

The new eThemes resource is then entered into the online database for all users to access. Currently, there are more than 1,000 eThemes on topics ranging from Africa to Yellowstone National Park. The links within eThemes Resources have been checked for their grade and age appropriateness. Because links on the Web change frequently, teachers are advised to review all links before introducing them to students.

2 DATA COLLECTION

eMINTS program evaluation research completed by an external contractor, the Office of Social and Economic Data Analysis (OSED), over seven years supports the effectiveness of the eMINTS instructional model for students in grades 3 and 4, the grade levels for which statewide assessment data is available in Missouri. Informal assessments written by eMINTS staff regarding the model's application to middle school grades are available upon request from the eMINTS National Center Office (<http://www.emints.org/>).

This study of the eThemes program was conducted to determine if the needs of the eMINTS teachers were being met and how the program could be improved. Primary data sources included 47 eMINTS teachers who voluntarily responded to a call for participation. Teaching experience ranged from three years to twenty-six years. Secondary data sources included website statistics, website tracking software comparison, and reporting of fulfilled resources requests. The tools for collecting the data included a paper and email survey, online focus group, telephone interviews, email interviews, and observations. Results of these data are in the following section.

3 RESULTS

After analyzing the data collected over a period of three months, using a variety of techniques and instruments, the results have been compiled in this report. Of the teachers who responded, 35 % indicated that they used eThemes resources on a weekly basis and 16% use it at least once a month. Thirty percent of the teachers indicated that they had never requested a resource, but of those who did, 80% were happy with the resource request results. When asked to rate how teachers use the eThemes

resources, most indicated that they used it as a supplement to teaching and information seeking. Comments teachers made included that they found relevant resources when they searched, but 25% reported difficulties in searching. The most frequently used components of the eThemes website included the search by title and search by grade level.

The data determined that, for the most part, the eMINTS teachers appreciate and regularly use the eThemes resources available. There are some improvements that could be made to the website, including increased search functionality, efficiency and accuracy; added functionality to the resources and the site; a tutorial to support teachers in learning how to use the site and search options; and an improved interface to make teachers more aware of the options available. In addition, the report indicates that the eMINTS teachers are not frequently requesting eThemes resources because the quantity and quality of resources currently available, for the most part already meets their needs. Not only do the project members not know if the resources they prepare are what the teachers need, but they also do not know why many teachers do not submit requests. This may be that the resources available on the website that are already prepared are all that the teachers need, but at this time, there is no way to know this. Also, there is no way for the teachers to provide feedback on how well the eThemes meet their expectations or fulfill their needs. The website statistics that are kept are not a good indication of the usefulness of the resource and eThemes. In addition, the statistics that are provided are difficult for the project members to translate into real meaning.

Even though the data indicates that teachers are using the eThemes website regularly, they are happy about the resources available, and are experiencing only a few problems, there are some who experience difficulties with accessing eThemes resources, whether it is because of technical issues such as a firewall or browser problems; or it is because of lack of information on how to search; or it is because of irrelevant or too many resources are returned from a search. Some teachers have no problems with initially finding information in the eThemes website, but they are unable to organize or later retrieve resources that could be useful to them in the future. Training may be inconsistently done and the teachers are possibly not getting enough training related to eThemes. The eThemes staff is motivated

to work well because they see the value in what they do. They are frustrated with the lack of feedback from teachers and are unable to interpret the website statistics.

4 AREAS OF IMPROVEMENT

The results provided several suggestions for improvements that could be made to the eThemes program. One suggestion is to improve the teachers' ability to access, use and share the eThemes resources. Some methods for doing this include:

- Adding an "Email a friend" link to each resource. This would provide teachers with a mechanism to do what they are already doing and that is sharing resources that they have found with other teachers. The traffic logs could then track this information to determine which resources are most interesting to teachers.
- Making the calendar more visible. Some teachers don't know about the calendar and most of the teachers who do know about the calendar report that they love to use it daily or weekly.
- Allowing for more advanced searches with a narrower result list. At least 25% of teachers participating in this study reported difficulty with searching in one form or another. They reported that they wanted to be able to narrow their search or that they could not figure out where to find what they were looking for. One possible solution could be to add a thesaurus to allow teachers to choose similar terms to their search term in order to be more likely to find the resources they need.
- Working with the website designer/webmaster to overcome technical difficulties in viewing resources. Teachers reported browser issues and firewall issues that cause difficulty in viewing resources.
- Adding the capability to allow teachers to review and rate resources. This would allow teachers to know if a resource has been used in the classroom and how helpful or successful it was. It would also allow eThemes staff to know what teachers think about the individual resources.
- In addition, a suggestion could be to improve the teachers' ability to provide feedback to the eThemes project members. Some methods for accomplishing this could be:
 - Allowing teachers to rate the eThemes resources. (see above)
 - Asking teachers who requested eThemes resources to respond with feedback to rate the resource is when it is completed. This could be

through an online form that they see when they first access the resource or through a URL that they can fill out when they receive confirmation of their resource being created. For even more functionality, the feedback can be stored in a database along with the request information. Project members can then search fulfilled requests based on a time frame or a teacher or a rating. This would provide helpful information about who requests resources and whether the resource was what they expected, all in one place.

- Improving the website statistics reporting program to show the most and least viewed resources.
- Another suggestion would be to increase the level of support for teachers using eThemes. Teachers appreciate the time-saving capacity of the eThemes resources and would benefit from additional support features. A few ideas to do this include:
 - Creating a tutorial that demonstrates how to use the search options and gives suggestions for what can be done with the resources found. With the use of a well-designed tutorial, there would be no need to increase the amount of time spent in training on eThemes.
 - Providing assistance for teachers who want to organize the resources that they have found. Allow them to have personal bookmarks. Model organization of resources for teachers who want to build their own websites containing eThemes links.

5 CONCLUSION

In conclusion, the eThemes resources are very helpful to both the teachers in the eMINTS program and other teachers as well. A few changes made to the way in which the resources are accessed and viewed would provide the project staff with the feedback they need and would provide the teachers with an even greater resource for their teaching.