

## SupportNet Online: How People Use Web-Based Environments to Learn

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**Abstract:** SupportNet Online (<http://supportnet.merit.edu>) is a set of web-based training modules and resources specifically designed to help teachers and technical support personnel in educational settings. This session will show examples of different modalities used for presenting the materials -- text, audio/slide, hands-on exercises, interactive quizzes, etc. A summary of findings about how people use the SupportNet materials will be presented. There will be a chance for researchers to see some of the materials and output of site analysis software. The focus will be on displaying what can be determined by observing utilization patterns in online learning environments.

**Keywords:** professional development, training, learning environments, on-line assessment

### Introduction

Many people are now choosing to use the World Wide Web to learn more about topics of importance to them in their professions. A profusion of formal courses and informal informational sites have been developed. How effective these are and how people use them to learn are questions that researchers need to consider as they look at offering more such resources on the Web. This session will report on techniques developed to offer online materials in different ways and to monitor their real-life use in an online educational environment.

SupportNet Online is a set of web-based training modules specifically designed to help education personnel with technical support in an educational settings. Although designed with K-12 staff in mind, it is structured so that anyone interested in learning about Internet and networking technologies could benefit from working with the modules. The project was funded by the Michigan Department of Education under a Technology Literacy Challenge grant, and was created by Merit Network in collaboration with the Eastern Upper Peninsula Intermediate School District. The SupportNet Web Site can be viewed at <http://supportnet.merit.edu>.

SupportNet was created in response to a perceived need for better professional development programs for school district technical support staff and teachers in areas that would help them handle technical and administrative problems that they encounter in trying to make web-based materials available in schools.

### Development of Content

During its first year, SupportNet staff concentrated on creating online educational modules on Internet Networking, Supporting Dial-In Users, Internet Security and Legal Issues, Unix Environments, and NT Environments. A typical module contained several topics, each with separate presentations, activities and quizzes. Most of the topics were based on the contents of live presentations that have been delivered around the state of Michigan to technical support staff.

This session will show examples different modalities used for presenting online professional development materials. Since the SupportNet materials were meant to be available for use by educators at any time they are needed, instructional modules were WWW based and created so that they could be used separately or in sequence. The rationale for including a variety of approaches to the same materials was to allow different kinds of learners the flexibility of choosing the methods best suited to their learning styles, as they try to master technical materials. Most modules delivered information and feedback in at least four ways:

1. Text – a written explanation with some graphic illustrations and links to other modalities and references.

2. PowerPoint slides that summarize the text presentation, coupled with a synchronized audio presentation of the material delivered via RealAudio.
3. Hands-on activities, designed to be illustrative of the main points in the material that learners can accomplish on their own computers or at their school systems.
4. Interactive online self-assessment quizzes. These were linked with every lesson, and managed by a script that gave immediate feedback on which areas needed to be studied further.

Lessons also offered links to other sites where additional information on the topics could be found. An e-mail group was available to promote group discussion of support questions that weren't answered in the online materials.

While continuing add to the available materials, during the second year, a new focus of SupportNet was to study how people use them, and to make modifications and additions based on feedback, utilization data and statistics. Online educational systems have a unique advantage in determining how people learn and what holds their interests. Software and other interactive systems can track a variety of information about people who use Web sites automatically. Such information can easily be compiled in databases or online in graphs and charts that point at what is effective and what isn't.

Based on some of the information collected new types of resources were added and changes made to the structure of the site. These included a redesigned interface, easier access to materials, how-to and reference areas, polls, and live audio events.

## **Evaluation Methods**

SupportNet users' interests were assessed by surveys of various kinds, both online and gathered at conferences and presentations from users or potential users. Some were general, and some appeared at precise locations in the lessons, to help gather different kinds of information. These surveys helped determine what additional topics and kinds of online learning experiences users think are needed, and gave immediate feedback on their impressions of the content and construction of lessons.

SupportNet used a login system for access to the main learning modules during the first year. This system tracked the number of times each user has accessed the materials since creating his or her account, where users were from, and when they last logged into the modules. If a user completed any part of a module, it recorded which part was "checked off". This let instructional designers determine which modules and individual lessons or activities seemed to be of most interest or easiest to complete, and which might need revisions. After the first year, this method (thought to be too restrictive due to the login/password requirement) was replaced by openly accessible pages, monitored by site analysis software. This software showed which specific parts of modules were most used, and which pages more rarely visited, without asking users to specifically identify themselves. It indicated where users began the lessons, and where they went if they left during one.

Various promotional strategies for the site were also implemented and analyzed during the second year, including more links from external sites, announcements on e-mail lists and other web sites, RealAudio broadcasts of interviews and events, and other promotions.

## **Conclusions**

SupportNet staff observed utilization during and after each change and addition to see how many additional people accessed the site and to discover whether they tended to come back and continue working with the materials. In this way, conclusions about possible paths to optimize the learning experience for the people it is designed to reach could be drawn.

In this session, a summary of findings about how people used the modules will be presented, as well as a chance for people to see examples of materials from the site and some of the output of statistical software, to show more about what can be determined by observing utilization patterns in online learning environments. Among other findings, it will show that ease of access appeared to facilitate increased utilization, and that informational pages targeted to specific interests seemed to be used more consistently than pages structured in lesson format.