

Finding and Organizing Internet Resources



Facilitator's Guide

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Questions

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Purpose of the Module

The Internet has opened a whole new world of information to both teachers and students. School and public library holdings are no longer the only places to find information. The World Wide Web provides students and teachers with up-to-the-minute digital information. Clicking the mouse yields videos, sounds, photographs, text and more. The Web can serve as a fantastic resource for education, but it does present a new problem: finding relevant information and validating the accuracy and completeness of the information. This module presents strategies and tools to make Internet searching both effective and efficient. It addresses the challenge of locating Internet resources that meet diverse student needs and will also help teachers develop age-appropriate information location and organization skills with their students. Internet searches will be revisited later this year during the *Evaluating and Using Internet Resources* session, which will offer strategies and tools for authenticating information found on the World Wide Web.

Expected Outcomes

- Students have access to Internet resources (pre-selected on a webpage or through search engines and directories) that meet diverse learner needs.
- Students and teachers effectively and efficiently locate and organize Internet resources.
- Teachers value Internet resource location and organization skills as important for lifelong learning.

ISTE NETS-T

Meets the following standards:

1. Facilitate and Inspire Student Learning and Creativity

- a. Teachers promote, support and model creative and innovative thinking and inventiveness.
- b. Teachers engage students in exploring real-world issues and solving authentic problems using digital tools and resources.

2. Design and Develop Digital-Age Learning Experiences and Assessments

- a. Teachers design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.
- c. Teachers customize and personalize learning activities to address students' diverse learning styles, working strategies and abilities using digital tools and resources.

3. Model Digital-Age Work and Learning

- a. Teachers demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.
- d. Teachers model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate and use information resources to support research and learning.

4. Promote and Model Digital Citizenship and Responsibility

- a. Teachers advocate, model and teach safe, legal and ethical use of digital information and technology, including respect for copyright, intellectual property and the appropriate documentation of sources.

Supports the following standards:

3. Model Digital-Age Work and Learning

- c. Teachers communicate relevant information and ideas effectively to students, parents and peers using a variety of digital-age media and formats.

Essential Question

How does technology affect change?

Session Question

How do individuals find information that meets a variety of needs?

Suggested Learning Experiences

Facilitator Note

Each expected outcome should be addressed during this session. The activities that follow are designed to prepare participants to meet the expected outcomes and can be modified to suit the specific needs of different groups. Outcomes differ from objectives in the expectation that outcomes prepare participants to transfer learning from the session to their classroom practice while objectives are related to completion of activities within the session. Facilitators should prepare session activities that will help participants develop a deep understanding of the concepts so that their understanding of the concepts is apparent as they work with students in their eMINTS or eMINTS4All classrooms.

Session Preparation

Participants should arrive at this session having in mind a curricular topic or concept they wish to research during the session. In addition, secondary teachers need to find out what searching skills their students have been taught in their school.

Find all online resources in this module at

<http://www.emints.org/xmodres/links/internetresources.shtml>.

15 Minutes

Sign-in and Session Starter

Purpose

Opening the session with a short activity that requires some light or fun creative thinking related to the session topic and gives each person an opportunity to speak will help participants transition from pre-session activities and prepare them mentally for active engagement in the session. Once a participant has contributed to the session orally, that person is more likely to engage in subsequent discussions.

Materials

- Computer connected to a SMART Board or projection device (Option #1)
- **Needed: Community-building Resources** handout (Option #2)

Option #1: Locating Information

- Post the following question on the SMART Board for participants to see as they come in: "How do individuals find information to meet a variety of needs?"
- During a brainstorming session, ask participants to note times they have needed information in the past and how they located it. Ask them to list the process they used to gather the information.
- Pose the following questions: "How have information sources changed over time?" "What are the challenges and benefits to these changes?"
- The goal of this activity is for participants to realize that the sources people use to locate information have changed. After they have grasped this concept, have participants generate questions about the skills that are needed to effectively and efficiently locate information.

Option #2: Locating Information to Solve a Problem

- Present participants with the handout titled **Needed: Community-building Resources**.
- Ask participants to read the scenario and generate a list of possible sources that have been used in the past to meet a need such as this one. Pose questions such as the following to guide thinking: "What strategies and techniques were used in the past?" "How might information to meet this need be located effectively and efficiently?" "What new sources are available now?" "Will these new sources require new strategies and techniques?"

10 Minutes

Establish Session Goal

Materials Needed

- SMART Notebook file displayed on SMART Board or chart paper

Participant Guide Section

Information Literacy

Purpose

Formally stating the session goal provides participants with an initial understanding of what the session expectations will be. In addition, it provides time for participants to access prior knowledge on topics that will be covered or pose initial questions related to the topic.

Directions

Establish the session goal by reviewing the purpose and expected outcomes from the module or posing the essential question. If reviewing the purpose and expected outcomes, provide time for participants to write a summarized statement of the session focus on the SMART Board or chart paper. Alternatively, provide time for participants to pose questions related to the session's essential question and session question.

The participant module includes a section titled **Information Literacy** that outlines the importance of teaching students information-literacy skills and how they relate to a variety of state and national standards. When setting the session goal, use information from this section to establish relevance for the classroom application of locating and accessing information. If teachers do not understand or are unsure of what 21st century skills are, refer back to the participant module section titled **Information Literacy**.

60 Minutes

Organizing Internet Resources

Expected Outcomes (in Question Form)

Which skills should learners use to effectively and efficiently locate and organize information?

How are Internet resource location and organization skills important for lifelong learning?

Materials Needed

- Computers with Internet access and an installed Internet browser
- Copies of participant module (internetresources.pdf)
- Copies of the **Reflection: Organizing Resources** handout (for Reflection Option #2)
- Paper and markers to create a mind map or access to computers with graphic organizer software (for Reflection Option #3)

Participant Guide Sections

Saving and Organizing Sites: Save URLs; Organize URLs; Save URLs with an Online Tool

Purpose

The ability to use information resources is often dependent on how the located resources are organized for later retrieval. In the search for information for a particular purpose, the user typically locates resources, then sorts and organizes those resources. In the classroom, eMINTS and eMINTS4ALL teachers will develop Internet

resource lists for student learning experiences. Older students may locate Internet resources on their own. Teachers and secondary students will save time by developing an organizational structure for storing resources prior to or in conjunction with locating those resources.

Directions

Get participants thinking about how developing an organizational system for storing and retrieving Internet resources is more effective, productive and efficient than continually searching the Internet for resources each time they are needed or weeding through a long laundry list of resources. Pose questions such as the following: "While locating resources, would it make sense to have an organizational system in place for resource storage and subsequent retrieval?" "Does anyone have suggestions for developing such an organizational system?"

Assess each participant's knowledge and skills related to saving and organizing bookmarks. First, direct participants to eThemes (<http://ethemes.missouri.edu>). Next, ask them to create a new folder, then bookmark eThemes to the folder. Use questioning to assess who has knowledge of and has used an online bookmarking tool. Find out if any participants have used social bookmarking websites. Based on their performance and insights, select and facilitate from the following activities as needed.

Browser Bookmarking

Browser bookmarking provides an effective means of storing relevant Internet resources. Prior to organizing bookmarks, a user must have a basic understanding of how to create a bookmark in a browser.

- Begin by determining participants' prior knowledge and skills in using bookmarking tools.
- Based on learner experience and skills, provide guidance in creating a bookmark.
- Be aware that participants new to bookmarking techniques often develop a misconception that bookmarking a webpage actually saves the webpage somewhere. Be sure participants understand that bookmarking is a process of saving a URL as a hyperlink—it does not save an entire webpage.

Organizing Browser Bookmarks with Folders

Bookmarks created and stored in a browser can be accessed more efficiently when the bookmarks are organized within topical folders. Participants may have prior knowledge and experience with creating bookmarks but may not have organized saved bookmarks within folders. This activity guides learners through the process of organizing bookmarks in a browser with folders.

- Determine each participant's prior knowledge and skills in creating folders and storing bookmarks in folders.
- Based on learner experience, provide guidance in creating folders, saving bookmarks within folders and moving saved bookmarks to folders.

Online Bookmarking Tools

Participants may desire the ability to have access to their bookmarks from any computer they use. Online bookmarking tools (such as ikeepbookmarks, Backflip or

PortaPortal) can help. In this activity, participants create an account, learn to create a bookmark and organize bookmarks using an online tool. Alternatively, participants may find social bookmarking websites (such as Del.icio.us, BlogMarks or BuddyMarks) an option for organizing and sharing Internet resources with colleagues and students. If applicable, present this as an option.

- Select an online bookmarking tool to demonstrate to participants.
- Guide participants through the process of setting up an online bookmarking account by following the directions available online with the selected tool.
- Facilitate skill development in creating a bookmark and organizing bookmarks with the online tool.

Comparing Browser and Online Bookmarking Tools

During this activity, participants will compare the features of different bookmarking tools. Participants who have saved and organized bookmarks using browser features or online bookmarking tools need to consider which tools effectively and efficiently meet their resource-management needs. In addition, secondary teachers need to consider which tools will effectively and efficiently meet the resource-management needs of their students.

- Pose the following question: "Which tool will enable users the most effective and efficient organization and subsequent access of Internet resources?" Participants may not have an answer at this point. The idea is to get them thinking about this question as they progress through the activity.
- Create a list in SMART Notebook (or on chart paper) of traditional bookmarking techniques, tools and basic uses such as those in an Internet browser. Include the benefits these tools provide.
- Create a second list of online bookmarking sites, as well as social bookmarking sites, and the benefits of using those.
- Ask participants to work with a partner or in a small group to compare browser-based tools with online and social bookmarking sites to determine which will best meet their needs and those of their students. The **Resources** section of the participant module includes Web addresses and descriptions of the various online tools available.

Reflection and Putting into Practice

As participants progress through the activities, provide time for them to process what they are learning. **Processing methods** might include the following:

- Check participants' skill development by asking them to share which organizational structure they think will best meet their classroom needs and why.
- If participants completed **Session Starter Option #2: Locating Information to Solve a Problem**, have them explain to the entire group, or to a partner, which tool they would choose to organize the information they need to help the teacher in the scenario develop classroom community.

After completing the activities in this section, select and facilitate a reflection activity that will help participants think about the Internet resource organization skills that are important and valuable for them and for their students. Choose one of the following.

Option #1: Reflective Discussion

Discuss how saving and organizing bookmarked URLs will increase productivity and efficiency. Pose questions such as the following: "How is the process of saving and organizing bookmarks valuable?" "Or is it?" "How will organizing bookmarks be useful in your classroom?"

Option #2: Reflective Journaling

Provide participants with copies of the handout titled **Reflection: Organizing Resources**. Ask participants to think about and respond to the following statements, which are on the form.

- Bookmarking and creating an organizational structure for saved bookmarks is important and valuable for me ...
- Age-appropriate organization of Internet resources for students in my classroom will include ...
- Organization of Internet resources is important and valuable for my students because ...

If desired, ask participants to share one of their statements after they have been through the reflection process.

Option #3: Reflective Mind Mapping

Asking participants to develop a mind map on information literacy will give them an opportunity to create a visual representation of the skills and techniques related to information literacy. For some learners, creating such a visual will help them make connections between discrete skills. Participants will be able to add to their information literacy mind map during the subsequent session on *Evaluating and Using Internet Resources*. Guide participants into creating a mind map that reflects various techniques for locating and organizing Internet resources. Since the purpose of the mind map is for visualizing how discrete skills connect and become part of a complex performance, it is important that participants determine how the map will be organized so it is meaningful to them. Posing questions such as the following will help guide participants as they develop mind maps: "How is organizing Internet resources an information-literacy skill?" "What techniques are important for organizing Internet resources?" "How might this look in a graphic organizer or mind map?"

60 Minutes Conducting Effective and Efficient Internet Searches

Expected Outcome (in Question Form)

Which skills should learners use to effectively and efficiently locate and organize information?

Materials Needed

- Computers with Internet access
- Copies of participant module (internetresources.pdf)
- Chart paper and markers
- 3" x 5" note cards (for Reflection Option #1)
- Mind maps developed in previous activity (for Reflection Option #2)

Participant Guide Sections

Locating and Accessing Information: Directories, Search Engines and Metasearch Engines; Conducting Efficient Searches; Affirming Diversity through Resource Selection

Purpose

Conducting Internet searches can be a time-consuming task; however, this task can be more effective and efficient if an individual applies thoughtful searching skills. The following activity provides participants with an opportunity to consider the process used to locate and access Internet resources, including how to refine their search skills. The intent is for participants to understand that there are different types of search engines and directories for different purposes and refining search terms will help yield quicker results.

Directions

- Participants will use the following topic to develop their Internet search skills—community building/establishing community. If participants completed the **Session Starter Option #2: Locating Information to Solve a Problem**, have them return to that task and identify the information needed in the scenario (community building or establishing community).
- Label charts with the following titles: search engines, directories and metasearch engines.
- Assign participants to groups that will use either a search engine, directory or metasearch engine.
- Have participants conduct a search on the topic of community building/establishing community using their assigned tool (a search engine, directory or metasearch engine). Ask participants to note the results of their initial search on the chart paper (number of websites the search engine or directory produced from the search).
- Guide participants to use the module section on conducting efficient searches to refine their search so they produce the most relevant, concise list of websites. Challenge participants to refine an Internet search on community building that will result in the smallest list of the most relevant websites.
- Each time a group alters its search terms, the team should note (on chart paper) what it did and the results produced.
- When searches are complete, ask groups to share their results.
- Compare results between groups based on keywords, types of browsers and so forth.
- Ask each group to develop generalized statements about effective and efficient uses of search engines.
- Point out to participants that when a broad term such as “community building” or “establishing community” is typed into Google, it may return a list of sites that are not just irrelevant but also not appropriate. This is a good time to point out how important it is to NOT conduct a search in front of students if participants have not pre-searched the keywords beforehand so they will not be caught off-guard by the results. It should also illustrate the importance of making sure students do not attempt a search with broad terms.

- Provide time for participants to apply effective and efficient searching skills by locating resources for the topic they identified prior to this session. They may use eThemes and/or other search tools and will use the bookmarking tools to organize the resources they locate.

Reflection and Putting into Practice

Option #1: 3 X 5 Reflect and Pair

Provide participants with 3" x 5" note cards. Ask participants to write, on the front of the card, the three searching techniques they feel are most valuable. On the back of the card, have them note one insight they had in terms of locating Internet resources to meet an information need. Pair participants and provide time for them to share their most valuable searching techniques and insights with each other. Conclude by having each pair discuss how these techniques and insights will benefit them in the classroom.

Option #2: Reflective Mind Mapping

Have participants return to the information-literacy mind map they created earlier. Ask them to consider how locating Internet resources fits in their model and include it in their diagram.

50 Minutes Student Skill Development and Access to Resources

Expected Outcome (in Question Form)

How will participants access age-appropriate resources that meet diverse learner needs?

Materials Needed

- Several packages of sticky notes
- Chart paper or computer with word processing software
- Copies of participant module (internetresources.pdf)
- Copies of the **Case Study One** handout (Option #1)

Participant Guide Sections

Locating and Accessing Information: Directories, Search Engines and Metasearch Engines; Conducting Efficient Searches; Affirming Diversity through Resource Selection

Purpose

Information-literacy skills include recognizing a need for information, locating information that meets the identified need, evaluating information in terms of effectively meeting the identified need and using information. Appropriate application of these skills does not occur suddenly—it evolves as individuals move from basic to more advanced performances. If students are taught age-appropriate information-literacy skills, they will be able to meet 21st century information needs that enable them to solve problems, make decisions and think creatively, effectively and efficiently. The following set of activities provides participants with an opportunity to consider which information location and organization skills are age appropriate for their students, how they will teach students these skills and how they will provide

students with access to pre-selected resources when that is an instructionally appropriate strategy.

Directions

Student Information Location Skills

- Pose the following question: "Which search skills are appropriate for students and at what age?"
- Provide individual think time on the question.
- Place participants in groups of three to brainstorm a list of information-literacy skills their students need to become proficient at using. Each group will post its list on chart paper (perhaps using sticky notes) or create an electronic file that can be viewed by other groups.
- Provide time for each group to conduct a *Stay and Stray*.

Cooperative-Learning Structure: Stay and Stray

Stay and Stray, a cooperative-task structure, has participants learn concepts from peer experts. In this structure, one person from a group stays at the group's home base to teach visitors the information developed by the home team. The rest of the team strays to the home bases of other groups to learn new information, switching roles periodically so everyone gets a chance to stray. After visiting other home bases, group members return to their home bases and share what they learned.

- Following the Stay and Stray, each group will finalize its list. The facilitator should make sure participants leave with the list or have online access to the list they helped develop.
- Items that might appear on the lists at various grade levels include the following:

Lower Elementary

Establish information need

- Examine questions and determine what information is needed
- Categorize questions
- Select topical category

Locate and access information

- Identify and select relevant available resources, offline and online (from teacher-provided webpage)
- Use organizational features of printed text or electronic resources to access information
 - Browser find feature to locate keywords on a webpage
 - Formatting cues (headings, bold-faced words)

Gather and organize information

- Read and review sources for relevant information
- Record summarized information found on a webpage (Word document)
- Include webpage title and URL for citations and references in notes
- Use quotation marks around text that is stated verbatim from a webpage in notes

Upper Elementary

Establish information need

- Examine questions and determine what information is needed
- Categorize questions
- Apply techniques to narrow or broaden focus
- Identify topical keywords, synonyms or phrases

Locate and access information

- Identify possible information sources both online and offline
- Use the advanced feature of a search engine to narrow searches
- Examine search engine results to determine most relevant and timely sources
- Use organizational features of print and electronic sources to access information

Gather and organize information

- Use various techniques to gather and record information, such as online note-taking tools (Noodle Tools)
- Include credit information in notes (Citation Machine)

Secondary

Establish information need

- Examine questions and determine what information is needed
- Categorize questions
- Develop subtopics to narrow or broaden focus
- Establish multiple sets of search words (keywords, synonyms and phrases) relevant to information need

Locate and access information

- Identify relevant information sources both online and offline
- Conduct information searches using varied search tools appropriate for task
- Examine search engine results to determine most relevant, timely and credible sources (such as those that pay search fees for top listing)

Gather and organize information

- Use various techniques to gather and record information, such as online note-taking tools (Noodle Tools)
- Use full citations when summarizing and quoting information for note-taking
- Organize notes and resources using appropriate technology tools

Providing Resources for Students

Option #1: Case Study

- Provide participants with the **Case Study One** handout included at the end of this module.
- Place participants in small groups and have them brainstorm and discuss solutions to the problem.
- It is important for participants to realize that resources should always be provided for younger students. Depending on the purpose for using Internet resources, there will be times when it is better instructionally to provide resources for older students rather than having them conduct searches. The

issue participants need to consider is what is the most effective and efficient means for providing a list of Internet resources to their students.

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SAMPLE