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Session 7

Collaborative Tools in Action

Objectives
1. Participants will understand how different collaborative tools can be used in the classroom to enhance the learning experience.
2. Participants will use collaborative tools in a problem-based learning environment.

Facilities
• A room with Internet access, a data projector, speakers, tables, and space for participants to spread out in groups and work comfortably
• Electricity as required for powering participants’ computers

Equipment/Materials
• Computer with Internet access and data projector for facilitator
• Laptop computers with Internet access (1–2 per group)
• Digital camera (1 per group)

Software
Computers should also have current installations and updates of
• Java
• QuickTime
• Flash

Facilitator Preparation
• Read the session guide and familiarize yourself with the activities and handouts 1–5.
• Make copies of handouts 1–5 and upload the files to Google Docs for participant access during the session.

Participants
Up to 25 teachers

Time Required
6 hours

Handouts
- 1: Creating a Blog
- 2: Garden Experiment Blog
- 3: Collaboration Tools
- 4: Classroom Implementation
- 5: Instructional Unit Plan
• Preview all the websites used in the session to ensure the links are current. Bookmark each site.
• Ensure adequate numbers of materials for all participants and groups.
• At the appropriate time, input handouts 1–5 into Blogger for group contributions.
• Review the BSCS 5Es Instructional Model (see Session 1: Handout 1).
• Review the related Texas Essential Knowledge and Skills (TEKS) Technology Applications standards listed at the end of this session.

Prerequisite Skills of Participants and Facilitator
• Basic computer skills
• Thorough understanding of Web navigation
• Solid understanding of all the websites and/or software addressed in this session (facilitator)

Grouping Strategy
Use a heterogeneous grouping strategy. Ensure that each group of three to four members includes both math and science teachers, as well as elementary school teachers who teach in self-contained classrooms.
Session Sequence

The sequence of activities in this session will provide participants with introductory experiences with and knowledge of online resources and tools for collaborating and sharing lessons, resources, and experiences. Participants will begin by becoming familiar with Blogger as a means to collaborate online. Blogger is part of the suite of Web 2.0 tools available through a free Google account. After reviewing the garden example used in the previous sessions, participants will design their own blog to gather and share data as well as photos and their experiences. The activity will conclude with a whole-group discussion to share the learning with all the participants.

Table Groups

1. Organize participants into heterogeneous groups of three to four members. Plan for a 3-minute transition from whole group to table groups.

2. Introduce the concept of a blog. A blog is an online log (Web log = blog) of a person's or group's activity. It can read like a diary or like a constantly growing magazine. The real power of a blog is in readers' ability to comment on it and to quickly search it for information.

   Ask the participants to explore a few different blogs created for classroom use, such as Mrs. Yollis’ Classroom Blog (http://yollisclassblog.blogspot.com/) and Mrs. Cassidy's Classroom Blog (http://classblogmeister.com/blog.php?blogger_id=1337).

3. Give the groups 15 minutes to discuss the content, design, and purpose of each blog. Participants should also discuss how they could use a blog in their classrooms.

Whole Group

4. Ask the table groups to report on the purpose of each blog site and the benefits of having a class blog.

Table Groups

5. Now that participants have a basic idea of what a blog is and its benefits, ask each table group to create a blog using Blogger. This online application is part of the suite of Web 2.0 tools available through a free Google account.

   Addressing the whole group, provide basic information about Blogger. Then instruct each group to select one member to use Blogger to set up a blog. Eventually all group members will have...
administrative access to this blog. Ask the participants to open Handout 1: Creating a Blog located in Google Docs. Orally lead or allow the groups to follow the steps in Handout 1 to set up a group blog.

6. Tell participants: “Now the fun part begins. From the Blogger settings page, you can view your blog (currently empty), change its settings, and start writing. As a group, take some time to click through the different options, settings, and templates to develop your group blog. Decide as a group on a design template and on any other preferences you would like to use."

Whole Group

7. Tell participants: “For the last six sessions, we have used the gardening project as an example of how to integrate mathematics, science, and technology. The gardening project was used simply to provide everyone with a common example and reference point.”

“Now, your group will have the opportunity to develop your own integrated unit using the context of your choosing. Before you begin, please review your curriculum and state standards to determine a topic that would meet your students’ educational needs. In your groups, identify the topic and the content objectives in mathematics and science that you will develop.”

To guide the discussions, help the groups brainstorm some possible topics and content connections. The following are some examples:

- Skateboard or toy car ramps to study angles as well as kinetic and potential energy
- Kites or paper airplanes to investigate the relationship between surface area and Bernoulli’s principle
- Model boats to identify appropriate units and measures, application of surface area and mass, and buoyancy and density

Table Groups

8. Give the groups 30 minutes to identify a topic and content objectives as well as how the blog will be used in the unit. At the end of that time, groups should be prepared to share this information with the whole group.

Whole Group

9. Invite a representative from each table group to share the following:

- Group topic
- Content objectives
- How the blog will be used to gather and share data in the unit

Ask the whole group for additional suggestions, ideas, or relevant resources the table groups may consider as they develop their units more fully.
Whole Group

10. Tell participants, “Remember, one of the components of the unit is to collaborate and share our experiences. We will continue to use the garden unit as the common example for whole-group discussion, and your group should then apply the principles to your specific topic.

“To that end, in the garden example, groups of students in a class could be responsible for ‘adopting’ a portion of the garden. Each group would then be responsible for documenting the growth of the plants in its portion of the garden. The documentation could include photos of the plants as well as data, such as growth rates, weather details (e.g., temperature, rainfall), insects and animals, and anything else related to the content that will interest the students. You may even have the blog take on the ‘voice’ of a plant or animal.”

Table Groups

11. Explain to participants that one of the things they need to consider and communicate to students is the criteria for group projects. Discuss the benefits of teachers’ sharing a rubric and guidelines with students before they start using a blog.

Then, ask the groups to determine how they would monitor and evaluate student work on a blog. For future reference, each group should list on its blog the criteria members would use.

Whole Group

12. Ask each group to report out how its members would monitor and evaluate student blogs. After each group presentation, ask the other participants for feedback and to share any additional ideas they have.

13. Tell participants they next need to consider and discuss the components their units should contain, as covered in previous sessions:
   - BSCS 5Es Instructional Model format (Session 1 handout)
   - Video (Session 3)
   - Outdoor learning experiences (Session 3)
   - Web research (Session 4)
   - Assessment rubric (Session 5)
   - Online collaboration—blog (Session 7)
   - Community resources (will discuss in Session 8)
Table Groups

14. Give the groups approximately 2 hours to begin planning their instructional units, including using the Blogger site to collaborate and record information in their blogs. Provide each group with an electronic copy of Handout 2: Garden Experiment Blog. Using the handout as a guide, one person in each group should post on the group’s blog similar suggestions for the group’s unit. For example, group members should discuss possible protocols and guidelines regarding the required information that needs to be posted to the blog by all participants. The discussion should also include how to best use the blog, including how to add photos, documents, student work, and any data that members think are relevant to the project. An additional component to discuss would be how each school may go about establishing blogs for students to communicate and interact with fellow students and teachers.

15. Provide each participant with copies of Handout 3: Collaboration Tools (electronic copy) and Handout 4: Classroom Implementation. Instruct the groups to use the handouts, as well as other resources they identify, to guide their unit planning. In addition, they should use Handout 5: Instructional Unit Plan (electronic copy) to record group decisions, roles, and responsibilities.

16. Participants will have additional time in Session 8 to continue development of their integrated units.

17. Inform the participants that in Session 9, each group will have 30 minutes to share its unit with the whole group.

Whole Group

18. Ask each group to report out its progress on developing its integrated unit. After each group presentation, ask the whole group to provide feedback and suggestions on the design and details of the following:

- Content
- Video
- Outdoor learning component
- Blog

19. Ask one member of each table group to make notes on the blog for reference when the group next meets to work on its unit. Guide the group discussion and ask the groups to share insights. When they are done, they will need to “publish” the blog.

Whole Group

20. Reflection. Ask questions to elicit feedback on the process the groups experienced: “What were some of the challenges? What went surprisingly well? How could you use this process in the classroom to set up student blogs?”

Equipment/Materials

- Computer with Internet access and data projector for facilitator (optional)
- Laptops with Internet access (1–2 per group)
21. After the discussion, inform the groups that they will be responsible for following through and completing the units in the next session. Each group should use its blog to continue to collaborate between sessions.

22. At this point, recap and debrief the day.

Technical Assistance Follow-Up

The technical assistance provider will ensure that all school groups access, review, and add updates, reports, and so on regarding the development of the units. This continued experience and improved expertise is essential to participants’ ability to utilize collaboration tools in practical classroom applications.

The technical assistance provider will take the information from Handout 5 for each team and contact all team leaders within 3 days to set up a tentative schedule for follow-up actions. Depending on the team’s needs, the follow-up should include the following:

1. Calls to or from team leaders or team members to assist and answer any questions dealing with the instructional unit design and development
2. Site visits to provide technical assistance with the unit design and development
3. Site visits to provide technical assistance in the implementation of the unit, such as classroom observation of a unit lesson or lessons
4. Site visits to provide assistance with post-lesson activities, such as reviewing student work and meetings to reflect on content or pedagogy

Texas Essential Knowledge and Skills (TEKS)

Please note, not all of grades 4–8 have standards that relate to this session. Avoid “stretching” the session to make it apply to TEKS other than those listed below. This effort would not be an appropriate use of the students’ learning time.

§126.3. Technology Applications, Grades 3–5.

(b) Knowledge and skills.

(6) Information acquisition. The student evaluates the acquired electronic information. The student is expected to:

(A) apply critical analysis to resolve information conflicts and validate information;
(B) determine the success of strategies used to acquire electronic information; and
(C) determine the usefulness and appropriateness of digital information.

(7) Solving problems. The student uses appropriate computer-based productivity tools to create and modify solutions to problems. The student is expected to:

(A) use software programs with audio, video, and graphics to enhance learning experiences;
(B) use appropriate software to express ideas and solve problems including the use of word processing, graphics, databases, spreadsheets, simulations, and multimedia; and
(C) use a variety of data types including text, graphics, digital audio, and video.

(8) **Solving problems.** The student uses research skills and electronic communication, with appropriate supervision, to create new knowledge. The student is expected to:

(A) use communication tools to participate in group projects;
(B) use interactive technology environments, such as simulations, electronic science or mathematics laboratories, virtual museum field trips, or on-line interactive lessons, to manipulate information; and
(C) participate with electronic communities as a learner, initiator, contributor, or mentor.

(10) **Communication.** The student formats digital information for appropriate and effective communication. The student is expected to:

(A) use font attributes, color, white space, and graphics to ensure that products are appropriate for the defined audience;
(B) use font attributes, color, white space, and graphics to ensure that products are appropriate for the communication media including multimedia screen displays, Internet documents, and printed materials; and
(C) use appropriate applications including, but not limited to, spreadsheets and databases to develop charts and graphs by using data from various sources.

(11) **Communication.** The student delivers the product electronically in a variety of media, with appropriate supervision. The student is expected to:

(A) publish information in a variety of media including, but not limited to, printed copy, monitor display, Internet documents, and video; and
(B) use presentation software to communicate with specific audiences.

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**References**