

## Tools for Twenty-First-Century Learning Teams: Matrices

The following matrices can help school leaders identify tools that may support the work of their teams and teachers.

**Tools for Communication:** Teachers in professional learning communities must be skilled communicators. Schools once driven by individuals completing stand-alone tasks largely in isolation are now driven by human interactions. The challenge, however, is finding time for ongoing conversations among peers. What is more, the structure of face-to-face meetings can intimidate and/or silence marginalized members of some learning teams. Digital tools for communication can address both of these core frustrations.

Tool Type	Essential Features	Preferred Features	Suggested Services
<p><b>Asynchronous Discussion Tools</b></p> <p>Many teachers need time to process core beliefs before feeling comfortable enough to add to team conversations. Asynchronous discussion forums allow participants to carefully polish their thinking before sharing it with peers. What is more, participation can happen any time, making communication easier to fit into personal schedules.</p>	<ul style="list-style-type: none"> <li>• Ability for participants to post anonymously</li> <li>• Ability for participants to receive email updates when new comments are added to the conversation</li> <li>• Ability to follow additions to conversations in feed readers or content aggregators</li> </ul>	<ul style="list-style-type: none"> <li>• Ability for conversations to be made open to a broader audience when appropriate (for example, for learning teams that consist of members across buildings or communities)</li> <li>• Ability for segments of conversations to be downloaded or exported into other formats or forums</li> <li>• Ability to add comments recorded from webcams and microphones</li> </ul>	<p><b>Blackboard</b>  <a href="http://blackboard.wcpss.net">http://blackboard.wcpss.net</a></p> <p>Advantages: Teachers have individual logins. Application can be scaled for student use.</p> <p>Disadvantages: Conversations are “closed,” limiting participation to a single building. Conversations are limited to text-based stimuli. Service must be purchased.</p> <p><b>Voicethread</b>  <a href="http://voicethread.com">http://voicethread.com</a></p> <p>Advantages: Service is free to educators. Application provides opportunities for participants to follow ongoing conversations via email or RSS feeds. Conversations can include text, audio, or video comments.</p> <p>Disadvantages: Not designed for creating warehouses of shared documents. Sole function is facilitating asynchronous conversations.</p>

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<p><b>Video Conferencing Tools</b></p> <p>Learning teams in rural communities or unique content areas can struggle to find partners to pair with. Video conferencing opens the door to collaboration for these teachers by allowing synchronous conversations with digital peers across the county, state, or globe.</p>	<ul style="list-style-type: none"> <li>• Ability to easily stream video without dropped connections</li> <li>• Ability for recording video conferences for later playback</li> </ul>	<ul style="list-style-type: none"> <li>• Ability for participants/viewers to engage in instant message and back channel conversations during video conference</li> <li>• Ability for users to broadcast to a wider audience than just those involved in the immediate video conference</li> </ul>	<p><b>Ning</b> www.ning.com</p> <p>Advantages: Service is free to educators. Application provides opportunities for participants to follow ongoing conversations via email or RSS feeds. Individual participants can create their own profile pages to track conversations in which they are involved.</p> <p>Disadvantages: Conversations are limited to text-based stimuli. Difficult to build warehouses of documents.</p> <p><b>Tapped In</b> http://tappedin.org/tappedin</p> <p>Advantages: Service is free to educators. Application provides opportunities for participants to follow conversations via email. Application includes built-in instant messaging client.</p> <p>Disadvantages: Conversations are limited to text-based stimuli. Presentation lacks polish.</p>
<p><b>Ustream</b> www.ustream.tv</p> <p>Advantages: Users can broadcast presentations and content to a larger audience. Presentations can be recorded for future archiving and playback. Participants can engage in instant message conversations during presentations.</p> <p>Disadvantages: Only one-way video and audio communication is supported.</p> <p><b>Skype</b> www.skype.com</p> <p>Advantages: Two-way video and audio conferencing between users is enabled. Application allows for instant message communication between users during teleconferences.</p>			

Tool Type	Essential Features	Preferred Features	Suggested Services
<p><b>Instant Messaging Tools</b></p> <p>One of the greatest frustrations for learning teams is finding answers to quick and simple questions. Tracking down peers is just plain inefficient, wasting already limited amounts of planning time. Instant messaging applications can connect teachers in real time.</p>	<ul style="list-style-type: none"> <li>• Ability for teachers to connect with peers across schools and communities. In-house instant messaging limits effectiveness—particularly for members of isolated learning teams.</li> <li>• Ability for teachers to receive a list of posted messages sent from colleagues for later review</li> </ul>	<ul style="list-style-type: none"> <li>• Ability for easy file and resource sharing to occur during a live video conference</li> <li>• Ability for desktop sharing during a video conference, allowing users to access one another's computers from remote locations</li> </ul>	<p>Disadvantages: Does not allow for recording or broadcasting of videoconferences. Does not allow for desktop sharing during videoconferences.</p> <p><b>Google Video Chat</b>  <a href="http://mail.google.com/videochat">http://mail.google.com/videochat</a></p> <p>Advantages: A part of the larger Google suite of tools, so the application can be accessed by any user with a Google account. Two-way video and audio conferencing between users is enabled. Application allows for instant message communication between users during teleconferences.</p> <p>Disadvantages: Does not allow for recording or broadcasting of videoconferences. Does not allow for desktop sharing during videoconferences.</p>
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		<ul style="list-style-type: none"> <li>Automatic limitation on the size of posted messages to ensure that instant messaging remains a source for just-in-time support and communication instead of becoming a source for deep reflection.</li> </ul>	<p><b>Twitter</b> www.twitter.com</p> <p>Advantages: Application is an open instant messaging system that pairs colleagues from across the globe in ongoing conversations. Participants can follow conversations through RSS feeds.</p> <p>Disadvantages: Audience may be too removed from teams of teachers to offer relevant or helpful advice.</p>
<p><b>Tools for Collaboration:</b> One of the greatest frustrations for teachers new to professional learning communities is finding the time to manage additional responsibilities and expectations. Traditional tasks (grading papers, writing plans, communicating with parents) are paired with new tasks (analyzing data, making shared decisions regarding curriculum, developing common assessments), leaving teachers completely exhausted. Tools that facilitate shared creation of instructional materials can create a bit of breathing room for overwhelmed learning teams.</p>			
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<p><b>Shared Document Creation Tools</b></p> <p>Teams of teachers are constantly creating written documents and presentations that support lesson plans or grade-level policies. Collaborative elements could easily be introduced to this</p>	<ul style="list-style-type: none"> <li>Ability to track changes to shared documents easily</li> <li>Ability to restore earlier versions of shared documents</li> <li>Ability to jointly produce and export all common file formats: DOC, XCL, PPT, PDF</li> </ul>	<ul style="list-style-type: none"> <li>Ability to follow revisions through RSS feed readers, enabling colleagues to monitor changes easily</li> </ul>	<p><b>Google Docs</b> http://docs.google.com</p> <p>Advantages: A part of the larger suite of Google tools, so application can be accessed by any user with a Google account. Multiple users can work on the same document at the same time. Revisions can be followed through RSS feed readers.</p> <p>Disadvantages: A Google email account is required.</p>

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<p>work using digital tools for shared document creation.</p>	<ul style="list-style-type: none"> <li>Ability for multiple teachers to work on the same document at one time</li> </ul>		<p><b>Writeboard</b> www.writeboard.com</p> <p>Advantages: Users are able to revert to earlier versions and track changes through RSS feeds. Does not require a user account or login.</p> <p>Disadvantages: Does not allow for the creation of commonly used file types. Does not allow multiple users to work on the same document at once.</p>
<p><b>Wiki Tools</b></p> <p>Perhaps the most approachable collaborative tool available to teams of teachers. Wikis are editable websites that allow colleagues to create content together. Because of their ease of use, wikis are often the first digital tool that teachers embrace.</p>	<ul style="list-style-type: none"> <li>Multiple layers of password protection: viewing, editing, deleting/creating pages, and so on</li> <li>Ability to easily embed content from other services</li> <li>Discussion boards that enable participants to comment on pages created by peers closed to outside users</li> </ul>	<ul style="list-style-type: none"> <li>Ability to follow revisions through RSS feed readers, enabling team members to monitor changes easily</li> <li>Ability to export pages in other file formats: DOC, PDF</li> <li>Sufficient storage space on free accounts to allow teachers to upload images, documents, and other supplemental materials</li> </ul>	<p><b>PBworks</b> www.pbworks.com</p> <p>Advantages: Application allows for multiple layers of password protection. Users are able to follow changes through RSS feed readers. Discussion boards are provided for each page.</p> <p>Disadvantages: Free versions provide limited storage space and features.</p> <p><b>Wikispaces</b> www.wikispaces.com</p> <p>Advantages: Multiple layers of password protection are provided. Free accounts for educators include ample storage space.</p> <p>Disadvantages: Application is occasionally balky and often has unattractive workspaces.</p>

<p><b>Tools for Information Management:</b> Perhaps the greatest challenge facing teachers working in learning communities is sifting through the amazing amount of content being created by their peers. Collaboration provides access to volumes of information that can be overwhelming, and valuable materials can be easily overlooked as teachers try to make sense of what their team has gathered. To reduce frustration, teachers must be able to quickly access content that may be of value to their work and judge the quality of the sources with which they have chosen to interact. Without these skills, teachers on learning teams will be inefficient and aggravated.</p>			
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<p><b>Content Aggregation Tools</b></p> <p>Arguably the most important information-management tools for learning teams. Also called <i>feed readers</i>. They allow users to monitor regular updates to web content from one central location. For teachers, this means being able to watch document revisions or wiki additions made by their peers immediately and easily. It also means gaining access to interesting and appropriate resources without having to rely on Google searches.</p>	<ul style="list-style-type: none"> <li>• Ability for individual users to have their own online accounts that can be accessed anywhere</li> <li>• Ability for feeds to be made public if and when necessary to enable sharing and monitoring</li> <li>• Ability for individual users to access a range of other tools from within their feed readers: to-do lists, grade trackers, calculators, note takers, and so on</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to easily copy interesting feeds from one account to another</li> </ul>	<p><b>Pageflakes for Teachers</b>  <a href="http://teacher.pageflakes.com">http://teacher.pageflakes.com</a></p> <p>Advantages: Application is designed specifically for students and teachers. Interesting teaching and learning feeds can be easily copied to individual accounts. Feed pages can be set to public or private, making sharing of content possible.</p>

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<p><b>Social Bookmarking Tools</b></p> <p>While social bookmarking has not yet become widely popular, it is a tool that has remarkable potential for the collaborative teacher. Social bookmarking accounts allow users to easily share web links of interest with one another and to tag those links by topic area. Social bookmarking sites make searching for information more targeted.</p>	<ul style="list-style-type: none"> <li>• Ability to tag web links by topic, content area, or grade level</li> <li>• Ability to quickly access sites tagged by other users</li> <li>• Ability to add to or access a user account from any computer</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to follow user accounts through RSS feed readers, enabling teachers and students to monitor changes easily</li> <li>• Ability to create user groups that include discussion forums</li> <li>• Ability to annotate websites and to easily share annotations with other users</li> </ul>	<p><b>Delicious</b>  <a href="http://del.icio.us">http://del.icio.us</a></p> <p>Advantages: Web links can be tagged and sorted by category. Users can follow additions by other users via RSS feed.</p> <p>Disadvantages: Users are required to add browser buttons to their Internet Explorer toolbar. Does not allow users to annotate websites or to share annotations.</p> <p><b>Diigo</b>  <a href="http://www.diigo.com">www.diigo.com</a></p> <p>Advantages: Web links can be tagged and sorted by category. Users can follow additions by other users via RSS feed. Users can create groups and profile pages that provide opportunities for ongoing dialogue around shared resources. Users can annotate websites and share annotations with one another, making shared reading possible.</p> <p>Disadvantages: A smaller number of users than Delicious means access to fewer shared links.</p>