Revisiting WebQuests in a Web 2 World.
How developments in technology and pedagogy combine to scaffold personal learning

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Summary

The WebQuest was launched in 1995 to scaffold advanced cognition by integrating the "ill-structured" nature of the World Wide Web with a process that guides novices through decisions and experiences that characterize experts' behaviors. Recently, the Web has morphed into Web 2.0 with its social networking sites, blogs, wikis and podcasts. Given this richness, revisiting WebQuests is in order. This paper reviews the critical attributes of true WebQuests and reviews recent research in thinking routines and intrinsic motivation to recommend new paths for WebQuests that could scaffold student use of Web 2.0 environments, enabling a shift toward authentic personal learning.

Keywords

WebQuests; Web 2.0; weblog; blogs; intrinsic motivation; thinking dispositions

Introduction

The WebQuest strategy for integrating the World Wide Web into classroom learning was launched in early 1995 by Professor Bernie Dodge at San Diego State University. The present author had the opportunity to work closely with Dodge for five years to develop the WebQuest from his early "Thoughts About" (Dodge, 1995) to a fairly-well codified strategy. Serving as graduate student, research fellow and colleague, the author's early role focused on the creation of exemplary WebQuests. These might be used by students and teachers, but also stood as models for others interested in creating their own Web-based learning activities. Since 1995, the author has regularly produced new WebQuests and other related formats (March, 1997) in an attempt to extend our understanding of what facilitates effective Web-based learning.

With the emergence of Web 2 applications (O'Reilly, 2005) like social networking, wikis, blogs and podcasts, the potential to use a Web environment to pursue true personal learning has become a reality. This article reiterates the key features of an effective WebQuest and identifies evolutionary paths for the scaffolding strategy that can be used by teachers and researchers to assist students in achieving new dimensions of learning through use of rich Web 2 applications within a personal learning context. Rather than force-fit an earlier approach to current technologies, revisiting the WebQuest in a Web 2 world highlights its benefit to both students and teachers as a framework for leveraging achievement and maximizing authentic learning.

Key Elements of WebQuests

What happens when students who are used to completing knowledge acquisition tasks turn to the Web as a source for information? Something like this question arose in 1994 as San Diego State University's Department of Education became networked to the World Wide Web. Even in those early days of poor search engines and text-only pages, it was evident that traditional "research" assignments ported to the Web would tend to invite either "copy and paste mastery" or invoke the cognitive dissonance that can lead to advanced critical thinking. For students trained to see resources as "information," having them digitally available merely ended the tedium of hand-copying text. For others inclined to question what they read, the "everyman as publisher" aspect of the Web offered a practical reason to exercise critical thinking. In recognition of this dichotomy, the WebQuest was offered as a template to scaffold advanced cognition within a constructivist orientation.

In its first appearance, Dodge defined the WebQuest as "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet" and used headings to signal the critical attributes of a WebQuest. Beyond the obvious introduction and conclusion, the key features were the "task," a "set of information sources," a "description of the process" involved in achieving the task, as well as some "guidance on organizing the information" (Dodge, 1995). Early on, the to-and-fro of instructional design discussions suggested refinements to the first bullet points followed by further modifications highlighted through implementation and evaluation of teacher and student feedback. After nearly a decade conducting workshops, writing articles and developing many WebQuests, the present author found it necessary to offer a refined definition as follows:

> A WebQuest is a scaffolded learning structure that uses links to essential resources on the World Wide Web and an authentic task to motivate students' investigation of an open-ended question, development of individual expertise, and participation in a group process that transforms newly acquired information into a more sophisticated understanding. The best WebQuests inspire students to see richer thematic relationships, to contribute to the real world of learning, and to reflect on their own metacognitive processes.

Without restating the detailed rationale of this definition found in "The Learning Power of WebQuests," (March, 2003), what is important for the present discussion are the core elements that form a part of every WebQuest: a scaffolding structure that encourages student motivation and facilitates advanced thinking with integration of an enriched learning resources. Amidst these four elements are subtleties

involving open-ended questions, knowledge acquisition, concept development, service learning, collaboration, graphic organizers and meaning-construction among others, but scaffolding, motivation, thinking and compelling online resources stand central to every WebQuest. With these four elements as a foundation, this paper explores powerful synergies between advances in both pedagogy and technology.

Emerging Web 2 Technologies

Before revisiting the core elements of the WebQuest in a Web 2 context, consideration of the emerging technologies is in order. Lee Rainie, Director of the Pew Internet & American Life Project, neatly captures these changes in an article (Rainie, 2006) describing "Digital Natives" entering the workforce:

> And at the dawn of high school for our worker in 1999, Sean Fanning created the Napster file-sharing service. When the worker graduated from high school four years later, his gifts might have included an iPod (patented in 2002) and a camera phone (first shipped in early 2003). Our worker's college career saw the rise of blogs (already two-years-old in 2000), RSS feeds (coded in 2000), Wikipedia (2001), social network sites (Friendster was launched in 2002), tagging (Del.icio.us was created in 2003), free online phone calling (Skype software was made available in 2003), podcasts (term coined in 2004), and the video explosion that has occurred as broadband internet connections become the norm in households (YouTube went live in 2005).

Part of the idea behind the version "2" nomenclature is that many of these new applications go far enough beyond understood specifications of the Web to merit a fresh set of user-expectations. A few aspects are central to this re-vision of the Web. First, enriched browser-based interactivity enables much more than the familiar "point-and-click-and-wait" as demonstrated by the ability to drag and re-size Google Maps without delays needed to download new content. Second, Web-based software encourages users' contributions through facile browser-based publishing as seen in the explosion of the "blogosphere" and Wikipedia's incredible growth. Finally, "Web services" remix user-generated data and thus "get smarter" through use. The archetype and industry leader in this area is Google whose algorithms track over 200 variables per search. This approach now derives a "universal search" of data drawn from "Google Apps" like Gmail, iGoogle, Froogle, Maps, Docs, Blogger and YouTube. One measure of Google's success at this data-mining is the value of its stock compared to the Web 1.0 search leader Yahoo (typically $500+ versus $25). The leading Web 2 applications are known by such terms as blogs, wikis, podcasts, social networks, and mashups and are located on the Web, but increasingly merge with mobile devices so that camera phones send photos to blogs, social networks run on SMS text messages, and Wikipedia can be read from an iPod. If one "voice" could be used to speak for what is common to this variety of applications, perhaps a reasonable attempt is this: "We want to connect you with everything you like to do, know, share, watch, listen to, participate in, create and buy. And the more you use us, the better we'll get."

Revisiting WebQuests

WebQuests originally scaffolded students used to knowledge acquisition to construction of meaning and the teacher from "direct-instructor" to facilitator. Web 2 environments complete the progression from teacher-centered practice to a learning-centered experience that is best mediated by students

themselves. Does this mean that all students need is a Web 2 environment and they can learn on their own? Few who have visited MySpace or FaceBook would argue that access to Web 2 technology alone is enough to achieve our educational goals. What elements might support students to use this powerful medium in educationally beneficial ways? Revisiting the four core aspects of WebQuests can provide some direction.

Revisiting Motivation

Among the body of literature that informed the initial WebQuest development was Keller's ARCS model of motivation (Keller, 1987). As a well-researched and concrete approach, the ARCS Model provided guidance in shaping the WebQuest's introduction (Attention), choosing the topic and roles (Relevance), chunking the activity into a learning process (Confidence) and using an authentic topic and a real world audience to entice student engagement (Satisfaction). ARCS remains a powerful tool for instructional designers and teachers as it provides a clear lens through which to view curriculum development and implementation. However, as the shift moves to the individual so, too, should the approach to leveraging motivation. In other words, rather than help those designing the learning activity to accentuate the potential of motivation, the technology can provide its disintermediating effect and we can help learners prime their own intrinsic motivation.

Intrinsic Motivation

Most would expect a self-motivated student to perform better than a less motivated peer. Fortunately, much has been learned in recent years about facilitating and even predicting intrinsic motivation. Ryan and Deci (2000) identify three key perceptions on the part of the individual that sustain intrinsic motivation. These are perceptions of control or autonomy; competence or self-efficacy; and relatedness or connectedness. Thus, when students have choice, experience themselves as capable and feel connected to those around them, intrinsic motivation is likely to be experienced. Typical of the ongoing research conducted refining Deci and Ryan's Self-Determination Theory (SDT) is a study that found "a positive effect for intrinsic goal framing" as well as "a significant effect for autonomy-supportive versus controlling context," and, when these two simple approaches were used together, the greatest gains were achieved (Vansteenkiste, Simons, Lens, Sheldon & Deci, 2004).

Because Web 2 technologies and micro-niche marketing firmly locate individual users at the center of a globalized digital community, it follows that pedagogy would acknowledge and build on this individualization. Furthermore, the Web 2 services are trained on assembling profiles that anticipate user choices. Education might choose to act on this massive cultural influence of "what do you want; we want to give it to you" for several reasons, among them the goals to improve achievement or help students make wise choices. Regardless, Web 2 clearly capitalizes on motivation, one of the WebQuest's core attributes.

Ryan and Deci's work suggest a range of paths for future research. For instance, does increasing individual autonomy and goal-setting within the WebQuest process yield higher performances as Self Determination Theory anticipates? Variables could be among the following: assigning students to roles versus allowing students to select their own; providing one group process and product that

demonstrates student learning or allowing students to choose from a range of options; or measuring student expertise in a role through summative evaluations or mastery learning. Beyond these very practical and worthy opportunities to expand knowledge on "how WebQuests work," is the near-future potential to harness the data management power of Web 2's management of user-input data to compile what could be called "personal learning profiles" and "generative use patterns." The present author is involved in a pilot study that will be described shortly that explores this approach.

Revisiting Thinking

The single distinguishing point between WebQuests and incorrectly named Web activities is found in a line that has become a mantra: The solution to a WebQuest can't be copy and pasted; a true WebQuest prompts students to "transform newly acquired information into a more sophisticated understanding" (March, 2003). In the early days of brainstorming the WebQuest, Professor Dodge drew a picture that showed "learning inputs" coming from the left, entering something of a "blackbox" and then emerging from it transformed into "understanding." The challenge was to illuminate some of what can happen in that back box, to posit replicable processes that can produce this transformation. Professor Dodge has contributed a wide range of Design Patterns while the present author has focused on a fewer number of "transformation scaffolds."

Typically a well-structured WebQuest might use a visual organizer or thinking framework to prompt students to consider aspects of complex topics that they might not ordinarily see and thus gain experience with critical thinking. In an instructional design intended for mass distribution and implementation, such strategies represent what could be called best practice, but in an individualized learning approach, they still reflect a focus on thinking as a skill.

Thinking Dispositions

The literature of critical thinking has recognized that to achieve the more challenging goal of actually developing into "thinkers," students need not only the capacity, but also the disposition to engage in such practices (Perkins, Farady, & Bushey, 1991). David Perkins and colleagues have identified seven intellectual tendencies -- or "thinking dispositions" – that are central to putting thinking skills into action (Tishman, Jay, & Perkins, 1992). These include such tendencies as to explore, to be curious, to clarify, to take intellectual risks, to be planful, to evaluate and to reflect.

Stepping back from the seven dispositions, three overarching elements illuminate how this approach differs from a skills-based understanding of critical thinking. For people to be disposed to think at a high level, they do need the ability or capacity to do so, but they also need the sensitivity to understand when different skills might be applicable. Finally, individuals must be inclined to engage in such thinking (Perkins, Jay, & Tishman, 1993). Clearly the elements of sensitivity and inclination go beyond the direct instruction of thinking skills as ability. The pedagogical strategy to promote such thinking dispositions is to embrace the skill-centered approach within a context of enculturation. This model emphasizes "the full educational surround" and "asks teachers to create a culture of thinking in the classroom" (Tishman, Jay, & Perkins, 1992).

Thinking Routines

The main strategy Perkins and his Visible Thinking Team have devised to create a "culture of thinking" is Thinking Routines, "simple patterns or structures, used over and over again, that support and scaffold specific thinking moves or actions" (Ritchhart, Palmer, Church, & Tishman, 2006). The primary purpose of the thinking routines is to make the "thinking of everyone in the classroom more visible and apparent" (Ritchhart, et al., 2006). Because much of the school day is built upon a series of routines, leveraging this surrounding environment has greater potential than developing an instructional approach that might only be used occasionally.

<div style="border:1px solid black; padding:10px;">

Figure 1 - Example Thinking Routines

SEE-THINK-WONDER

1. What do you see?
2. What do you think about that?
3. What does it make you wonder?

CLAIM-SUPPORT-QUESTION

1. Make a claim about the topic
2. Identify support for your claim
3. Ask a question related to your claim

WHAT MAKES YOU SAY THAT?

1. What's going on here?
2. What do you see that makes you say that?

</div>

Figure 1 highlights three Thinking Routines that could be used frequently

Apart from the obvious scaffolding effect, the genius behind such repetition of thinking routines is that each practice carries an implicit appreciation for the value of learning, thinking and questioning. In other words, the routines promote a sensitivity and inclination to use cognitive skills. Three long-term studies in three continents bare witness to this "epistemic message" conveyed by enculturation through thinking routines (Ritchhart, Palmer, Church, & Tishman, 2006)

That this complements the predictors of intrinsic motivation should be clear as all thinking routines begin with the learner's own ideas (thus autonomy-supporting) and have competency as their goal. Reinforcing this perspective is the observation that "intrinsic motivation exists in the nexus between a person and a task" (Ryan & Deci, 2000). When a task only exists to facilitate a learner's own ideas and imagination, and that task is repeated so as to achieve automaticity, powerful self-regulated thinking is encouraged and achievement more likely. Thus a beneficial cycle of skill development and self-initiation can promote positive developments.

Revisiting Rich Resources

From inception, WebQuests were designed to take advantage what some in education saw as negative aspects of the World Wide Web. An example might be a person researching "Jewish persecution" who

would inevitably encounter pages by "holocaust denier" Arthur Butz (http://en.wikipedia.org/wiki/Arthur_Butz) or a student collecting facts for "Black History Month" who might click to Stormfront's white supremacist perspectives on Dr. King (http://martinlutherking.org/). WebQuests have always used "the real-world complexity and ill-structuredness of many knowledge domains" (Spiro, Feltovich, Jacobson, & Coulson, 1992) present on the Web as a rich resource to engage students in constructivist learning through multiple representations of a topic. The goal was to move beyond learning as "knowledge" to view learning as "understanding" or at least "increasing sophistication." Links to authentic, sometimes discordant, Web sites provided opportunities to access more fertile resources than are typically available in textbooks and library references.

Education's Reaction to the Web 2 Revolution

If rich, varied and unreliable content was a revolutionary aspect of the WWW, collaboration and further-increased empowerment of the individual characterize Web 2. Stephen Downes (2006) states that "… what was happening, was that the Web was shifting from being a medium, in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along." Furthermore, he makes explicit, "For all this technology, what is important to recognize is that the emergence of the Web 2 is not a technological revolution, it is a social revolution" (Downes, 2006).

Although technology may change from text-only to AJAX, animated .gifs to YouTube, or listservs to RSS, the calibrations of educational adoption and adaptation are set to a different timescale. Add to this reality increases in home bandwidth compared to schools' frequently overtaxed networks and overzealous filtering, and it can be argued that more learning may be available in the unfiltered and vibrant online communities than is offered in our traditional schools. This is the daily reality for many of our students that may not as yet be fully appreciated by teachers and school administrators. The Pew Internet & American Life Project's "The Digital Disconnect," gives voice to student dissatisfaction, "For the most part, students' educational use of the Internet occurs outside of the school day, outside of the school building, outside the direction of their teachers". The report continued, "Students repeatedly told us that the quality of their Internet-based assignments was poor and uninspiring" (Levin, Arafeh, Lenhart, & Rainie, 2002).

Echoing the perspective, Bálint Magyar introduced the OECD publication Real Walls Down – Virtual Walls Up? saying, "These applications communicate more than information technology – they share digital culture" and that the "rigid, limited knowledge transmitted in the traditional classroom must give way to flexible, frontier-less knowledge" (Magyer, 2004).

The embarrassing truth is that in a few short decades, schools have gone from providing many students with their first experiences with computers and the Internet to what have become islands of impoverishment. Perhaps the most severe charge against schools is that the injustice may have less to do with technology than a constricted view of learning. Although it is tempting to see filtering as a way to protect students, because they spend so much time online, forcing clandestine access only encourages trouble. A Pew Internet and the American Life survey demonstrates how widely adopted these technologies are by students: Internet use rose from "60% to 82%" after students matriculate to

the seventh grade and then the numbers climb "steadily before topping out at 94% for eleventh and twelfth graders" (Lenhart, Madden, Hitlin, 2005). Thus even though the media relishes reports about Web 2 horrors like predators lurking on MySpace, bullying episodes on YouTube and factual errors in Wikipedia, those who spend time in the environments see with more subtlety and know that with free podcasts, snippets of most videos ever made and energetic online communities, the educational benefits outweigh the challenges. WebQuests can serve as a framework to integrate Web 2 into school learning.

Revisiting Scaffolding

The third core component of WebQuests is scaffolding, "temporary frameworks to support student performance beyond their capacities…" (Cho & Jonassen, 2002) and is the very justification for the WebQuest's existence. Examples of scaffolding are "activities that help students develop the right mindset, engage students with the problem, divide activities into manageable tasks, and direct students' attention to essential aspects of the learning goals" (Ngeow & Kong, 2001). Early and ongoing research validated scaffolding's positive effect on student achievement (Bereiter and Scardamalia, 1984; March, 1993) and with this base, scaffolding act as the framework to make visible "what happens" in the mysterious "black box" of transformation.

However, as examined above, acquiring thinking skills does not inherently end in a student feeling disposed to use them. A similar disconnect can still occur between the educational goal of helping students become self-initiated problem-solvers and a scaffolded process that still "smells like school work." Scaffolding that attempts to foster an organic love of learning is frequently reduced to a series of hoops for students to jump through, losing the intended spirit of creative problem-solving. A memorable example of this came in the form of an anonymous email sent from a student whose teacher assigned the author's "Searching for China" WebQuest. The message simply said, "F*** Y**, March. I got a D in social studies because of you." If something as novel as a WebQuest in 1996 can generate this response, it sends a signal about the reductive tendencies of "school."

Many excellent teachers, schools and initiatives mitigate the "school as assembly line" and find ways to make students know that their individual goals and growth are important. Unfortunately, these tend to occur in pockets whereas the frequent school experience is increasingly remote from the user-centered cultural orientation that technology enables. Like the shift from graphic organisers to thinking Routines or from the attributes of the ARCS model to the user perceptions at the center of intrinsic motivation, scaffolding for the WebQuest must shift from discreet stages like Introduction and Task to a more comprehensive approach that places the learner in charge of the learning. To this end, a new personal learning scaffold integrates self-directed learning to promote increases in student wellbeing and advanced cognition. The model is named CEQALL (pronounced "seek-all") and stands for Choice - Effort - Quality • Attitude - Labor of Love.

Choice > Effort > Quality > Attitude > Labor of Love

Left to their own devices, will students make the most of the opportunity or take it as a chance amuse themselves. Because these "devices" are increasingly in students' pockets and connected to broadband

networks, the question takes on greater significance. In an effort to help students in their personal quests to find meaning in their lives and the world, and to engage in a rewarding experience of deep learning, the following linear phases scaffold, and make overt, helpful learner activities.

Choice

For students to take ownership of their education, they must enjoy the opportunity to control the direction of each personal learning experience. Deci and Ryan's Self-Determination Theory has shown that combining learner control with intrinsic goals produces increases in depth and retention of learning.

Effort

Once students have been able to idenitify their learning goals, the next task is to apply Effort. Although this aspect is not overtly identified in either Motivation Theory or the Thinking Dispositions, clearly the competency / self-efficacy predictor of intrinsic motivation is not achieved with exertion. Likewise, the planful nature of thinking dispositions requires energy as does the advanced cognition of constructing meaning from complexity. Interestingly, the requirement of students to invest Effort may be the most radical aspect of the CEQ•ALL model in comparison to the traditional approach where students are expected to be passive.

Quality

Once students have identified their learning goals and expended substantial Effort, the next absolute is Quality. This is where a shift takes place away from the traditional schooling to personal learning. If a student chose their learning goals and invested their best efforts in the task, why wouldn't they pursue a Quality outcome? There is no place for the busywork that serves classroom management. With students responsible for choosing their learning goals and outcomes, the teacher's role is now – honestly – that of coach and mentor. The pursuit of Quality yields the twofold benefit of achieving the learning outcomes that are valued academically as well as the personal well-being cited in many of the calls for school improvement.

Attitude

Even after students have a Choice in their work and complete the activity in a Quality manner, the Effort has been misspent unless a positive attitude is part of the outcome. Joy of learning is a direct product of personal expressions (Choice) and best Efforts (Quality). If the attitude isn't right, the Choice and Quality weren't honest. Thus, the Attitude phase is an intentional point of reflection. In case learners have found it easier to "go through the motions" of Choice, Effort, and Quality, without honestly serving their own interests, their attitudes will show the truth. Teachers are likely to spend more time at this stage mentoring learners – as learners – not necessarily focusing on the content or outcome of the learning. This modeling and discussion of what it means to be a sincere learner makes overt the culture engendered by CEQ•ALL.

Labor of Love

Ultimately, happy and productive people are self-initiated. They get curious and engage themselves in the world and are a benefit to it when they make their contributions. Over the course of a student's middle and secondary education, he or she will find things that they are called to do. This already

occurs in today's traditional schools where exemplary students become legends in musical performance, advanced maths, the visual arts. Some students find their niche and pursue their interests either through or in spite of their schooling. This connected, optimal experience can be more widely available to all students if we allow them to explore their personal learning goals in an environment that supports and stretches their endeavors, an environment where students spend an increasing amount of time and which will only become more ubiquitous.

Thus, the CEQ•ALL process scaffolds use of the richer Web 2 environment and supports both a dispositional approach to critical thinking and an overt shift toward promoting intrinsic motivation. The preceding section has attempted to establish a pedagogically sound basis upon which to advocate a revisited WebQuest approach as a means to facilitate a systemic transition from school-controled to student-owned personal learning. The final section of this paper describes the MyPlace Project as a concrete example of how the aforementioned strategies might be used by teachers and students.

WebQuests 2.0? – "The MyPlace Project"

Playing off the stereotype of MySpace as an essentially frivolous social networking destination for many teens and young adults, the title "MyPlace" was chosen to challenge students to question their place in a world that presents confronting changes. Quoting from the Web site's overview, the points are presented to engage authentic interest:

> *Our students' immediate future will be unlike anything we have known:*
>
> The World Wide Web is set to morph into a personalized, WiFi-delivered, digital aura that hovers over our students, promising an endless stream of mesmerizing games, music, movies, and social networking opportunities. Why wouldn't they want to "amuse themselves to death?"
>
> The "World is Flat" declares Thomas Friedman which suggests that all our graduates will enter a global workforce where they will both complete and collaborate with tens of millions of highly motivated and educated peers from countries like China and India.
>
> The geopolitical adventures of recent years promise decades of uncertainty and tension. How citizens choose to participate in their political processes as they affect regional and global interactions will challenge our students' values and courage.
>
> Emerging changes in climate seem poised to radically alter the global landscape, affecting agriculture, commerce, tourism, water supplies and the very viability of many populations. Will we plan, adapt or merely survive?
> http://tommarch.com/myplace/about-the-myplace-project/

Figure 2 is a screen capture showing the header graphic of the MyPlace Project and the selected Web 2 applications used to support personal learning.

Figure 2 – Entry of the MyPlace Project

Clearly a compelling topic demonstrates a hallmark of the WebQuest, however, in order to accommodate the openness necessary to encourage intrinsic motivation and a culture of thinking, the format presents options within a series of structures. These structures and the associated Web 2 applications are described below.

Social Bookmarking

Two main applications stand out in regard to providing access to the richer resources that flourish in Web 2, social bookmarks and RSS feeds. The best known example of social bookmarking is Del.icio.us. Beyond providing the capability of hosting individual's bookmarks or favorites online – and thus avoiding computer-specific downside to the practice – Del.icio.us uses "tags" or user-generated keywords to interlink all Del.icio.us members' collections. In this way, members who have saved the same Web site can see how many others in the Del.icio.us database have also added the link to their bookmarks. More than simply an indicator of popularity, by pooling information, the social networking aspect also enables a user to access others' accounts who have linked to the same resource or to surf similar resources by tag. Thus social bookmarking begins to tap into an aspect of what James Surowiecki refers to as the "wisdom of the crowd" to increase the likelihood that linked resources are of merit. This surpasses the routine of merely "hotlisting" links related to the issues involved in the WebQuest. Other applications that add value to this social bookmarking approach are StumbleUpon and ClipMarks, which respectively go beyond Del.icio.us by using "the wisdom of the crowd" to anticipate sites that match your interests and to afford the ability to bookmark snippets within Web pages.

RSS Feeds

The second advantage Web 2 offers in regard to accessing resources is RSS, or "Really Simple Syndication." Just as members of an email list subscribe to receive new messages posted by the list, those who subscribe to RSS feeds are sent the latest content from frequently updated Web sites like news sources, magazines, blogs and podcasts. Thus, once a source is subscribed to, its latest articles, features, editorials or multimedia postings "fed" to the subscriber for review. Although earlier methods of reading RRS feedbacks required separate software, newer Web-based applications like Pageflakes
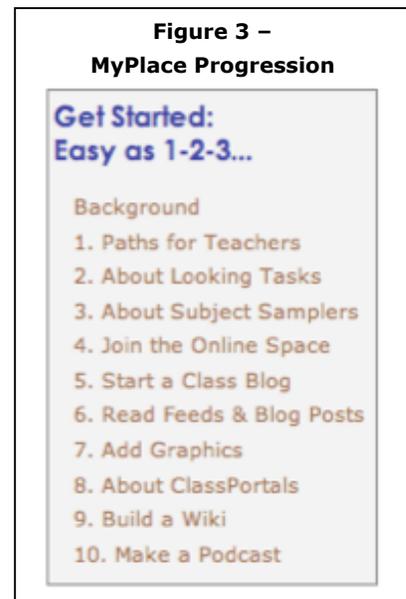
and iGoogle present RSS content and widgets in highly customizable interfaces. Because WebQuests often take advantage of the currency of Web content, RSS feeds present in one interface dozens or even hundreds of resources that if clicked to would likely lead to just as many unique Web pages.

Web 2: Publication Software

As truly powerful as these Web 2 methods are for accessing content, the most significant contributions recent Web developments have to make relate to publishing content. Many in education have already found a range of free open source applications useful. Foremost among these are weblogs, wikis, course and content management systems, with other tools serving more specific needs such as image galleries, discussion boards, calendars and mailing lists. Once again, the busy educator is faced with an embarrassment of riches that only the most ardent technologist can pursue so the following "shortlist" may provide focus.

Blogs

Just as WebQuests originally provided shape to an ambiguous and shifting frontier, one aspect of revisiting WebQuests in the era of Web 2 is to suggest three main applications for publication and as the core of a WebQuest environment. These are blogs, wikis and what is referred to as a "personal learning environment." The first two will be well-known to all educators interested in the Web and technology, so detailed descriptions are not needed. However, identification of specific software and its role in publication is useful. First, general consensus and years of personal experience recommend WordPress as the blog software of choice. Available as an online application through WordPress.com or as a free download for installation on a server form WordPress.org, in any variation, the software is consistently good. An intuitive interface and frequent upgrades make it among the best open source applications. Because it is easy to use, invites participation and is supported by a large developer base creating new features and plugins, a WordPress blog is the suggested central platform for delivering WebQuests in the Web 2 learning space.

Figure 3 –
MyPlace Progression

Get Started:
Easy as 1-2-3...

Background
1. Paths for Teachers
2. About Looking Tasks
3. About Subject Samplers
4. Join the Online Space
5. Start a Class Blog
6. Read Feeds & Blog Posts
7. Add Graphics
8. About ClassPortals
9. Build a Wiki
10. Make a Podcast

Blog Use in MyPlace

Specific strategies for implementing blogs with students and teachers vary greatly and should not be limited, however, the example of the MyPlace project can be seen to illustrate several key uses.

As Content Management System

Weblogs are a facile way to present a range of content. The MyPlace Project moves beyond the single-to multi-page layout of traditional WebQuests and instead attempts to create a rich environment

designed to promote intrinsic motivation through a range of possible interests. Specifically, rather than present a one process, a series of possible uses are listed to Blog pages and encourage participants to join in and continue as far as they would like, recognizing that not every use of rich Web resources needs to end in a WebQuest.

As Thinking Routine Delivery Channel

The main function of the blog as Content Management System is to regularly present online resources that can be used as the prompt for Thinking Routines in an attempt to create a culture of interested questioning. Rather than present a Question and Task, the suggested approach is for teacher and students participating in the project to regularly use the posts as "Learning to Look" activities that require a computer, data projector, at least one interesting Web resource and an open-ended question or "Thinking Routine." An overview page provides a list of Web sites that offer the kind of provocative content that fosters thinking. Exemplary sites are listed in Figure 4.

Figure 4 – Online Resources to Support Thinking Routines

Specific Resources
– Running the Numbers: an American Self Portrait, by Chris Jordan, photographic artist - An amazing collection of photographs that capture rampant consumerism and waste.
– The Miniature Earth, presented by Lucco Designs - This flash animation / video presents some facts about the world as if it were a village of 100 people.
– Hiroshima Day BBs - Ben (of Ben & Jerry's Ice Cream) demonstrates the size of the US nuclear arsenal.
– Is Wal-Mart Good for America? - watch the full Public Broadcasting Service (PBS) program by sections
– The Merchants of Cool - another PBS special, this one focused on how youth are targeted by the advertising industry.
– Living Old - another PBS special focused on the impact of our aging population.

In this way the Blog is used within an enculturation model to support intrinsic motivation through empowering student autonomy to achieve self-directed goals, supporting competence within a highly relational climate, and thus the classroom culture is ripe for the learner-centered activities at the heart of the thinking dispositions.

As "ClassPortal"

The last main use of Blogs within the MyPlace Project are as what the author calls ClassPortals (March, 2004) in an effort to distinguish them from the class blogs used to post homework assignments or serve as a Web page for other classroom business. The critical attribute of a ClassPortal is that the Blog is used by students to pursue one topic of particular interest. Examples related to MyPlace might be climate change, globalization or the economy. Students use their ClassPortal to track RSS feeds, posting interesting new developments and watch their issue over time. Participants in MyPlace are able to create as many blogs as they like as a multi-user version of WordPress has been installed for this purpose.

Wikis

The second main application recommended for consideration as part of a revised WebQuest environment is the wiki. The range of open source and free online wikis varies greatly, but the most popular seem to be WikiSpaces and JotSpot in the hosted option and Dokuwiki and Mediawiki in the self-hosting realm. After years of trialing wikis with teachers and students, they are less useful than blogs because they tend to invite more traditional knowledge acquisition approaches. This said, a variation on their typical function as a knowledge base is highlighted in the MyPlace Project and encourages students to either post information they have gathered or even paste and edit articles from Wikipedia on such topics as the Environment, Popular Culture, Population and Technology.

Personal Learning Environment

Finally, a third main publication software forms the basis for student use. The only example available as open source software is called elgg (http://elgg.org). Elgg provides an early version of an environment that will become a core of teaching and learning in the next decade. Much like MySpace, elgg provideseach user with a blog, RSS feed reader, file upload portfolio, tagging to facilitate social networking and a method for users to easily form communities around shared interests. Although the developer base is not nearly as robust for elgg as for WordPress, the elgg roadmap identifies integration of elgg with a content management system (Drupal.org), Wikimedia and Moodle (course management system) using a single user sign-on. If this materializes, or another group makes a similar project with these features, education will begin to have a comprehensive environment that can fundamentally alter the teaching learning process.

Data Collection

The author and the Policy and Research office of the Association of Independent Schools Victoria (Australia) are in the midst of a study using the Web 2 tools and pedagogies described above. Learners, ranging from fifth to twelfth grades, interact with the MyPlace Project through the Web 2.0 environment and are encouraged to pursue personal learning through individual and group weblogs, RSS feeds, and social networking applications. More exploration than acquisition, MyPlace enriches students' attempts to see themselves realistically and to find meaning within a personally relevant contemporary context.

In terms of data collection, relationships will be compared among student achievement records, individual's scores on an intrinsic motivation inventory and student outcomes in critical thinking after participating in the project. To determine the level of participation, a post experimental self-report will broadly capture student's use of the online environment. Although rudimentary in terms of the passive data currently compiled by Web 2 leaders like Google, it begins to explore the nexus among motivation, achievement and personal choice thereby giving shape to what could be called "personal learning profiles." Supported by such data-mining in the coming years, learners and educators will be able to gain valuable feedback from the personal learning environment itself.

Conclusion

WebQuests began in response to the birth of an amazing environment for authentic student learning experiences that differed significantly from traditional classroom practices. The richness of the environment inspired its creators to describe a vision for its use that other educators could use to do more than simply port traditional methods to this new learning space. The popularity of the term "WebQuest" is testament to the many educators who saw the need to engage their students in motivating activities that prompt critical thinking. With the emergence of Web 2, a subtle, though fundamentally greater shift, will enable teachers and enlightened educational systems to begin to facilitate the personal learning of their students. The significance of this shift should not be under-estimated.

Referenced Web Sites

MyPlace Project – http://classportals.org/myplace/
Del.icio.us – http://del.icio.us
StumbleUpon – http://stumbleupon.com
ClipMarks – http://clipmarks.com
WordPress – http://wordpress.org and http://wordpress.com
Pageflakes – http://pageflakes.com
MediaWiki – http://mediawiki.org
DokuWiki – http://wiki.splitbrain.org
Elgg – http://elgg.org or http://eduspaces.com

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